

## KATA PENGANTAR

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ

Puji dan syukur kami panjatkan kehadiran Allah ﷻ atas segala limpahan rahmat dan karunia-Nya. Tak lupa shalawat dan salam semoga selalu tercurahkan kepada junjungan Nabi Muhammad ﷺ, keluarga, para sahabat, dan para pengikutnya. Karena keridhoan-Nya, penyusun dapat menyelesaikan Laporan Tugas Akhir ini dengan baik.

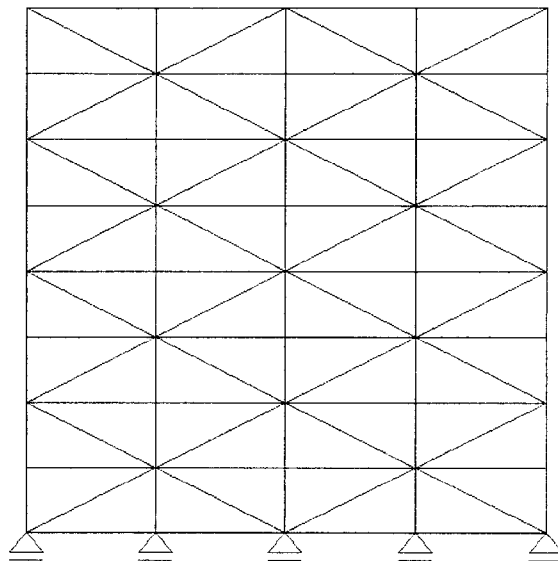
Laporan Tugas Akhir ini merupakan salah satu syarat yang harus ditempuh untuk menyelesaikan pendidikan jenjang Strata Satu (S1) pada Jurusan Teknik Sipil, Fakultas Teknik Sipil dan Perencanaan, Universitas Islam Indonesia, Yogyakarta.

Selanjutnya, izinkanlah penyusun mengucapkan terima kasih yang tak terhingga kepada pihak-pihak yang telah membimbing dan membantu dalam penyusunan Tugas Akhir ini. Ucapan terima kasih tersebut penyusun sampaikan kepada:

1. Bapak Prof. Ir. H. Widodo, MSCE, Ph.D. selaku Dosen Pembimbing I
2. Bapak Ir. H. Suharyatmo, MT. selaku Dosen Pembimbing II
3. Bapak Ir. H. Munadhir, M.S. selaku Ketua Jurusan Teknik Sipil, Fakultas Teknik Sipil dan Perencanaan, Universitas Islam Indonesia, Yogyakarta.

**d) Portal Dengan Pengaku Tipe X Ganda Yang Dipasang Pada Beberapa Tingkat**

. Pengaku ganda yang dipasang pada beberapa tingkat akan memberikan kekakuan lebih tinggi daripada pengaku tunggal yang dipasang pada beberapa tingkat sekaligus, namun akan lebih rumit proses pelaksanaannya dan akan memberikan beban yang lebih berat pada struktur karena pemakaian profil yang lebih banyak.



Gambar 2.4 Portal Dengan Pengaku Tipe X Ganda

Dengan memperhatikan kelebihan dan kekurangan dari pemakaian masing-masing bentuk pengaku diatas, maka pada penelitian ini akan digunakan pengaku tipe X dengan bentuk *Global Bracing* yang dipasang pada beberapa tingkat sekaligus.

$$M_n = C_c.d_1 + C_s.d_2 \quad (3.8-26)$$

Cek dengan persamaan (3.8-25) yaitu

$$\phi_b M_n \geq M_u$$

### 3.8.4 Kontrol Terhadap Lentutan

Balok Komposit yang telah didesain harus dikontrol besarnya lentutan yang terjadi dengan persamaan (3.8-20)

Beban pada balok

$$Q = Q_D + Q_L \quad (3.8-27)$$

$$\delta_{\max} = \frac{5}{384} \cdot \frac{Q.L^4}{E_s \cdot I_{Komp}} \quad (3.8-28)$$

$$\delta_{\max} < \frac{L}{360} \quad (3.8-29)$$

### 3.8.3 Perencanaan Konektor Geser

Untuk menjamin kinerja penampang komposit menjadi sangat efektif, maka di antara profil baja dan beton (pelat) dipasang baut penghubung atau biasa disebut *shear connector*.

Gaya geser horizontal yang terjadi antara beton dan baja ( $V_n$ ) merupakan nilai terkecil dari persamaan (3.8-30a) dan (3.8-30b)

$$V_n = 0,85 \cdot f_c' \cdot A_c \quad (3.8-30a)$$

$$V_n = A_s \cdot f_y \quad (3.8-30b)$$

dengan  $A_c = b_E \cdot t_s$

$A_c$  = Luas beton efektif

$b_E$  = lebar efektif

**a. Sambungan menahan tarik/ desak.**

Untuk menjamin mekanisme transfer beban dari balok ke kolom, sambungan harus mampu menahan rotasi leleh yang besar ketika terjadi gempa, terutama pada daerah dimana sendi plastis diharapkan terjadi. Momen plastis yang terjadi pada balok akan didistribusikan menjadi tegangan tarik dan tekan pada sayap balok sebesar :

$$T_u = \frac{M_f}{0,95d} \quad (3.9-1)$$

dengan  $T_u$  = kuat tarik/tekan terfaktor, (Kips)

$M_f$  = momen plastis yang terjadi pada muka kolom. (K-in)

Pada umumnya elemen tarik dapat mengalami retak akibat pelelehan pada penampang bruto, maupun retakan pada penampang bersihnya. Sehingga tebal plat sambung (*flange plate*) didesain berdasarkan nilai terkecil dari :

Untuk *pelelehan pada penampang bruto* :

$$\phi T_n = \phi F_y \cdot A_g \quad (3.9-2)$$

dengan  $\phi = 0,9$

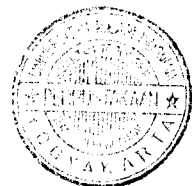
$A_g$  = Luas penampang bruto *flange plate*(in<sup>2</sup>)

Untuk *retakan pada penampang bersih* :

$$\phi T_n = \phi F_u \cdot A_e \quad (3.9-3)$$

dengan  $\phi = 0,75$

$A_e = U \cdot A_n$

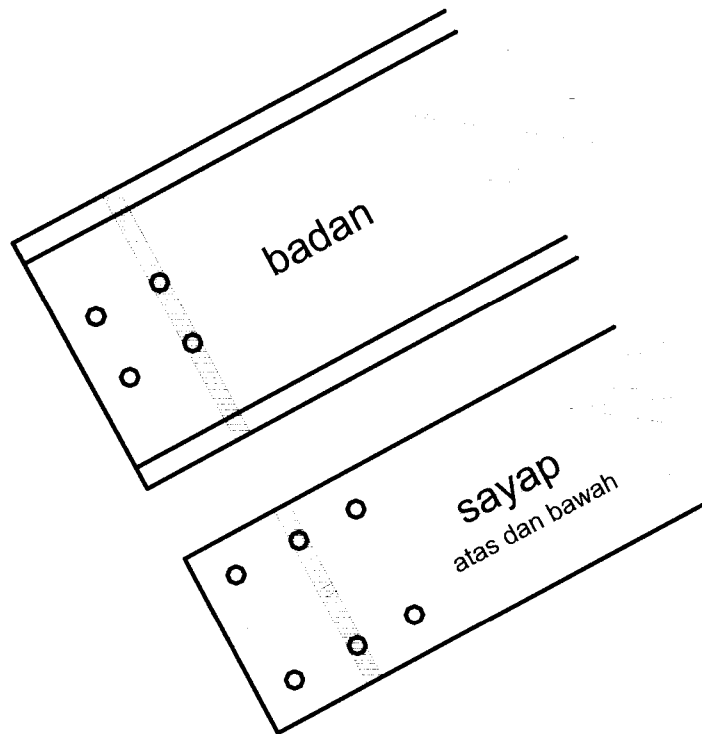


### 5.5.2 Perencanaan *Bracing* Terhadap Aksial Tarik

Untuk kondisi leleh pada luas bruto penampang, maka :

$$\begin{aligned}\phi P_n &= 0,9 \cdot A_g \cdot f_y && \text{(Pers. 3.7-1)} \\ &= 0,9 \cdot 35,3 \cdot 36 \\ &= 1143,72 \text{ Kips}\end{aligned}$$

Untuk kondisi patah pada luas tampang efektif, maka :



Gambar 5.19 Bidang Baut Menerima Tarik

Pada badan terdapat 2 baut yang berada pada bidang tarik sedangkan pada sayap ada 4 baut yang berada pada bidang tarik yaitu 2 baut pada sayap atas dan 2 baut pada sayap bawah

Bila digunakan diameter baut  $\frac{3}{4}$  in, maka :

$$A_{nt} = A_g - (\text{jml baut} \cdot (db + (1/16)) \cdot t_w) - (\text{jml baut} \cdot (db + (1/16)) \cdot t_f) \quad \text{(Pers. 3.7-2)}$$

Kuat nominal satu penghubung geser jenis paku yang ditanam di dalam pelat beton adalah:

Baut yang digunakan  $\frac{1}{2}$  in,  $f_u = 58$  Ksi

$$A_{sc} \cdot f_u = \frac{1}{4} \pi \cdot \frac{1}{2}^2 \times 58 = 11,39 \text{ Kips}$$

$$Q_n = 0,5 \cdot A_{sc} \cdot \sqrt{f_c' \cdot E_c} \leq A_{sc} \cdot f_u \quad (\text{Pers. 3.8-31})$$

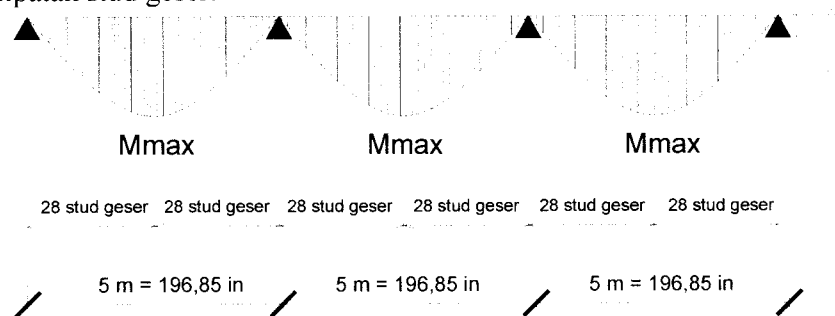
$$Q_n = 0,5 \times \frac{1}{4} \pi \cdot \frac{1}{2}^2 \sqrt{4 \times 3500} = 11,616 \text{ Kips} > 11,39 \text{ Kips}$$

Jumlah stud geser yang dibutuhkan:

$$n = \frac{V_n}{Q_n} = \frac{316,44}{11,39} = 27,78 \approx 28 \text{ stud geser} \quad (\text{Pers. 3.8-32})$$

maka digunakan 28 stud geser per setengah bentang balok.

Penempatan stud geser:



Gambar 5.24 Rencana Penempatan Stud Geser

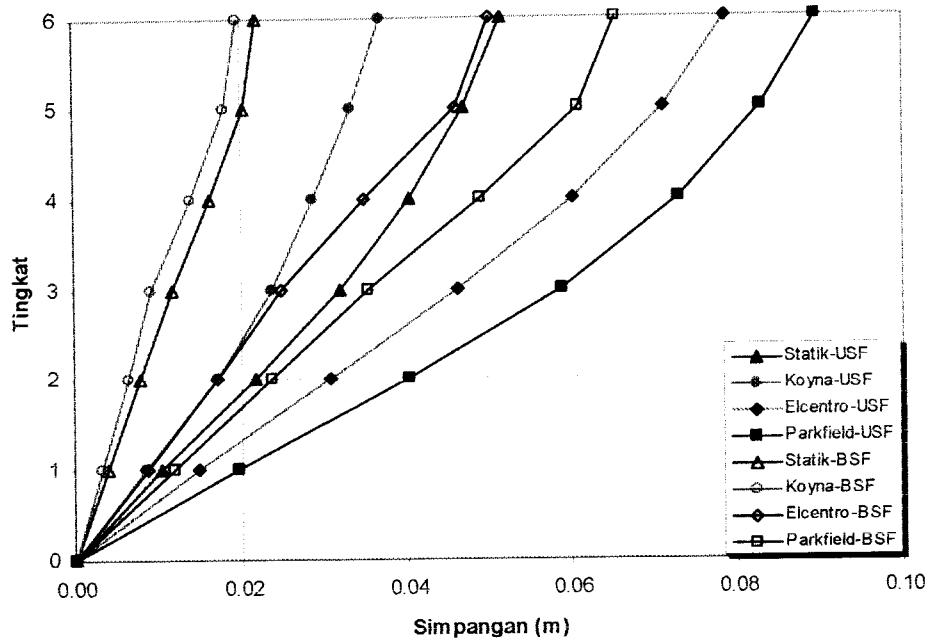
### 5.6.6 Kapasitas Geser Nominal Balok

Kontrol rasio tinggi terhadap tebal panel ( $h/t_w$ ) pendukung geser

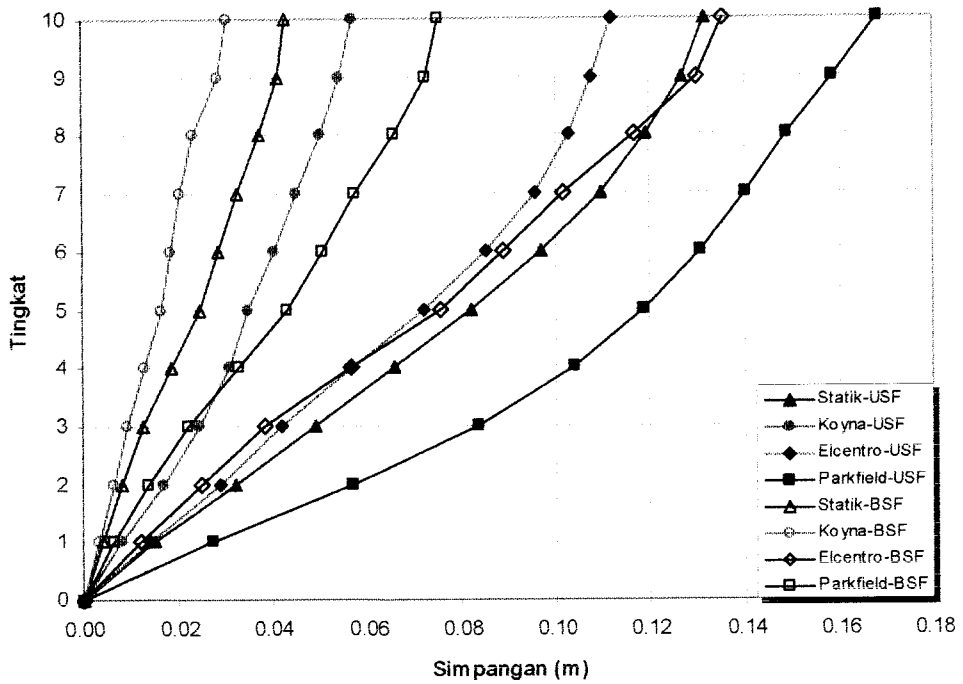
$$\frac{h}{t_w} = \frac{11,685}{0,26} = 44,94 < \frac{418}{\sqrt{f_y} \cdot (Ksi)} = \frac{418}{36} = 69,67 \quad (\text{Pers. 3.5-16})$$

Maka kuat geser nominal balok  $V_n$ , dihitung berdasarkan persamaan (3.5-17)

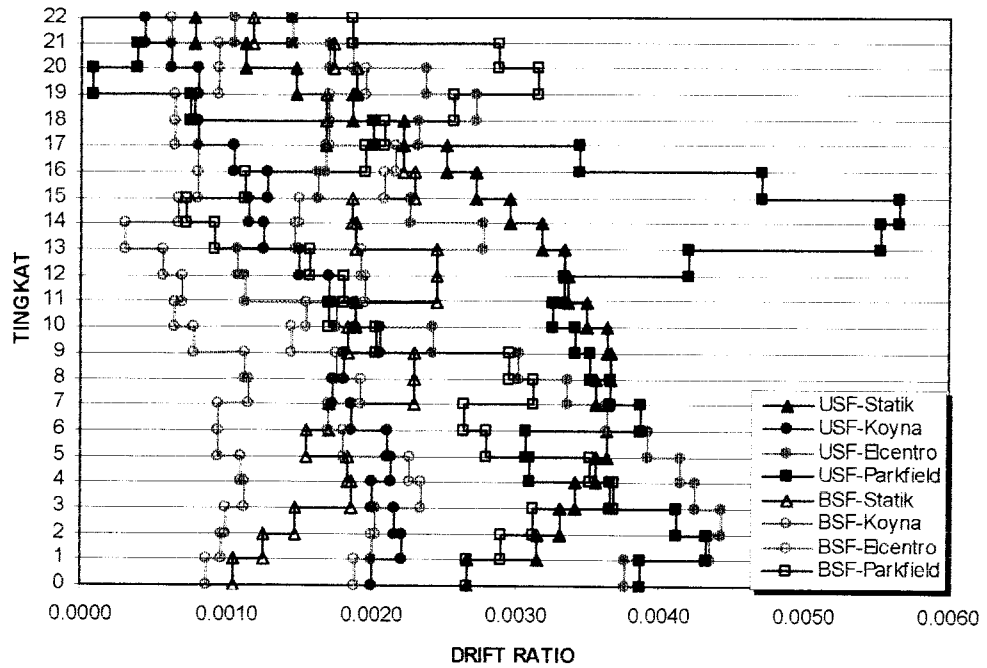
$$A_w = d \cdot t_w = 12,3 \cdot 0,26 = 3,198 \text{ in}^2 \quad (\text{Pers. 3.5-18})$$



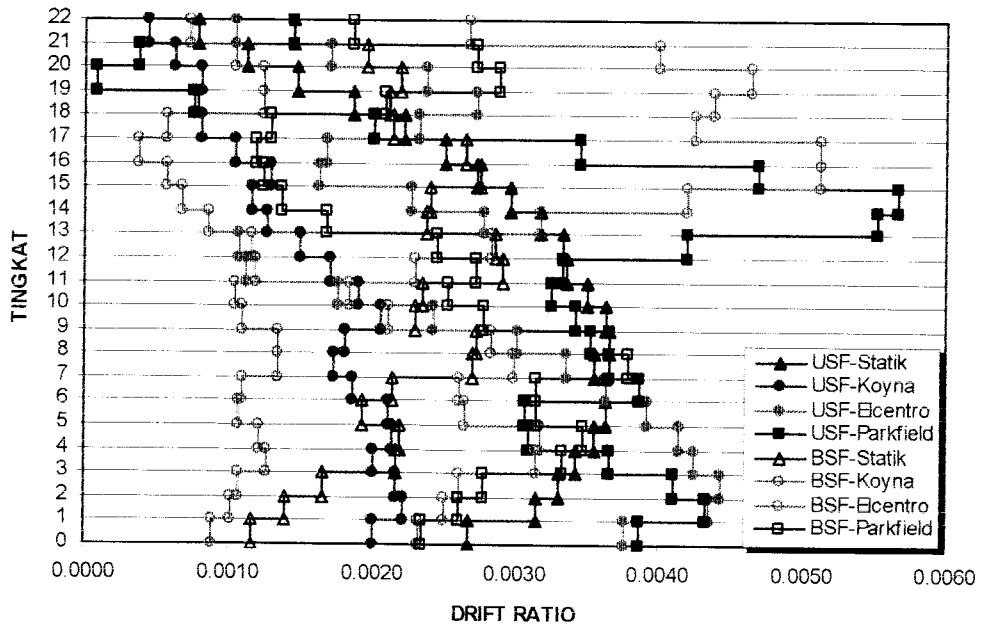
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**(USF)**

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TABEL - TABEL PROFIL

No	Section Name	Weight		Section Area		Section Properties						Moment of Inertia			Elastic Modulus			Plastic Modulus			Radius of Giration			Shear Area		Wrapping Constant Cw		
		Lb/ft	in <sup>2</sup>	db	bf	Tf	tw	tx	ty	Sx	Sy	Zx	Zy	rx	ry	Ax	Ay	ix	iy	ix	iy	ix	iy	ix	iy		ix	iy
1	W10X100	99.84	29.4	11.1	10.3	1.12	0.68	623	207	112,252	40,194	130	61	4.603	2,654	7,548	19,227	5754.45										5754.45
2	W10X112	111.73	32.9	11.4	10.4	1.25	0.755	716	236	125,614	45,365	147	69.2	4.665	2,678	8,607	21,667	6920.05										6920.05
3	W10X12	12.02	3.54	9.87	3.96	0.21	0.19	53.8	2.18	10,902	1,101	12.6	1.74	3.898	0.785	1,875	1,366	47.92										47.92
4	W10X15	14.98	4.41	9.99	4	0.27	0.23	68.9	2.89	13,794	1,445	16	2.3	3.953	0.810	2,298	1,800	65.08										65.08
5	W10X17	16.95	4.99	10.1	4.01	0.33	0.24	81.9	3.56	16,218	1,776	18.7	2.8	4.051	0.845	2,424	2,206	81.94										81.94
6	W10X19	19.09	5.62	10.2	4.02	0.395	0.25	96.3	4.29	18,882	2,134	21.6	3.35	4.140	0.874	2,550	2,647	100.70										100.70
7	W10X22	22.04	6.49	10.2	5.75	0.36	0.24	118	11.4	23,137	3,965	26	6.1	4.264	1.325	2,448	3,450	267.60										267.60
8	W10X26	25.84	7.61	10.3	5.77	0.44	0.26	144	14.1	27,961	4,887	31.3	7.5	4.350	1.361	2,678	4,231	337.51										337.51
9	W10X30	30.02	8.84	10.5	5.81	0.51	0.3	170	16.7	32,381	5,749	36.6	8.84	4.385	1.375	3,150	4,939	415.42										415.42
10	W10X33	32.98	9.71	9.73	7.96	0.435	0.29	171	36.6	35,149	9,196	38.8	14	4.197	1.942	2,822	5,771	781.80										781.80
11	W10X39	39.05	11.5	9.92	7.99	0.53	0.315	209	45	42,137	11,264	46.8	17.2	4.263	1.978	3,125	7,058	999.13										999.13
12	W10X45	45.17	13.3	10.1	8.02	0.62	0.35	248	53.4	49,109	13,317	54.9	20.3	4.318	2.004	3,535	8,287	1229.05										1229.05
13	W10X49	48.90	14.4	9.98	10	0.56	0.34	272	93.4	54,509	18,680	60.4	28.3	4.346	2.547	3,393	9,333	2098.92										2098.92
14	W10X54	53.66	15.8	10.1	10	0.615	0.37	303	103	60,000	20,600	66.6	31.3	4.379	2.553	3,737	10,250	2370.65										2370.65
15	W10X60	59.77	17.6	10.2	10.1	0.68	0.42	341	116	66,863	22,970	74.6	35	4.402	2.567	4,284	11,447	2722.99										2722.99
16	W10X68	67.92	20	10.4	10.1	0.77	0.47	394	134	75,769	26,535	85.3	40.1	4.439	2.588	4,888	12,962	3270.08										3270.08
17	W10X77	76.75	22.6	10.6	10.2	0.87	0.53	455	154	83,849	30,196	97.6	45.9	4.487	2.610	5,618	14,790	3904.09										3904.09
18	W10X88	87.96	25.9	10.8	10.3	0.99	0.605	534	179	98,889	34,757	113	53.1	4.541	2.629	6,534	16,995	4710.73										4710.73
19	W12X106	105.96	31.2	12.9	12.2	0.99	0.61	933	301	144,651	49,344	164	75.1	5.468	3.106	7,869	20,130	11301.42										11301.42
20	W12X120	119.86	35.3	13.1	12.3	1.11	0.71	1070	345	163,359	56,098	186	85.4	5.506	3.126	9,301	22,755	13388.23										13388.23
21	W12X136	135.50	39.9	13.4	12.4	1.25	0.79	1240	398	185,075	64,194	214	98	5.575	3.158	10,586	25,833	16124.26										16124.26
22	W12X14	14.13	4.16	11.9	3.97	0.225	0.2	88.6	2.36	14,891	1,189	17.4	1.9	4.615	0.753	2,380	1,489	75.40									75.40	
23	W12X152	151.80	44.7	13.7	12.5	1.4	0.87	1430	454	208,759	72,640	243	111	5.656	3.187	11,919	29,167	19225.79										19225.79
24	W12X16	16.00	4.71	12	3.99	0.265	0.22	103	2.82	17,167	1,414	20.1	2.26	4.676	0.774	2,640	1,762	91.62									91.62	
25	W12X170	189.80	50	14	12.6	1.66	0.96	1650	517	235,714	82,064	275	126	5.745	3.216	13,440	32,760	22863.03										22863.03
26	W12X19	18.92	5.57	12.2	4.01	0.35	0.235	130	3.76	21,312	1,875	24.7	2.98	4.831	0.822	2,867	2,339	126.27										126.27
27	W12X190	189.50	55.8	14.4	12.7	1.74	1.06	1890	589	262,500	92,756	311	143	5.820	3.249	15,264	36,830	27556.72										27556.72
28	W12X210	209.87	61.8	14.7	12.8	1.9	1.18	2140	664	291,157	103,750	348	159	5.895	3.278	17,346	40,533	32373.52										32373.52
29	W12X22	22.01	6.48	12.3	4.03	0.425	0.26	156	4.66	25,366	2,313	29.3	3.66	4.907	0.848	3,198	2,855	159.07										159.07
30	W12X230	229.91	67.7	15.1	12.9	2.07	1.29	2420	742	320,530	115,039	386	177	5.979	3.311	19,479	44,505	38172.01										38172.01

# LAMPIRAN A-1-1

## TABEL - TABEL PROFIL

No	Section Name	Weight Lb/ft	Section Area		Section Properties								Moment of Inertia			Elastic Modulus			Plastic Modulus			Radius of Girration			Shear Area		Wrapping Constant Cw in <sup>6</sup>
			in <sup>2</sup>	in <sup>2</sup>	db	bf	Tf	tw	lx	ly	Sx	Sy	Zx	Zy	rx	ry	Ax	Ay									
31	W12X252	251.30	74	15.4	13	2.25	1.4	2720	828	353,247	127,385	428	196	6,063	3,345	21,560	48,750	44,305.64									
32	W12X26	26.98	7.65	12.2	6.49	0.38	0.23	204	17.3	33,443	5,331	37.2	8.17	5,164	1,504	2,806	4,110	580.97									
33	W12X279	278.13	81.9	15.9	13.1	2.47	1.53	3110	937	391,195	143,053	481	220	6,162	3,382	24,327	53,928	53446.72									
34	W12X30	29.85	8.79	12.3	6.52	0.44	0.26	238	20.3	38,699	6,227	43.1	9.56	5,204	1,520	3,198	4,781	692.94									
35	W12X305	304.28	89.6	16.3	13.2	2.71	1.63	3550	1050	435,563	159,091	537	244	6,295	3,423	26,569	59,620	62943.62									
36	W12X336	335.52	98.8	16.8	13.4	2.96	1.78	4060	1190	483,333	177,612	603	274	6,410	3,471	29,904	66,107	75779.68									
37	W12X35	34.98	10.3	12.5	6.56	0.52	0.3	285	24.5	45,600	7,470	51.2	11.5	5,260	1,542	3,750	5,685	863.72									
38	W12X40	39.73	11.7	11.9	8.01	0.515	0.295	307	44.1	51,597	11,011	57	16.8	5,122	1,942	3,511	6,875	1409.03									
39	W12X45	44.49	13.1	12.1	8.05	0.575	0.335	348	50	57,521	12,422	64.2	19	5,154	1,954	4,054	7,715	1651.69									
40	W12X50	49.58	14.6	12.2	8.08	0.64	0.37	391	56.3	64,098	13,936	71.9	21.3	5,175	1,964	4,514	8,619	1890.67									
41	W12X53	52.98	15.6	12.1	9.99	0.575	0.345	425	95.8	70,248	19,179	77.9	29.1	5,220	2,476	4,175	9,574	3164.63									
42	W12X58	57.73	17	12.2	10	0.64	0.36	475	107	77,869	21,400	86.4	32.5	5,286	2,509	4,392	10,667	3593.28									
43	W12X65	64.86	19.1	12.1	12	0.605	0.39	533	174	88,099	29,000	96.8	44.1	5,283	3,018	4,719	12,100	5747.87									
44	W12X72	71.66	21.1	12.3	12	0.67	0.43	597	195	97,073	32,500	108	49.2	5,319	3,040	5,289	13,400	6656.29									
45	W12X79	78.79	23.2	12.4	12.1	0.735	0.47	662	216	106,774	35,703	119	54.3	5,342	3,051	5,828	14,823	7493.49									
46	W12X87	86.94	25.6	12.5	12.1	0.81	0.515	740	241	118,400	39,835	132	60.4	5,377	3,068	6,438	16,335	8496.19									
47	W12X96	95.77	28.2	12.7	12.2	0.9	0.55	833	270	131,181	44,262	147	67.5	5,435	3,094	6,985	18,300	9825.59									
48	W14X109	108.67	32	14.3	14.6	0.86	0.525	1240	447	173,427	61,233	192	92.7	6,225	3,738	7,508	20,927	20623.71									
49	W14X120	119.88	35.3	14.5	14.7	0.94	0.59	1380	495	190,345	67,347	212	102	6,253	3,745	8,555	23,030	23481.64									
50	W14X132	131.76	38.8	14.7	14.7	1.03	0.645	1530	548	208,163	74,558	234	113	6,328	3,758	9,482	25,235	26717.91									
51	W14X145	145.01	42.7	14.8	15.5	1.09	0.68	1710	677	231,081	87,355	260	133	6,379	4,002	10,064	28,158	33457.95									
52	W14X159	158.59	46.7	15	15.6	1.19	0.745	1900	748	253,333	95,897	287	146	6,428	4,022	11,175	30,940	37972.69									
53	W14X176	175.91	51.8	15.2	15.7	1.31	0.83	2140	838	281,579	106,752	320	163	6,428	4,022	12,616	34,278	43663.60									
54	W14X193	192.89	56.8	15.5	15.7	1.44	0.89	2400	931	309,677	118,599	355	180	6,500	4,049	13,795	37,680	50466.16									
55	W14X211	210.55	62	15.7	15.8	1.56	0.98	2660	1030	338,854	130,380	390	198	6,550	4,076	15,386	41,080	57282.74									
56	W14X22	22.04	6.49	13.7	5	0.335	0.23	199	7	29,051	2,800	33.2	4.99	5,537	1,039	3,151	2,792	296.43									
57	W14X233	232.63	68.5	16	15.9	1.72	1.07	3010	1150	376,250	144,654	436	221	6,629	4,097	17,120	45,580	66424.00									
58	W14X257	256.74	75.6	16.4	16	1.89	1.18	3400	1290	414,634	161,250	487	246	6,706	4,131	19,352	50,400	78282.49									
59	W14X26	26.12	7.69	13.9	5.03	0.42	0.255	245	8.91	35,252	3,543	40.2	5.94	5,644	1,076	3,545	3,521	388.41									
60	W14X283	282.89	83.3	16.7	16.1	2.07	1.29	3840	1440	459,880	178,882	542	274	6,790	4,158	21,543	55,545	90611.36									



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## TABEL - TABEL PROFIL

No	Section Name	Weight Lb/ft	Section Area		Section Properties						Moment of Inertia			Elastic Modulus			Plastic Modulus			Radius of Girration			Shear Area		Wrapping Constant Cw in <sup>6</sup>				
			in <sup>2</sup>	in <sup>2</sup>	db	bf	in	Tf	in	in	tw	in	in	lx	ly	in <sup>4</sup>	in <sup>4</sup>	in <sup>4</sup>	Sx	Sy	Zx	Zy	in <sup>3</sup>	in <sup>3</sup>		in <sup>3</sup>	rx	ry	in
91	W16X50	49.92	14.7	16.3	7.07	0.63	0.38	80.859	10.523	92	16.3	6.696	1.591	6.194	7.424	2230.00													
92	W16X57	57.05	16.8	16.4	7.12	0.715	0.43	92.439	12.107	105	18.9	6.717	1.602	7.052	8.485	2615.48													
93	W16X67	67.92	20	16.3	10.2	0.665	0.395	119.018	23.333	132	35.6	6.964	2.439	6.439	11.305	7133.61													
94	W16X77	77.77	22.9	16.5	10.3	0.76	0.455	135.758	26.796	152	41.2	6.993	2.455	7.508	13.047	8476.84													
95	W16X89	89.65	26.4	16.8	10.4	0.875	0.525	153.952	31.346	177	48.2	7.044	2.485	8.820	15.167	10379.91													
96	W18X106	105.62	31.1	18.7	11.2	0.94	0.59	204.278	39.286	230	60.5	7.837	2.660	11.033	17.547	17357.74													
97	W18X119	119.20	35.1	19	11.3	1.06	0.655	230.526	44.779	262	69.1	7.899	2.685	12.445	19.963	20607.01													
98	W18X130	129.73	38.2	19.3	11.2	1.2	0.67	254.922	49.643	290	76.7	8.025	2.698	12.931	22.400	23363.97													
99	W18X143	142.97	42.1	19.5	11.2	1.32	0.73	282.051	55.536	322	85.4	8.082	2.718	14.235	24.640	26681.90													
100	W18X158	157.23	46.3	19.7	11.3	1.44	0.81	310.660	61.416	356	94.8	8.130	2.738	15.957	27.120	30384.29													
101	W18X175	174.21	51.3	20	11.4	1.59	0.89	345.000	68.597	398	106	8.201	2.761	17.800	30.210	35287.75													
102	W18X35	34.98	10.3	17.7	6	0.425	0.3	57.627	5.100	66.5	8.06	7.037	1.219	5.310	4.250	1081.50													
103	W18X40	40.07	11.8	17.9	6.02	0.525	0.315	68.360	6.346	78.4	9.95	7.202	1.272	5.639	5.268	1380.79													
104	W18X46	45.85	13.5	18.1	6.06	0.605	0.36	78.674	7.426	90.7	11.7	7.262	1.291	6.516	6.111	1663.13													
105	W18X50	49.92	14.7	18	7.5	0.57	0.355	88.869	10.693	101	16.6	7.377	1.652	6.390	7.125	2931.41													
106	W18X55	55.02	16.2	18.1	7.53	0.63	0.39	98.343	11.926	112	18.5	7.412	1.665	7.059	7.907	3318.87													
107	W18X60	59.77	17.6	18.2	7.56	0.695	0.415	108.132	13.254	123	20.6	7.477	1.687	7.553	8.757	3744.27													
108	W18X65	64.86	19.1	18.4	7.59	0.75	0.45	116.304	14.440	133	22.5	7.485	1.694	8.280	9.488	4186.04													
109	W18X71	70.64	20.8	18.5	7.64	0.81	0.495	126.487	15.785	146	24.7	7.500	1.703	9.158	10.314	4656.38													
110	W18X76	75.73	22.3	18.2	11	0.68	0.425	146.154	21.636	163	42.2	7.723	2.611	7.735	12.467	11359.88													
111	W18X86	85.92	25.3	18.4	11.1	0.77	0.48	166.304	31.532	186	48.4	7.777	2.630	8.832	14.245	13367.83													
112	W18X97	96.79	28.5	18.6	11.1	0.87	0.535	188.172	36.216	211	55.3	7.936	2.656	9.951	16.095	15689.50													
113	W21X101	101.20	29.8	21.4	12.3	0.8	0.5	226.168	40.325	253	61.7	9.012	2.885	10.700	16.400	25625.15													
114	W21X111	111.05	32.7	21.5	12.3	0.875	0.55	248.372	44.553	279	68.2	9.036	2.895	11.825	17.938	28576.87													
115	W21X122	121.92	35.9	21.7	12.4	0.96	0.6	272.811	49.194	307	75.6	9.080	2.915	13.020	19.840	32404.59													
116	W21X132	131.76	38.8	21.8	12.4	1.03	0.65	295.413	53.710	333	82.3	9.110	2.930	14.170	21.287	35706.27													
117	W21X147	146.71	43.2	22.1	12.5	1.15	0.72	328.507	60.160	373	92.6	9.167	2.950	15.912	23.958	41434.26													
118	W21X166	165.72	48.8	22.5	12.4	1.36	0.75	380.444	70.161	432	108	9.365	2.986	16.875	28.107	49686.86													
119	W21X182	182.03	53.6	22.7	12.5	1.48	0.83	416.740	77.280	476	119	9.394	3.002	18.841	30.833	56154.69													
120	W21X201	201.04	59.2	23	12.6	1.63	0.91	461.739	86.032	530	133	9.471	3.026	20.930	34.230	64690.75													

TABEL - TABEL PROFIL

No	Section Name	Weight Lb/ft	Section Area in <sup>2</sup>	Section Properties						Moment of Inertia			Elastic Modulus			Plastic Modulus			Radius of Girration			Shear Area		Wrapping Constant Cw in <sup>6</sup>
				db	bf	Tf	tw	lx	ly	Sx	Sy	Zx	Zy	rx	ry	Ax	Ay	ix	iy	ix	iy	ix	iy	
121	W21X44	44,15	13	20,7	6,5	0,45	0,35	843	20,7	81,448	6,369	95,4	10,2	8,053	1,262	7,245	4,875	2001,24						
122	W21X48	47,88	14,1	20,6	8,14	0,43	0,35	959	38,7	93,107	9,509	107	14,9	8,247	1,657	7,210	5,834	3705,38						
123	W21X50	49,92	14,7	20,8	6,53	0,535	0,38	984	24,9	94,615	7,526	110	12,2	8,182	1,302	7,904	5,823	2430,60						
124	W21X55	55,02	16,2	20,8	8,22	0,522	0,375	1140	48,4	109,615	11,776	126	18,4	8,389	1,729	7,800	7,151	4724,54						
125	W21X57	56,71	16,7	21,1	6,56	0,65	0,405	1170	30,6	110,901	9,329	129	14,8	8,370	1,354	8,546	7,107	3073,79						
126	W21X62	62,15	18,3	21	8,24	0,615	0,4	1330	57,5	126,667	13,956	144	21,7	8,525	1,773	8,400	8,446	5721,29						
127	W21X68	67,92	20	21,1	8,27	0,688	0,43	1480	64,7	140,284	15,647	160	24,4	8,602	1,799	9,073	9,442	6499,15						
128	W21X73	73,01	21,5	21,2	8,3	0,74	0,455	1600	70,6	150,943	17,012	172	26,6	8,627	1,812	9,646	10,237	7159,19						
129	W21X83	82,52	24,3	21,4	8,36	0,835	0,515	1830	81,4	171,028	19,474	196	30,5	8,678	1,830	11,021	11,634	8410,84						
130	W21X93	92,71	27,3	21,6	8,42	0,93	0,58	2070	92,9	191,667	22,067	221	34,7	8,708	1,845	12,528	13,051	9779,36						
131	W24X103	102,90	30,3	24,5	9	0,98	0,55	3000	119	244,898	26,444	280	41,5	9,950	1,982	13,475	14,700	16116,34						
132	W24X104	103,92	30,6	24,1	12,8	0,75	0,5	3100	259	257,261	40,469	289	62,4	10,065	2,909	12,050	16,000	33940,72						
133	W24X117	116,82	34,4	24,3	12,8	0,85	0,55	3540	297	291,358	46,406	327	71,4	10,144	2,938	13,365	18,133	39569,10						
134	W24X131	130,75	38,5	24,5	12,9	0,96	0,605	4020	340	328,163	52,713	370	81,5	10,218	2,972	14,823	20,640	46046,68						
135	W24X146	146,03	43	24,7	12,9	1,09	0,65	4580	391	370,850	60,520	418	93,2	10,320	3,016	16,055	23,435	53821,76						
136	W24X162	161,99	47,7	25	13	1,22	0,705	5170	443	413,600	68,154	468	105	10,411	3,048	17,625	26,433	62469,92						
137	W24X176	175,57	51,7	25,2	12,9	1,34	0,75	5680	479	450,794	74,264	511	115	10,482	3,044	18,900	28,810	66631,55						
138	W24X192	191,19	56,3	25,5	13	1,46	0,81	6260	530	490,980	81,539	559	126	10,545	3,068	20,655	31,633	77757,71						
139	W24X207	206,14	60,7	25,7	13	1,57	0,87	6820	578	530,739	89,923	606	137	10,600	3,086	22,369	34,017	86135,33						
140	W24X229	228,21	67,2	26	13,1	1,73	0,96	7650	651	588,462	99,989	675	154	10,670	3,113	24,960	37,772	99292,15						
141	W24X250	249,61	73,5	26,3	13,2	1,99	1,04	8430	724	645,627	109,697	744	171	10,748	3,139	27,352	41,580	112989,29						
142	W24X279	278,47	82	26,7	13,3	2,09	1,16	9600	823	719,101	123,759	835	193	10,820	3,168	30,972	46,328	132376,10						
143	W24X306	304,96	89,8	27,1	13,4	2,28	1,26	10700	919	789,668	137,164	922	214	10,916	3,199	34,146	50,920	152279,45						
144	W24X335	334,17	98,4	27,5	13,5	2,48	1,38	11900	1030	865,456	152,593	1020	238	10,997	3,235	37,950	55,800	175747,77						
145	W24X370	370,16	109	28	13,7	2,72	1,52	13400	1160	957,143	169,343	1130	267	11,088	3,262	42,560	62,107	205192,40						
146	W24X55	55,35	16,3	23,6	7,01	0,505	0,395	1360	29,1	115,254	8,302	135	13,4	9,134	1,336	9,322	5,900	3656,83						
147	W24X62	62,15	18,3	23,7	7,04	0,59	0,43	1560	34,5	131,646	9,801	154	15,8	9,233	1,373	10,191	6,923	4372,23						
148	W24X68	68,26	20,1	23,7	8,97	0,585	0,415	1830	70,4	154,430	15,697	177	24,5	9,542	1,872	9,836	8,746	8921,88						
149	W24X76	76,07	22,4	23,9	8,99	0,68	0,44	2100	82,5	175,732	18,354	200	28,6	9,683	1,919	10,516	10,189	10632,54						
150	W24X84	83,88	24,7	24,1	9,02	0,77	0,47	2370	94,4	196,681	20,931	224	32,6	9,796	1,955	11,327	11,576	12370,67						



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No	Section Name	Weight Lb/ft	Section Area		Section Properties							Moment of Inertia			Elastic Modulus			Plastic Modulus			Radius of Girration			Shear Area		Wrapping Constant Cw
			in <sup>2</sup>	in <sup>2</sup>	db	bf	tf	tw	lx	ly	Sx	Sy	Zx	Zy	rx	ry	Ax	Ay	in <sup>3</sup>	in <sup>3</sup>	in <sup>3</sup>	in <sup>3</sup>	in	in	in <sup>2</sup>	
151	W24X94	94.07	27.7	24.3	9.07	0.875	0.515	2700	109	222,222	24,035	254	37.5	9.873	1.984	12,515	13,227	14521.99								
152	W27X102	101.88	30	27.1	10	0.83	0.515	3620	139	267,159	27,800	305	43.4	10.985	2.153	13,957	13,833	23032.47								
153	W27X114	113.77	33.5	27.3	10.1	0.93	0.57	4080	159	298,901	31,485	343	49.3	11.036	2.179	15,561	15,655	26736.81								
154	W27X129	128.37	37.8	27.6	10	1.1	0.61	4760	184	344,928	36,800	395	57.6	11.222	2.206	16,836	18,333	31624.47								
155	W27X146	146.37	43.1	27.4	14	0.975	0.605	5660	443	413,139	63,266	464	97.7	11.460	3.206	16,577	22,750	75039.87								
156	W27X161	161.55	47.6	27.6	14	1.08	0.66	6310	497	457,246	71,000	515	109	11.514	3.231	18,216	25,200	85420.43								
157	W27X178	178.29	52.5	27.8	14.1	1.19	0.725	7020	555	505,036	78,723	570	122	11.564	3.251	20,155	27,965	96776.47								
158	W27X194	194.25	57.2	28.1	14	1.34	0.75	7860	619	559,431	88,429	631	136	11.722	3.290	21,075	31,267	110278.41								
159	W27X217	217.34	64	28.4	14.1	1.5	0.83	8910	704	627,465	99,868	711	154	11.799	3.317	23,572	35,250	128113.99								
160	W27X235	235.68	69.4	28.7	14.2	1.61	0.91	9700	769	675,958	108,310	772	168	11.822	3.329	26,117	38,103	142914.85								
161	W27X258	258.10	75	29	14.3	1.77	0.98	10800	859	744,828	120,140	852	187	11.921	3.362	28,420	42,185	162955.79								
162	W27X281	281.53	82.9	29.3	14.4	1.93	1.06	11900	963	812,287	132,361	936	206	11.981	3.391	31,058	46,320	184593.06								
163	W27X307	307.00	90.4	29.6	14.4	2.09	1.16	13100	1050	885,135	145,833	1030	227	12.038	3.408	34,336	50,160	207557.78								
164	W27X336	335.86	98.9	30	14.6	2.28	1.26	14600	1180	973,333	161,644	1130	252	12,150	3.454	37,800	55,480	239613.75								
165	W27X368	366.77	108	30.4	14.7	2.48	1.38	16200	1310	1065,790	178,231	1240	279	12,247	3.483	41,952	60,760	273152.82								
166	W27X539	539.96	159	32.5	15.3	3.54	1.97	25600	2110	1575,385	275,817	1890	437	12,689	3.643	64,025	90,270	502847.62								
167	W27X84	84.22	24.8	26.7	9.99	0.745	0.46	2850	106	213,483	21,285	244	33.2	10,720	2.067	12,282	10,624	17049.66								
168	W27X94	94.07	27.7	26.9	9.99	0.745	0.49	3270	124	243,123	24,825	278	38.8	10,865	2.116	13,181	12,404	20244.80								
169	W30X108	107.65	31.7	29.8	10.5	0.76	0.545	4470	146	300,000	27,810	346	43.9	11,875	2.146	16,241	13,300	29253.15								
170	W30X116	116.14	34.2	30	10.5	0.85	0.565	4930	164	328,667	31,238	378	49.2	12,006	2.190	16,950	14,875	33302.25								
171	W30X124	123.95	36.5	30.2	10.5	0.93	0.585	5360	181	354,967	34,476	408	54	12,118	2.227	17,667	16,275	37246.00								
172	W30X132	132.10	38.9	30.3	10.5	1	0.615	5770	196	380,858	37,333	437	58.4	12,179	2.245	18,635	17,500	40600.24								
173	W30X148	147.73	43.5	30.7	10.5	1.18	0.65	6680	227	435,179	43,238	500	68	12,392	2.284	19,955	20,650	48271.39								
174	W30X173	173.20	51	30.4	15	1.07	0.655	8230	598	541,447	79,733	607	123	12,703	3.424	19,912	26,750	124691.13								
175	W30X191	191.19	56.3	30.7	15	1.19	0.71	9200	673	599,349	89,733	675	138	12,783	3.457	21,797	29,750	143112.98								
176	W30X211	211.23	62.2	30.9	15.1	1.32	0.775	10300	757	666,667	100,265	751	155	12,868	3.489	23,948	33,220	163079.76								
177	W30X235	235.00	69.2	31.3	15.1	1.5	0.83	11700	855	747,504	113,245	847	175	13,003	3.515	25,979	37,750	188991.39								
178	W30X261	261.15	76.9	31.6	15.2	1.65	0.93	13100	959	829,114	126,184	943	196	13,062	3.531	28,388	41,800	216052.80								
179	W30X292	291.72	85.9	32	15.3	1.85	1.02	14900	1100	931,250	143,791	1080	223	13,170	3.579	32,640	47,175	254144.00								
180	W30X326	325.34	95.8	32.4	15.4	2.05	1.14	16800	1240	1037,037	161,039	1190	252	13,243	3.598	36,936	52,617	293696.60								

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TABEL - TABEL PROFIL

No	Section Name	Weight Lb/ft	Section Area in <sup>2</sup>	Section Properties						Moment of Inertia			Elastic Modulus			Plastic Modulus			Radius of Girration			Shear Area		Wrapping Constant Cw in <sup>6</sup>
				db	bf	Tf	tw	lx	ly	Sx	Sy	Zx	Zy	rx	ry	Ax	Ay	rx	ry	Ax	Ay			
181	W30X357	356.58	105	32.8	15.5	2.24	1.24	18700	1390	1140,244	179,355	1320	279	13,345	3,638	40,672	57,867	337403,60						
182	W30X391	390.54	115	33.2	15.6	2.44	1.36	20700	1550	1246,988	198,718	1450	310	13,416	3,671	45,152	63,440	385474,00						
183	W30X90	89.65	26.4	29.5	10.4	0.61	0.47	3610	115	244,746	22,115	283	34.7	11,694	2,087	13,865	10,573	22580,27						
184	W30X99	96.82	29.1	29.7	10.5	0.67	0.52	3990	128	268,687	24,381	312	38.6	11,710	2,097	15,444	11,725	25474,76						
185	W33X118	117.84	34.7	32.9	11.5	0.74	0.55	5900	187	368,663	32,522	415	51.3	13,040	2,321	18,095	14,183	45668,91						
186	W33X130	130.07	38.3	33.1	11.5	0.855	0.58	6710	218	405,438	37,913	467	59.5	13,236	2,386	19,198	16,388	53888,95						
187	W33X141	141.27	41.6	33.3	11.5	0.96	0.605	7450	246	447,448	42,783	514	66.9	13,382	2,432	20,147	18,400	61547,55						
188	W33X152	152.14	44.8	33.5	11.6	1.06	0.635	8160	273	487,154	47,069	559	73.9	13,496	2,469	21,273	20,493	69125,69						
189	W33X169	168.10	49.5	33.8	11.5	1.22	0.67	9290	310	549,704	53,913	629	84.4	13,700	2,503	22,646	23,383	79906,54						
190	W33X201	201.04	59.2	33.7	15.7	1.15	0.715	11600	749	688,427	95,414	773	147	13,998	3,557	24,096	30,092	91923,80						
191	W33X221	221.42	65.2	33.9	15.8	1.27	0.775	12900	840	761,062	106,329	857	164	14,066	3,589	26,273	33,443	117604,03						
192	W33X241	241.12	71	34.2	15.9	1.4	0.83	14200	933	830,409	117,369	940	182	14,142	3,625	28,386	37,100	246218,72						
193	W33X263	263.19	77.5	34.5	15.8	1.57	0.87	15900	1040	921,739	131,646	1040	202	14,324	3,663	30,015	41,343	279292,16						
194	W33X291	291.04	85.7	34.8	15.9	1.73	0.96	17700	1160	1017,241	145,912	1160	226	14,371	3,679	33,408	45,845	316959,44						
195	W33X318	317.87	93.6	35.2	16	1.89	1.04	19500	1290	1107,955	161,250	1270	250	14,434	3,712	36,608	50,400	360630,34						
196	W33X354	353.18	104	35.6	16.1	2.09	1.16	22000	1460	1235,955	181,367	1420	282	14,544	3,747	41,296	56,082	417484,23						
197	W33X387	387.14	114	36	16.2	2.28	1.26	24300	1620	1350,000	200,000	1560	312	14,600	3,770	45,360	61,560	473704,20						
198	W36X135	134.82	39.7	35.6	12	0.79	0.6	7800	225	438,202	37,500	509	59.7	14,017	2,381	21,360	15,800	64338,32						
199	W36X150	150.10	44.2	35.9	12	0.94	0.625	9040	270	503,621	45,000	581	70.9	14,301	2,472	22,438	18,800	78512,69						
200	W36X160	159.61	47	36	12	1.02	0.65	9760	295	542,222	49,167	624	77.3	14,410	2,505	23,400	20,400	86260,95						
201	W36X170	170.14	50.1	36.2	12	1.1	0.68	10500	320	580,111	53,333	668	83.8	14,477	2,527	24,616	22,000	94613,77						
202	W36X182	182.03	53.6	36.3	12.1	1.18	0.725	11300	347	625,590	57,355	718	90.7	14,520	2,544	26,318	23,797	103164,42						
203	W36X194	193.57	57	36.5	12.1	1.26	0.765	12100	375	663,014	61,984	767	97.7	14,570	2,565	27,923	25,410	112720,84						
204	W36X210	209.87	61.8	36.7	12.2	1.36	0.83	13200	411	719,346	67,377	833	107	14,615	2,579	30,461	27,653	124899,64						
205	W36X230	229.57	67.6	35.9	16.5	1.26	0.76	15000	940	835,655	113,939	943	176	14,896	3,729	27,284	34,650	273340,49						
206	W36X232	231.27	68.1	37.1	12.1	1.57	0.87	15000	468	808,625	77,355	936	122	14,841	2,622	32,277	31,662	145338,57						
207	W36X245	244.85	72.1	36.1	16.5	1.35	0.8	16100	1010	891,967	122,424	1010	190	14,943	3,743	25,880	37,125	296977,12						
208	W36X256	256.06	75.4	37.4	12.2	1.73	0.96	16800	528	898,396	86,557	1040	137	14,927	2,646	35,904	35,177	166634,28						
209	W36X260	259.79	76.5	36.3	16.6	1.44	0.84	17300	1090	953,168	131,325	1080	204	15,038	3,775	30,492	39,840	324051,15						
210	W36X280	279.83	82.4	36.5	16.6	1.57	0.885	18900	1200	1035,616	144,578	1170	223	15,145	3,816	32,303	43,437	360706,69						

# LAMPIRAN A-1-1

## TABEL - TABEL PROFIL

No	Section Name	Weight Lb/ft	Section Area in <sup>2</sup>	Section Properties						Moment of Inertia			Elastic Modulus			Plastic Modulus			Radius of Girration			Shear Area		Wrapping Constant Cw in <sup>5</sup>
				db in	bf in	Tf in	tw in	lx in <sup>4</sup>	ly in <sup>4</sup>	Sx in <sup>3</sup>	Sy in <sup>3</sup>	Zx in <sup>3</sup>	Zy in <sup>3</sup>	rx in	ry in	Ax in <sup>2</sup>	Ay in <sup>2</sup>							
211	W36X300	299,87	88,3	36,7	16,7	1,68	0,945	20300	1300	1106,267	155,689	1260	241	15,162	3,837	34,682	46,760	395059,67						
212	W36X328	327,37	96,4	37,1	16,6	1,85	1,02	22500	1420	1212,938	171,084	1380	265	15,278	3,838	37,842	51,183	440984,56						
213	W36X359	356,58	105	37,4	16,7	2,01	1,12	24800	1570	1326,203	188,024	1510	292	15,369	3,867	41,888	55,945	495484,50						
214	W36X393	393,94	116	37,8	16,8	2,2	1,22	27500	1750	1455,027	208,333	1670	325	15,397	3,884	46,116	61,600	564168,54						
215	W36X439	438,08	129	38,3	17	2,44	1,36	31000	1990	1618,799	234,118	1870	367	15,502	3,928	52,088	69,133	658624,44						
216	W36X527	526,38	155	39,2	17,2	2,91	1,61	38300	2490	1954,082	289,535	2280	454	15,719	4,008	63,112	83,420	863293,96						
217	W36X650	648,64	191	40,5	17,6	3,54	1,97	48900	3230	2414,815	367,045	2860	580	16,001	4,112	79,785	103,840	1195362,94						
218	W36X798	798,06	235	42	18	4,29	2,38	62600	4200	2980,952	466,667	3680	743	16,321	4,228	99,960	128,700	1671610,50						
219	W40X149	148,74	43,8	38,2	11,8	0,83	0,63	9800	229	513,089	36,814	598	62,2	14,958	2,287	24,066	16,323	75396,19						
220	W40X167	167,08	49,2	38,6	11,8	1,02	0,65	11600	283	601,036	47,966	693	76	15,355	2,398	25,090	20,060	95136,74						
221	W40X183	182,70	53,8	39	11,8	1,22	0,65	13300	336	682,051	56,949	783	89,6	15,723	2,499	25,350	23,983	115307,01						
222	W40X199	198,67	58,5	38,7	15,8	1,07	0,65	14900	695	770,026	87,975	869	137	15,959	3,447	25,155	28,177	234851,83						
223	W40X211	210,55	62	39,4	11,8	1,42	0,75	15500	390	786,802	66,102	906	105	15,811	2,508	29,550	27,927	136597,98						
224	W40X215	215,31	63,4	39	15,8	1,22	0,65	16700	796	856,410	100,760	964	156	16,230	3,543	25,350	32,127	273167,80						
225	W40X235	234,32	69	39,7	11,9	1,58	0,83	17400	444	876,574	74,622	1010	118	15,880	2,537	32,951	31,337	157888,76						
226	W40X249	248,93	73,3	39,4	15,8	1,42	0,75	19600	926	994,924	117,215	1120	182	16,352	3,554	29,550	37,393	324332,63						
227	W40X264	263,53	77,6	40	11,9	1,73	0,96	19400	493	970,000	82,857	1130	132	15,811	2,521	38,400	34,312	177973,00						
228	W40X277	276,43	81,4	39,7	15,8	1,58	0,83	21900	1040	1103,275	131,646	1250	204	16,403	3,574	32,951	41,607	369829,52						
229	W40X278	277,79	81,8	40,2	12	1,81	1,02	20500	521	1019,901	86,833	1190	140	15,831	2,524	41,004	36,200	189966,51						
230	W40X297	296,81	87,4	39,8	15,8	1,65	0,93	23200	1090	1165,829	137,975	1330	215	16,293	3,532	37,014	43,450	389564,94						
231	W40X324	323,64	95,3	40,2	15,9	1,81	1	25600	1220	1273,632	153,459	1460	239	16,390	3,578	40,200	47,965	444835,21						
232	W40X327	326,02	96	40,8	12,1	2,13	1,18	24500	640	1200,980	105,785	1410	170	15,975	2,582	48,144	42,955	240374,02						
233	W40X331	331,11	97,5	40,8	12,2	2,13	1,22	24700	644	1210,784	105,574	1430	172	15,916	2,570	49,776	43,310	241876,35						
234	W40X362	363,37	107	40,6	16	2,01	1,12	28900	1380	1423,645	172,500	1640	270	16,435	3,591	45,472	53,600	513237,49						
235	W40X372	370,16	109	40,6	16,1	2,05	1,16	29500	1420	1458,128	176,398	1680	278	16,479	3,609	47,096	55,008	528113,94						
236	W40X392	390,54	115	41,6	12,4	2,52	1,42	29900	803	1437,500	129,516	1710	212	16,125	2,643	59,072	52,080	313537,45						
237	W40X397	397,33	117	41	16,1	2,2	1,22	32000	1540	1560,976	191,304	1800	300	16,538	3,628	50,020	59,033	584084,46						
238	W40X431	431,29	127	41,3	16,2	2,36	1,34	34800	1690	1685,230	208,642	1960	328	16,553	3,648	55,342	63,720	650390,26						
239	W40X503	502,61	148	42,1	16,4	2,76	1,54	41700	2050	1980,998	250,000	2320	395	16,786	3,722	64,834	75,440	819795,01						
240	W40X593	590,90	174	43	16,7	3,23	1,79	50400	2520	2344,186	301,796	2760	481	17,019	3,806	76,970	89,902	1051295,18						

TABEL - TABEL PROFIL

No	Section Name	Section Area		Section Properties				Moment of Inertia			Elastic Modulus			Plastic Modulus			Radius of Girration			Shear Area		Wrapping Constant Cw in <sup>6</sup>
		Lb/ft	in <sup>2</sup>	db	bf	Tf	tw	lx	ly	Sx	Sy	Zx	Zy	rx	ry	Ax	Ay					
241	W44X230	229.91	67.7	42.9	15.8	1.22	0.71	20800	796	969,697	100,760	1100	157	17,528	3,429	30,459	32,127	330533.03				
242	W44X262	262.17	77.2	43.3	15.8	1.42	0.79	24200	927	1117,783	117,342	1270	183	17,705	3,465	34,207	37,393	392141.45				
243	W44X290	291.38	86.8	43.6	15.8	1.58	0.87	27100	1050	1243,119	132,911	1420	206	17,772	3,498	37,932	41,607	450349.31				
244	W44X335	333.83	96.3	44	16	1.77	1.02	31100	1200	1413,636	150,000	1620	236	17,787	3,494	44,880	47,200	524172.00				
245	W4X13	13.01	3.83	4.16	4.06	0.345	0.28	11.3	3.86	5.433	1.902	6.28	2.92	1.716	1.004	1.165	2.335	15.07				
246	W6X16	16.00	4.71	5.01	5	0.36	0.24	21.4	7.51	8.543	3.004	9.63	4.58	2.132	1.263	1.202	3.000	42.53				
247	W6X19	18.88	5.56	5.15	5.03	0.43	0.27	26.3	9.13	10,214	3,630	11.6	5.53	2,175	1,281	1,391	3,605	54.64				
248	W6X12	12.06	3.55	6.03	4	0.28	0.23	22.1	2.99	7,330	1,495	8.3	2.32	2,495	0,918	1,387	1,867	24.53				
249	W6X15	15.11	4.45	5.99	5.99	0.26	0.23	29.3	9.32	9,783	3,112	10.8	4.75	2,566	1,447	1,378	2,596	75.45				
250	W6X16	16.10	4.74	6.28	4.03	0.405	0.26	32.1	4.43	10,223	2,199	11.7	3.39	2,602	0,967	1,633	2,720	39.42				
251	W6X20	20.00	5.89	6.2	6.02	0.365	0.26	41.5	13.3	13,387	4,419	15	6.72	2,654	1,503	1,612	3,662	115.35				
252	W6X25	24.99	7.36	6.36	6.08	0.455	0.32	53.6	17.1	16,803	5,625	19	8.57	2,699	1,524	2,042	4,611	157.05				
253	W6X8.5	8.52	2.51	5.83	3.94	0.194	0.17	14.8	1.98	5,077	1,005	5.71	1.55	2,428	0,888	0,991	1,274	15.18				
254	W6X9	9.10	2.68	5.9	3.94	0.215	0.17	16.4	2.2	5,559	1,117	6.23	1.72	2,474	0,906	1,003	1,412	17.28				
255	W6X10	10.05	2.96	7.89	3.94	0.205	0.17	30.8	2.09	7,807	1,061	8.87	1.66	3,226	0,840	1,341	1,346	29.36				
256	W6X13	13.04	3.84	7.99	4	0.255	0.23	39.6	2.73	9,912	1,365	11.4	2.15	3,211	0,843	1,838	1,700	39.32				
257	W6X15	15.08	4.44	8.11	4.01	0.315	0.245	48	3.41	11,837	1,701	13.6	2.67	3,288	0,876	1,987	2,105	50.60				
258	W6X18	17.86	5.26	8.14	5.25	0.33	0.23	61.9	7.97	15,209	3,036	17	4.66	3,431	1,231	1,872	2,888	119.15				
259	W6X21	20.92	6.16	8.28	5.27	0.4	0.25	75.3	9.77	18,188	3,708	20.4	5.69	3,496	1,259	2,070	3,513	151.13				
260	W6X24	24.04	7.08	7.93	6.5	0.4	0.245	82.7	18.3	20,858	5,631	23.1	8.57	3,418	1,608	1,943	4,333	259.65				
261	W6X28	27.98	8.24	8.06	6.54	0.465	0.285	98	21.7	24,318	6,636	27.2	10.1	3,449	1,623	2,297	5,069	318.07				
262	W6X31	30.97	9.12	8	8	0.435	0.285	110	37.1	27,500	9,275	30.4	14.1	3,473	2,017	2,280	5,800	535.72				
263	W6X35	34.98	10.3	8.12	8.02	0.495	0.31	127	42.6	31,281	10,623	34.7	16.1	3,511	2,034	2,517	6,617	633.74				
264	W6X40	39.73	11.7	8.25	8.07	0.56	0.36	146	49.1	36,394	12,169	39.8	18.5	3,533	2,049	2,970	7,532	754.01				
265	W6X48	47.88	14.1	8.5	8.11	0.685	0.4	184	60.9	43,294	15,019	49	22.9	3,612	2,078	3,400	9,259	992.76				
266	W6X58	58.07	17.1	8.75	8.22	0.81	0.51	228	75.1	52,114	18,273	59.8	27.9	3,652	2,096	4,463	11,097	1297.31				
267	W6X67	66.90	19.7	9	8.28	0.935	0.57	272	88.6	60,444	21,401	70.1	32.7	3,716	2,121	5,130	12,903	1619.22				

# LAMPIRAN A-2-1

## BERAT NON STRUKTUR TIPE A

No	Bagian	Berat	Satuan	p (m)	l (m)	t (m)	Total (Kg)
<b>ATAP</b>							
<b>BEBAN MATI</b>							
1	Pelat Lantai	321	Kg/m <sup>2</sup>	28	30	1	269640
							<b>WD</b>
<b>BEBAN HIDUP</b>							
1	atap	100	Kg/m <sup>2</sup>	28	30	1	84000
							<b>WL</b>
							<b>0,7</b>
<b>LANTAI</b>							
<b>BEBAN MATI</b>							
1	Pelat Lantai	483	Kg/m <sup>2</sup>	28	30	1	405720
2	Dinding	1700	Kg/m <sup>3</sup>	346	0,15	3,3	291159
							<b>WD</b>
<b>BEBAN HIDUP</b>							
1	Perkantoran	250	Kg/m <sup>2</sup>	28	30	1	210000
							<b>WL</b>
							<b>0,7</b>
							<b>147000</b>

# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK BSF 6 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
6	W18X31	46,14	7	8	W18X35	52,05	7	20
5	W18X40	59,63	7	8	W21X50	74,29	7	20
4	W21X44	65,70	7	8	W21X55	81,87	7	20
3	W21X44	65,70	7	8	W21X55	81,87	7	20
2	W21X44	65,70	7	8	W21X55	81,87	7	20
1	W21X44	65,70	7	8	W21X55	81,87	7	20

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)		
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok		Berat (kg/m)	Pjg (m)
6	W12X26	38,66	5	12	W12X26	38,66	5	18	W12X26	38,66	5	24
5	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
4	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
3	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
2	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
1	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM BSF 6 LT

Lantai	h (m)	Portal Tepi											
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml
6	3,75	W14X90	133,92	4	W14X99	147,06	4	W14X99	147,06	4	W14X99	147,06	2
5	3,75	W14X99	147,06	4	W14X132	196,08	4	W14X132	196,08	4	W14X132	196,08	2
4	3,75	W14X109	161,71	4	W14X145	215,79	4	W14X145	215,79	4	W14X145	215,79	2
3	3,75	W14X109	161,71	4	W14X145	215,79	4	W14X145	215,79	4	W14X145	215,79	2
2	3,75	W14X109	161,71	4	W14X145	215,79	4	W14X145	215,79	4	W14X145	215,79	2
1	3,75	W14X109	161,71	4	W14X145	215,79	4	W14X145	215,79	4	W14X145	215,79	2

Lantai	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	W Kolom (Kg)
6	W14X109	161,71	10	W14X120	178,39	10	W14X120	178,39	10	W14X120	178,39	5	21416,26512
5	W14X120	178,39	10	W14X176	261,77	10	W14X176	261,77	10	W14X176	261,77	5	28031,97913
4	W14X132	196,08	10	W14X193	287,04	10	W14X193	287,04	10	W14X193	287,04	5	30779,8394
3	W14X132	196,08	10	W14X193	287,04	10	W14X193	287,04	10	W14X193	287,04	5	30779,8394
2	W14X132	196,08	10	W14X193	287,04	10	W14X193	287,04	10	W14X193	287,04	5	30779,8394
1	W14X132	196,08	10	W14X193	287,04	10	W14X193	287,04	10	W14X193	287,04	5	30779,8394

# LAMPIRAN A-2-2

## BERAT BRASING 6 LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
6	W12X63	78,84	7,94	4	2503,806857
5	W12X96	142,51	7,94	4	4526,110099
4	W12X106	157,67	7,94	4	5007,611227
3	W12X106	157,67	7,94	4	5007,611227
2	W12X120	178,39	7,94	4	5665,663762
1	W12X120	178,39	7,94	4	5665,663762



# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK USF 6 LT

Lantai	Balok Arah X Tepi				Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
6	W16X31	46,14	7	8	W18X35	52,05	7	20
5	W21X44	65,70	7	8	W21X55	81,87	7	20
4	W21X50	74,29	7	8	W24X55	82,37	7	20
3	W21X50	74,29	7	8	W24X55	82,37	7	20
2	W21X50	74,29	7	8	W24X55	82,37	7	20
1	W21X50	74,29	7	8	W24X55	82,37	7	20

Lantai	Balok Y Tepi				Balok Y Tengah				Balok Anak				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	W Balok (kg)
6	W12X26	38,66	5	12	W12X26	38,66	5	18	W12X26	38,66	5	24	20309,05195
5	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
4	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281
3	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281
2	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281
1	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM USF 6 LT

Lantai	h (m)	Portal Tepi									
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	
6	3,75	W14X99	147,06	4	W14X109	161,71	4	W14X109	161,71	4	
5	3,75	W14X120	178,39	4	W14X176	261,77	4	W14X193	287,04	4	
4	3,75	W14X159	236,00	4	W14X211	313,32	4	W14X211	313,32	4	
3	3,75	W14X159	236,00	4	W14X211	313,32	4	W14X211	313,32	4	
2	3,75	W14X159	236,00	4	W14X211	313,32	4	W14X211	313,32	4	
1	3,75	W14X159	236,00	4	W14X211	313,32	4	W14X211	313,32	4	

Lantai	Kolom tepi	Berat (Kg/m)	Jml	Portal Tengah										W Kolom (Kg)
				Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml					
6	W14X109	161,71	10	W14X120	178,39	10	W14X120	178,39	10	W14X120	178,39	5	21943,09626	
5	W14X176	261,77	10	W14X233	346,17	10	W14X233	346,17	10	W14X233	346,17	5	38043,66904	
4	W14X233	346,17	10	W14X257	382,05	10	W14X257	382,05	10	W14X257	382,05	5	45061,13899	
3	W14X233	346,17	10	W14X257	382,05	10	W14X257	382,05	10	W14X257	382,05	5	45061,13899	
2	W14X233	346,17	10	W14X257	382,05	10	W14X257	382,05	10	W14X257	382,05	5	45061,13899	
1	W14X233	346,17	10	W14X257	382,05	10	W14X257	382,05	10	W14X257	382,05	5	45061,13899	

# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK BSF10 LT

Lantai	Balok Arah X Tepi				Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
10	W18X31	46,14	7	8	W18X35	52,05	7	20
9	W18X35	52,05	7	8	W21X48	71,25	7	20
8	W18X35	52,05	7	8	W21X50	74,29	7	20
7	W18X40	59,63	7	8	W21X50	74,29	7	20
6	W18X40	59,63	7	8	W21X50	74,29	7	20
5	W18X40	59,63	7	8	W21X50	74,29	7	20
4	W21X44	65,70	7	8	W21X55	81,87	7	20
3	W21X44	65,70	7	8	W21X55	81,87	7	20
2	W21X44	65,70	7	8	W21X55	81,87	7	20
1	W21X44	65,70	7	8	W21X55	81,87	7	20

Lantai	Balok Y Tepi				Balok Y Tengah				Balok Anak				W Balok (kg)
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	
10	W12X26	38,66	5	12	W12X26	38,66	5	18	W12X26	38,66	5	24	20309,05195
9	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	24538,47513
8	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	24962,96577
7	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
6	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
5	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
4	W12X26	38,66	5	12	W12:30	44,42	5	18	W12X30	44,42	5	24	26788,30292
3	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
2	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
1	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM BSF10 LT

Lantai	h (m)	Portal Tepi				Portal Tengah				Jml
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	
10	3,75	W14X120	178,39	4	W14X120	178,39	4	W14X109	161,71	2
9	3,75	W14X120	178,39	4	W14X145	215,79	4	W14X132	196,08	2
8	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X211	313,32	2
7	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X211	313,32	2
6	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X211	313,32	2
5	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X211	313,32	2
4	3,75	W14X233	346,17	4	W14X257	382,05	4	W14X233	346,17	2
3	3,75	W14X233	346,17	4	W14X257	382,05	4	W14X233	346,17	2
2	3,75	W14X233	346,17	4	W14X257	382,05	4	W14X233	346,17	2
1	3,75	W14X233	346,17	4	W14X257	382,05	4	W14X233	346,17	2

Lantai	Kolom tepi	Berat (Kg/m)	Portal Tengah				W Kolom (Kg)			
			Jml	Kolom tepi2	Berat (Kg/m)	Jml		Kolom Tengah	Berat (Kg/m)	Jml
10	W14X109	161,71	10	W14X132	196,08	10	W14X132	196,08	5	22740,92314
9	W14X132	196,08	10	W14X211	313,32	10	W14X211	313,32	5	31742,5385
8	W14X159	236,00	10	W14X233	346,17	10	W14X233	346,17	5	36573,08752
7	W14X159	236,00	10	W14X233	346,17	10	W14X233	346,17	5	36573,08752
6	W14X159	236,00	10	W14X233	346,17	10	W14X233	346,17	5	36573,08752
5	W14X159	236,00	10	W14X233	346,17	10	W14X233	346,17	5	36573,08752
4	W14X193	287,04	10	W14X257	382,05	10	W14X257	382,05	5	41759,91604
3	W14X193	287,04	10	W14X257	382,05	10	W14X257	382,05	5	41759,91604
2	W14X193	287,04	10	W14X257	382,05	10	W14X257	382,05	5	41759,91604
1	W14X193	287,04	10	W14X257	382,05	10	W14X257	382,05	5	41759,91604

# LAMPIRAN A-2-2

## BERAT BRASING 10 LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
10	W12X63	78,84	7,94	4	2503,806857
9	W12X72	106,63	7,94	4	3386,558924
8	W12X87	129,37	7,94	4	4108,810615
7	W12X87	129,37	7,94	4	4108,810615
6	W12X96	142,51	7,94	4	4526,110099
5	W12X96	142,51	7,94	4	4526,110099
4	W12X106	157,67	7,94	4	5007,611227
3	W12X106	157,67	7,94	4	5007,611227
2	W12X120	178,39	7,94	4	5665,663762
1	W12X120	178,39	7,94	4	5665,663762

BERAT ELEMEN BALOK USF10 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
10	W16X31	46,14	7	8	W18X35	52,05	7	20
9	W18X40	59,63	7	8	W21X50	74,29	7	20
8	W21X44	65,70	7	8	W21X55	81,87	7	20
7	W21X44	65,70	7	8	W21X55	81,87	7	20
6	W21X44	65,70	7	8	W21X55	81,87	7	20
5	W21X44	65,70	7	8	W21X55	81,87	7	20
4	W21X50	74,29	7	8	W24X55	82,37	7	20
3	W21X50	74,29	7	8	W24X55	82,37	7	20
2	W21X50	74,29	7	8	W24X55	82,37	7	20
1	W21X50	74,29	7	8	W24X55	82,37	7	20

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak						
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	W Balok (kg)
10	W12X26	38,66	5	12	W12X26	38,66	5	21	W12X26	38,66	5	24	20888,945
9	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
8	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
7	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
6	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
5	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
4	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
3	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281
2	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281
1	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281

# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK BSF14 LT

Lantai	Balok Arah X Tepi				Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
14	W16X31	46,14	7	8	W18X35	52,05	7	20
13	W18X35	52,05	7	8	W21X48	71,25	7	20
12	W18X40	59,63	7	8	W21X50	74,29	7	20
11	W18X40	59,63	7	8	W21X50	74,29	7	20
10	W18X40	59,63	7	8	W21X50	74,29	7	20
9	W18X40	59,63	7	8	W21X50	74,29	7	20
8	W21X44	65,70	7	8	W21X55	81,87	7	20
7	W21X44	65,70	7	8	W21X55	81,87	7	20
6	W21X44	65,70	7	8	W21X55	81,87	7	20
5	W21X44	65,70	7	8	W21X55	81,87	7	20
4	W21X48	71,25	7	8	W24X55	82,37	7	20
3	W21X48	71,25	7	8	W24X55	82,37	7	20
2	W21X48	71,25	7	8	W24X55	82,37	7	20
1	W21X48	71,25	7	8	W24X55	82,37	7	20

Lantai	Balok Y Tepi				Balok Y Tengah				Balok Anak				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	W Balok (kg)
14	W12X26	38,66	5	12	W12X26	38,66	5	18	W12X26	38,66	5	24	20309,05195
13	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	24538,47513
12	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
11	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
10	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
9	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
8	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
7	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
6	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
5	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
4	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
3	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27170,35655
2	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27170,35655
1	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27170,35655

DESAIN BSF 14LT/Statik Ekuivalen

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM BSF14 LT

Lantai	h (m)	Portal Tepi											
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi/2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml
14	3,75	W14X90	133,92	4	W14X99	147,06	4	W14X99	147,06	4	W14X99	147,06	2
13	3,75	W14X99	147,06	4	W14X132	196,08	4	W14X120	178,39	4	W14X120	178,39	2
12	3,75	W14X120	178,39	4	W14X159	236,00	4	W14X145	215,79	4	W14X145	215,79	2
11	3,75	W14X120	178,39	4	W14X159	236,00	4	W14X145	215,79	4	W14X145	215,79	2
10	3,75	W14X120	178,39	4	W14X159	236,00	4	W14X145	215,79	4	W14X145	215,79	2
9	3,75	W14X120	178,39	4	W14X159	236,00	4	W14X145	215,79	4	W14X145	215,79	2
8	3,75	W14X145	215,79	4	W14X176	261,77	4	W14X159	236,00	4	W14X159	236,00	2
7	3,75	W14X145	215,79	4	W14X176	261,77	4	W14X159	236,00	4	W14X159	236,00	2
6	3,75	W14X145	215,79	4	W14X176	261,77	4	W14X159	236,00	4	W14X159	236,00	2
5	3,75	W14X145	215,79	4	W14X176	261,77	4	W14X159	236,00	4	W14X159	236,00	2
4	3,75	W14X159	236,00	4	W14X193	287,04	4	W14X176	261,77	4	W14X176	261,77	2
3	3,75	W14X159	236,00	4	W14X193	287,04	4	W14X176	261,77	4	W14X176	261,77	2
2	3,75	W14X159	236,00	4	W14X193	287,04	4	W14X176	261,77	4	W14X176	261,77	2
1	3,75	W14X159	236,00	4	W14X193	287,04	4	W14X176	261,77	4	W14X176	261,77	2

Lantai	Portal Tengah										W Kolom (Kg)	
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi/2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah		Berat (Kg/m)
14	W14X90	133,92	10	W14X132	196,08	10	W14X132	196,08	5			21368,8882
13	W14X120	178,39	10	W14X211	313,32	10	W14X176	261,77	5			29832,30156
12	W14X176	261,77	10	W14X233	346,17	10	W14X211	313,32	5			36506,761
11	W14X176	261,77	10	W14X233	346,17	10	W14X211	313,32	5			36506,761
10	W14X176	261,77	10	W14X233	346,17	10	W14X211	313,32	5			36506,761
9	W14X176	261,77	10	W14X233	346,17	10	W14X211	313,32	5			36506,761
8	W14X193	287,04	10	W14X257	382,05	10	W14X257	382,05	5			41187,6026
7	W14X193	287,04	10	W14X257	382,05	10	W14X257	382,05	5			41187,6026
6	W14X193	287,04	10	W14X257	382,05	10	W14X257	382,05	5			41187,6026
5	W14X193	287,04	10	W14X257	382,05	10	W14X257	382,05	5			41187,6026
4	W14X211	313,32	10	W14X283	420,96	10	W14X283	420,96	5			45237,3806
3	W14X211	313,32	10	W14X283	420,96	10	W14X283	420,96	5			45237,3806
2	W14X211	313,32	10	W14X283	420,96	10	W14X283	420,96	5			45237,3806
1	W14X211	313,32	10	W14X283	420,96	10	W14X283	420,96	5			45237,3806



# LAMPIRAN A-2-2

## BERAT BRASING 14 LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
14	W12X50	73,78	7,941	4	2343,601608
13	W12X50	73,78	7,941	4	2343,601608
12	W12X53	78,84	7,941	4	2504,122198
11	W12X53	78,84	7,941	4	2504,122198
10	W12X72	106,63	7,941	4	3386,985443
9	W12X72	106,63	7,941	4	3386,985443
8	W12X87	129,37	7,941	4	4109,328097
7	W12X87	129,37	7,941	4	4109,328097
6	W12X96	142,51	7,941	4	4526,680138
5	W12X96	142,51	7,941	4	4526,680138
4	W12X106	157,67	7,941	4	5008,241908
3	W12X106	157,67	7,941	4	5008,241908
2	W12X120	178,39	7,941	4	5666,377322
1	W12X120	178,39	7,941	4	5666,377322

# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK USF14 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
14	W16X31	46,14	7	8	W18X35	52,05	7	20
13	W18X40	59,63	7	8	W21X50	74,29	7	20
12	W21X44	65,70	7	8	W21X55	81,87	7	20
11	W21X44	65,70	7	8	W21X55	81,87	7	20
10	W21X44	65,70	7	8	W21X55	81,87	7	20
9	W21X44	65,70	7	8	W21X55	81,87	7	20
8	W21X50	74,29	7	8	W24X55	82,37	7	20
7	W21X50	74,29	7	8	W24X55	82,37	7	20
6	W21X50	74,29	7	8	W24X55	82,37	7	20
5	W21X50	74,29	7	8	W24X55	82,37	7	20
4	W21X55	81,87	7	8	W24X62	92,48	7	20
3	W21X55	81,87	7	8	W24X62	92,48	7	20
2	W21X55	81,87	7	8	W24X62	92,48	7	20
1	W21X55	81,87	7	8	W24X62	92,48	7	20

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok		Berat (kg/m)	Pjg (m)	Jml
14	W12X26	38,66	5	12	W12X26	38,66	5	18	W12X26	38,66	5	24	20309,05195
13	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25387,46298
12	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
11	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
10	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
9	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
8	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	26788,30292
7	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281
6	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281
5	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27340,15281
4	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	29179,64074
3	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	29179,64074
2	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	29179,64074
1	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	29179,64074

DESAIN USF 14LT/Statik Ekuivalen

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM USF14 LT

Lantai	h (m)	Portal Tepi											
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml			
14	3,75	W14X82	121,28	4	W14X99	147,06	4	W14X99	147,06	4	W14X99	147,06	2
13	3,75	W14X99	147,06	4	W14X159	236,00	4	W14X159	236,00	4	W14X159	236,00	2
12	3,75	W14X99	147,06	4	W14X176	261,77	4	W14X176	261,77	4	W14X176	261,77	2
11	3,75	W14X99	147,06	4	W14X176	261,77	4	W14X176	261,77	4	W14X176	261,77	2
10	3,75	W14X120	178,39	4	W14X211	313,32	4	W14X211	313,32	4	W14X211	313,32	2
9	3,75	W14X120	178,39	4	W14X211	313,32	4	W14X211	313,32	4	W14X211	313,32	2
8	3,75	W14X145	215,79	4	W14X233	346,17	4	W14X233	346,17	4	W14X233	346,17	2
7	3,75	W14X145	215,79	4	W14X233	346,17	4	W14X233	346,17	4	W14X233	346,17	2
6	3,75	W14X176	261,77	4	W14X257	382,05	4	W14X257	382,05	4	W14X257	382,05	2
5	3,75	W14X176	261,77	4	W14X257	382,05	4	W14X257	382,05	4	W14X257	382,05	2
4	3,75	W14X193	287,04	4	W14X283	420,96	4	W14X283	420,96	4	W14X283	420,96	2
3	3,75	W14X193	287,04	4	W14X283	420,96	4	W14X283	420,96	4	W14X283	420,96	2
2	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X283	420,96	4	W14X283	420,96	2
1	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X283	420,96	4	W14X283	420,96	2

Lantai	Portal Tengah										W Kolom (Kg)	
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	W Kolom (Kg)	Jml	
14	W14X120	178,39	10	W14X145	215,79	10	W14X132	196,08	5	23586,12754	5	
13	W14X120	178,39	10	W14X211	313,32	10	W14X211	313,32	5	31829,71156	5	
12	W14X145	215,79	10	W14X257	382,05	10	W14X257	382,05	5	37677,92003	5	
11	W14X145	215,79	10	W14X257	382,05	10	W14X257	382,05	5	37677,92003	5	
10	W14X211	313,32	10	W14X311	461,89	10	W14X311	461,89	5	47456,51308	5	
9	W14X211	313,32	10	W14X311	461,89	10	W14X311	461,89	5	47456,51308	5	
8	W14X233	346,17	10	W14X342	510,41	10	W14X370	550,84	5	53475,27846	5	
7	W14X233	346,17	10	W14X342	510,41	10	W14X370	550,84	5	53475,27846	5	
6	W14X256	346,17	10	W14X370	550,84	10	W14X370	550,84	5	56488,45183	5	
5	W14X283	420,96	10	W14X370	550,84	10	W14X370	550,84	5	59293,16617	5	
4	W14X311	461,89	10	W14X426	631,69	10	W14X426	631,69	5	66630,90163	5	
3	W14X311	461,89	10	W14X426	631,69	10	W14X426	631,69	5	66630,90163	5	
2	W14X370	550,84	10	W14X426	631,69	10	W14X426	631,69	5	70853,13381	5	
1	W14X370	550,84	10	W14X426	631,69	10	W14X426	631,69	5	70853,13381	5	

# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK BSF18 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml
18	W18X31	46,14	7	8	W18X35	52,05	7	20
17	W18X35	52,05	7	8	W21X48	71,25	7	20
16	W18X40	59,63	7	8	W21X50	74,29	7	20
15	W18X40	59,63	7	8	W21X50	74,29	7	20
14	W18X40	59,63	7	8	W21X50	74,29	7	20
13	W18X40	59,63	7	8	W21X50	74,29	7	20
12	W21X44	65,70	7	8	W21X55	81,87	7	20
11	W21X44	65,70	7	8	W21X55	81,87	7	20
10	W21X44	65,70	7	8	W21X55	81,87	7	20
9	W21X44	65,70	7	8	W21X55	81,87	7	20
8	W21X48	71,25	7	8	W24X55	82,37	7	20
7	W21X48	71,25	7	8	W24X55	82,37	7	20
6	W21X48	71,25	7	8	W24X55	82,37	7	20
5	W21X48	71,25	7	8	W24X55	82,37	7	20
4	W21X55	81,87	7	8	W24X62	92,48	7	20
3	W21X55	81,87	7	8	W24X62	92,48	7	20
2	W21X55	81,87	7	8	W24X62	92,48	7	20
1	W21X55	81,87	7	8	W24X62	92,48	7	20

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)		
	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml	Berat (kg/m)		Pig (m)	Jml
18	W12X26	38,66	5	12	W12X26	38,66	5	18	W12X26	38,66	5	24
17	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
16	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
15	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
14	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
13	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
12	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
11	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
10	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
9	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
8	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
7	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
6	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
5	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
4	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
3	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
2	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24
1	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24

# LAMPIRAN A-2-2

BERAT ELEMEN KOLOM BSF18 LT

Lantai	h (m)	Kolom Tepi				Portal Tepi				Kolom Tengah	Berat (Kg/m)	Jml
		Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)			
18	3,75	133,92	4	W14X145	215,79	4	W14X120	178,39	4	W14X120	178,39	2
17	3,75	147,06	4	W14X159	236,00	4	W14X132	196,08	4	W14X132	196,08	2
16	3,75	178,39	4	W14X176	261,77	4	W14X176	261,77	4	W14X176	261,77	2
15	3,75	178,39	4	W14X120	178,39	4	W14X176	261,77	4	W14X176	261,77	2
14	3,75	178,39	4	W14X120	178,39	4	W14X176	261,77	4	W14X176	261,77	2
13	3,75	178,39	4	W14X120	178,39	4	W14X176	261,77	4	W14X176	261,77	2
12	3,75	236,00	4	W14X159	236,00	4	W14X211	313,32	4	W14X193	287,04	2
11	3,75	236,00	4	W14X159	236,00	4	W14X211	313,32	4	W14X193	287,04	2
10	3,75	236,00	4	W14X159	236,00	4	W14X211	313,32	4	W14X193	287,04	2
9	3,75	236,00	4	W14X159	236,00	4	W14X211	313,32	4	W14X193	287,04	2
8	3,75	287,04	4	W14X193	287,04	4	W14X233	346,17	4	W14X211	313,32	2
7	3,75	287,04	4	W14X193	287,04	4	W14X233	346,17	4	W14X211	313,32	2
6	3,75	287,04	4	W14X193	287,04	4	W14X233	346,17	4	W14X211	313,32	2
5	3,75	287,04	4	W14X193	287,04	4	W14X233	346,17	4	W14X211	313,32	2
4	3,75	313,32	4	W14X211	313,32	4	W14X257	382,05	4	W14X233	346,17	2
3	3,75	313,32	4	W14X211	313,32	4	W14X257	382,05	4	W14X233	346,17	2
2	3,75	313,32	4	W14X211	313,32	4	W14X257	382,05	4	W14X233	346,17	2
1	3,75	313,32	4	W14X211	313,32	4	W14X257	382,05	4	W14X233	346,17	2

Lantai	Kolom Tepi	Berat (Kg/m)	Jml	Portal Tengah				Kolom Tengah	Berat (Kg/m)	Jml	W Kolom (Kg)
				Berat (Kg/m)	Jml	Kolom Tepi2	Berat (Kg/m)				
18	W14X120	178,39	10	178,39	10	W14X132	196,08	5	23639,19004		
17	W14X132	196,08	10	313,32	10	W14X211	313,32	5	32193,56655		
16	W14X159	236,00	10	420,96	10	W14X257	382,05	5	40365,13819		
15	W14X159	236,00	10	420,96	10	W14X257	382,05	5	40365,13819		
14	W14X159	236,00	10	420,96	10	W14X257	382,05	5	40365,13819		
13	W14X159	236,00	10	420,96	10	W14X257	382,05	5	40365,13819		
12	W14X193	287,04	10	461,89	10	W14X311	461,89	5	47138,1404		
11	W14X193	287,04	10	461,89	10	W14X311	461,89	5	47138,1404		
10	W14X193	287,04	10	461,89	10	W14X311	461,89	5	47138,1404		
9	W14X193	287,04	10	461,89	10	W14X311	461,89	5	47138,1404		
8	W14X257	382,05	10	510,41	10	W14X342	510,41	5	54885,21728		
7	W14X257	382,05	10	510,41	10	W14X342	510,41	5	54885,21728		
6	W14X257	382,05	10	510,41	10	W14X342	510,41	5	54885,21728		
5	W14X257	382,05	10	510,41	10	W14X342	510,41	5	54885,21728		
4	W14X283	420,96	10	550,84	10	W14X370	550,84	5	59797,25614		
3	W14X283	420,96	10	550,84	10	W14X370	550,84	5	59797,25614		
2	W14X283	420,96	10	550,84	10	W14X370	550,84	5	59797,25614		
1	W14X283	420,96	10	550,84	10	W14X370	550,84	5	59797,25614		

# LAMPIRAN A-2-2

## BERAT BRASING 18 LT

Lantai	Bracing	Berat (kg/m)	Penjang (m)	Jml	W Bracing (kg)
18	W12X58	85,91	7,941	4	2728,850029
17	W12X58	85,91	7,941	4	2728,850029
16	W12X72	106,63	7,941	4	3386,985443
15	W12X72	106,63	7,941	4	3386,985443
14	W12X96	142,51	7,941	4	4526,680138
13	W12X96	142,51	7,941	4	4526,680138
12	W12X106	157,67	7,941	4	5008,241908
11	W12X106	157,67	7,941	4	5008,241908
10	W12X106	157,67	7,941	4	5008,241908
9	W12X106	157,67	7,941	4	5008,241908
8	W12X120	178,39	7,941	4	5666,377322
7	W12X120	178,39	7,941	4	5666,377322
6	W12X120	178,39	7,941	4	5666,377322
5	W12X120	178,39	7,941	4	5666,377322
4	W12X136	201,64	7,941	4	6404,770543
3	W12X136	201,64	7,941	4	6404,770543
2	W12X136	201,64	7,941	4	6404,770543
1	W12X136	201,64	7,941	4	6404,770543

# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK USF18 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
18	W16X31	46,14	7	8	W18X35	52,05	7	20
17	W18X40	59,63	7	8	W21X50	74,29	7	20
16	W21X50	74,29	7	8	W21X55	81,87	7	20
15	W21X50	74,29	7	8	W21X55	81,87	7	20
14	W21X50	74,29	7	8	W21X55	81,87	7	20
13	W21X50	74,29	7	8	W21X55	81,87	7	20
12	W21X57	84,39	7	8	W24X62	92,48	7	20
11	W21X57	84,39	7	8	W24X62	92,48	7	20
10	W21X57	84,39	7	8	W24X62	92,48	7	20
9	W21X57	84,39	7	8	W24X62	92,48	7	20
8	W21X68	101,07	7	8	W24X79	113,20	7	20
7	W21X68	101,07	7	8	W24X79	113,20	7	20
6	W21X68	101,07	7	8	W24X79	113,20	7	20
5	W21X68	101,07	7	8	W24X79	113,20	7	20
4	W21X73	108,65	7	8	W24X87	124,82	7	20
3	W21X73	108,65	7	8	W24X87	124,82	7	20
2	W21X73	108,65	7	8	W24X87	124,82	7	20
1	W21X73	108,65	7	8	W24X87	124,82	7	20

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)		
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok		Berat (kg/m)	Pjg (m)
18	W12X35	52,05	5	12	W12X26	38,66	5	18	W12X25	38,66	5	24
17	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
16	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
15	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
14	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
13	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
12	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
11	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
10	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
9	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
8	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
7	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
6	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
5	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
4	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
3	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
2	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24
1	W12X35	52,05	5	12	W12X40	59,13	5	18	W12X30	44,42	5	24

# LAMPIRAN A-2-2

BERAT ELEMEN KOLOM USF18 LT

Lantai	h (m)	Portal Tepi				Portal Tengah				Jml
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	
18	3,75	W14X132	196,08	4	W14X176	261,77	4	W14X176	261,77	2
17	3,75	W14X176	261,77	4	W14X193	287,04	4	W14X193	287,04	2
16	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X257	382,05	2
15	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X257	382,05	2
14	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X257	382,05	2
13	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X257	382,05	2
12	3,75	W14X233	346,17	4	W14X311	461,89	4	W14X311	461,89	2
11	3,75	W14X233	346,17	4	W14X311	461,89	4	W14X311	461,89	2
10	3,75	W14X233	346,17	4	W14X311	461,89	4	W14X311	461,89	2
9	3,75	W14X233	346,17	4	W14X311	461,89	4	W14X311	461,89	2
8	3,75	W14X283	420,96	4	W14X342	510,41	4	W14X342	510,41	2
7	3,75	W14X283	420,96	4	W14X342	510,41	4	W14X342	510,41	2
6	3,75	W14X283	420,96	4	W14X342	510,41	4	W14X342	510,41	2
5	3,75	W14X283	420,96	4	W14X342	510,41	4	W14X342	510,41	2
4	3,75	W14X342	510,41	4	W14X370	550,84	4	W14X370	550,84	2
3	3,75	W14X342	510,41	4	W14X370	550,84	4	W14X370	550,84	2
2	3,75	W14X342	510,41	4	W14X370	550,84	4	W14X370	550,84	2
1	3,75	W14X342	510,41	4	W14X370	550,84	4	W14X370	550,84	2

Lantai	Portal Tengah				Portal Tepi				W Kolom (Kg)
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	
18	W14X176	261,77	10	W14X193	287,04	10	W14X193	287,04	34793,61311
17	W14X283	420,96	10	W14X283	420,96	10	W14X283	420,96	49849,99873
16	W14X342	510,41	10	W14X370	550,84	10	W14X370	550,84	62882,44044
15	W14X342	510,41	10	W14X370	550,84	10	W14X370	550,84	62882,44044
14	W14X342	510,41	10	W14X370	550,84	10	W14X370	550,84	62882,44044
13	W14X342	510,41	10	W14X370	550,84	10	W14X370	550,84	62882,44044
12	W14X370	550,84	10	W14X455	677,17	10	W14X500	742,87	75564,29381
11	W14X370	550,84	10	W14X455	677,17	10	W14X500	742,87	75564,29381
10	W14X370	550,84	10	W14X455	677,17	10	W14X500	742,87	75564,29381
9	W14X370	550,84	10	W14X455	677,17	10	W14X500	742,87	75564,29381
8	W14X426	631,69	10	W14X500	742,87	10	W14X550	818,67	84694,77504
7	W14X426	631,69	10	W14X500	742,87	10	W14X550	818,67	84694,77504
6	W14X426	631,69	10	W14X500	742,87	10	W14X550	818,67	84694,77504
5	W14X426	631,69	10	W14X500	742,87	10	W14X550	818,67	84694,77504
4	W14X455	677,17	10	W14X550	818,67	10	W14X550	818,67	91494,31056
3	W14X455	677,17	10	W14X550	818,67	10	W14X550	818,67	91494,31056
2	W14X455	677,17	10	W14X550	818,67	10	W14X550	818,67	91494,31056
1	W14X455	677,17	10	W14X550	818,67	10	W14X550	818,67	91494,31056



# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK BSF22 LT

Lantai	Balok Arah X Tepi				Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
22	W18X31	46,14	7	8	W18X35	52,05	7	20
21	W18X35	52,05	7	8	W21X48	71,25	7	20
20	W18X40	59,63	7	8	W21X48	71,25	7	20
19	W18X40	59,63	7	8	W21X48	71,25	7	20
18	W18X40	59,63	7	8	W21X48	71,25	7	20
17	W18X40	59,63	7	8	W21X48	71,25	7	20
16	W21X44	65,70	7	8	W21X50	74,29	7	20
15	W21X44	65,70	7	8	W21X50	74,29	7	20
14	W21X44	65,70	7	8	W21X50	74,29	7	20
13	W21X44	65,70	7	8	W21X50	74,29	7	20
12	W21X48	71,25	7	8	W21X55	81,87	7	20
11	W21X48	71,25	7	8	W21X55	81,87	7	20
10	W21X48	71,25	7	8	W21X55	81,87	7	20
9	W21X48	71,25	7	8	W21X55	81,87	7	20
8	W21X55	81,87	7	8	W24X55	82,37	7	20
7	W21X55	81,87	7	8	W24X55	82,37	7	20
6	W21X55	81,87	7	8	W24X55	82,37	7	20
5	W21X55	81,87	7	8	W24X55	82,37	7	20
4	W21X57	84,39	7	8	W24X62	92,48	7	20
3	W21X57	84,39	7	8	W24X62	92,48	7	20
2	W21X57	84,39	7	8	W24X62	92,48	7	20
1	W21X57	84,39	7	8	W24X62	92,48	7	20

# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK BSF22 LT

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)			
	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml	Balok		Berat (kg/m)	Pig (m)	Jml
22	W12X26	38,66	5	12	W12X26	38,66	5	18	W12X26	38,66	5	24	20309,05195
21	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	24538,47513
20	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	24962,97235
19	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	24962,97235
18	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	24962,97235
17	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	24962,97235
16	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25727,05988
15	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25727,05988
14	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25727,05988
13	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	25727,05988
12	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27099,60263
11	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27099,60263
10	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27099,60263
9	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27099,60263
8	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27764,65002
7	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27764,65002
6	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27764,65002
5	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	27764,65002
4	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	29321,13981
3	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	29321,13981
2	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	29321,13981
1	W12X26	38,66	5	12	W12X30	44,42	5	18	W12X30	44,42	5	24	29321,13981

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM BSF22 LT

Lantai	h (m)	Portal Tepi									
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	
22	3,75	W14X109	161,71	4	W14X193	287,04	4	W14X159	236,00	2	
21	3,75	W14X159	236,00	4	W14X257	382,05	4	W14X176	261,77	2	
20	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
19	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
18	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
17	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
16	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
15	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
14	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
13	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
12	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
11	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
10	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
9	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
8	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
7	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
6	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
5	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
4	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
3	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
2	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
1	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM BSF22 LT

Lantai	Portal Tengah				Portal Tengah				W Kolom (Kg)	
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)		Jml
22	W14X120	178,39	10	W14X211	313,32	10	W14X176	261,77	5	31848,66262
21	W14X176	261,77	10	W14X283	420,96	10	W14X257	382,05	5	43999,89653
20	W14X193	287,04	10	W14X311	461,89	10	W14X283	420,96	5	45984,04018
19	W14X193	287,04	10	W14X311	461,89	10	W14X283	420,96	5	45984,04018
18	W14X193	287,04	10	W14X311	461,89	10	W14X283	420,96	5	45984,04018
17	W14X233	346,17	10	W14X311	461,89	10	W14X283	420,96	5	45984,04018
16	W14X233	346,17	10	W14X342	510,41	10	W14X311	461,89	5	52137,35408
15	W14X233	346,17	10	W14X342	510,41	10	W14X311	461,89	5	52137,35408
14	W14X233	346,17	10	W14X342	510,41	10	W14X311	461,89	5	52137,35408
13	W14X233	346,17	10	W14X342	510,41	10	W14X311	461,89	5	52137,35408
12	W14X257	382,05	10	W14X370	550,84	10	W14X342	510,41	5	57041,81451
11	W14X257	382,05	10	W14X370	550,84	10	W14X342	510,41	5	57041,81451
10	W14X257	382,05	10	W14X370	550,84	10	W14X342	510,41	5	57041,81451
9	W14X283	420,96	10	W14X398	591,26	10	W14X370	550,84	5	62658,82219
8	W14X283	420,96	10	W14X398	591,26	10	W14X370	550,84	5	62658,82219
7	W14X283	420,96	10	W14X398	591,26	10	W14X370	550,84	5	62658,82219
6	W14X283	420,96	10	W14X398	591,26	10	W14X370	550,84	5	62658,82219
5	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229
4	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229
3	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229
2	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229
1	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229

# LAMPIRAN A-2-2

## BERAT BRASING 22 LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
22	W12X58	85,91	7,941	4	2728,850029
21	W12X58	85,91	7,941	4	2728,850029
20	W12X65	96,52	7,941	4	3065,944263
19	W12X65	96,52	7,941	4	3065,944263
18	W12X96	142,51	7,941	4	4526,680138
17	W12X96	142,51	7,941	4	4526,680138
16	W12X106	157,67	7,941	4	5008,241908
15	W12X106	157,67	7,941	4	5008,241908
14	W12X106	157,67	7,941	4	5008,241908
13	W12X106	157,67	7,941	4	5008,241908
12	W12X120	178,39	7,941	4	5666,377322
11	W12X120	178,39	7,941	4	5666,377322
10	W12X120	178,39	7,941	4	5666,377322
9	W12X120	178,39	7,941	4	5666,377322
8	W12X136	201,64	7,941	4	6404,770543
7	W12X136	201,64	7,941	4	6404,770543
6	W12X136	201,64	7,941	4	6404,770543
5	W12X136	201,64	7,941	4	6404,770543
4	W12X136	201,64	7,941	4	6404,770543
3	W12X136	201,64	7,941	4	6404,770543
2	W12X136	201,64	7,941	4	6404,770543
1	W12X136	201,64	7,941	4	6404,770543

# LAMPIRAN A-2-2

## BERAT ELEMEN BALOK USF22 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
22	W18X31	46,14	7	8	W18X35	52,05	7	20
21	W18X40	59,63	7	8	W21X50	74,29	7	20
20	W21X44	65,70	7	8	W21X55	81,87	7	20
19	W21X44	65,70	7	8	W21X55	81,87	7	20
18	W21X44	65,70	7	8	W21X55	81,87	7	20
17	W21X44	65,70	7	8	W21X55	81,87	7	20
16	W21X50	74,29	7	8	W24X55	82,37	7	20
15	W21X50	74,29	7	8	W24X55	82,37	7	20
14	W21X50	74,29	7	8	W24X55	82,37	7	20
13	W21X50	74,29	7	8	W24X55	82,37	7	20
12	W21X55	81,87	7	8	W24X62	92,48	7	20
11	W21X55	81,87	7	8	W24X62	92,48	7	20
10	W21X55	81,87	7	8	W24X62	92,48	7	20
9	W21X55	81,87	7	8	W24X62	92,48	7	20
8	W21X57	84,39	7	8	W24X68	101,58	7	20
7	W21X57	84,39	7	8	W24X68	101,58	7	20
6	W21X57	84,39	7	8	W24X68	101,58	7	20
5	W21X62	84,39	7	8	W24X68	101,58	7	20
4	W21X62	92,48	7	8	W24X76	113,20	7	20
3	W21X62	92,48	7	8	W24X76	113,20	7	20
2	W21X62	92,48	7	8	W24X76	113,20	7	20
1	W21X62	92,48	7	8	W24X76	113,20	7	20

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM USF22 LT

Lantai	h (m)	Portal Tepi									
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi/2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	
22	3,75	W14X109	161,71	4	W14X193	287,04	4	W14X159	236,00	2	
21	3,75	W14X159	236,00	4	W14X257	382,05	4	W14X176	261,77	2	
20	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
19	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
18	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
17	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
16	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X193	287,04	2	
15	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
14	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
13	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
12	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X211	313,32	2	
11	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
10	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
9	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
8	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X233	346,17	2	
7	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
6	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
5	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
4	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
3	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
2	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
1	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	

# LAMPIRAN A-2-2

## BERAT ELEMEN KOLOM USF22 LT

Lantai	Portal Tengah										W Kolom (Kg)
	Kolom tepi	Berat (kg/m)	Jml	Kolom tepi2	Berat (kg/m)	Jml	Kolom Tengah	Berat (kg/m)	Jml	W Kolom (Kg)	
22	W14X120	178,39	10	W14X211	313,32	10	W14X176	261,77	5	31848,66262	
21	W14X176	261,77	10	W14X283	420,96	10	W14X257	382,05	5	43999,89653	
20	W14X193	287,04	10	W14X311	461,89	10	W14X283	420,96	5	45984,04018	
19	W14X193	287,04	10	W14X311	461,89	10	W14X283	420,96	5	45984,04018	
18	W14X193	287,04	10	W14X311	461,89	10	W14X283	420,96	5	45984,04018	
17	W14X193	287,04	10	W14X311	461,89	10	W14X283	420,96	5	45984,04018	
16	W14X233	346,17	10	W14X342	510,41	10	W14X311	461,89	5	52137,35408	
15	W14X233	346,17	10	W14X342	510,41	10	W14X311	461,89	5	52137,35408	
14	W14X233	346,17	10	W14X342	510,41	10	W14X311	461,89	5	52137,35408	
13	W14X233	346,17	10	W14X342	510,41	10	W14X311	461,89	5	52137,35408	
12	W14X257	382,05	10	W14X370	550,84	10	W14X342	510,41	5	57041,81451	
11	W14X257	382,05	10	W14X370	550,84	10	W14X342	510,41	5	57041,81451	
10	W14X257	382,05	10	W14X370	550,84	10	W14X342	510,41	5	57041,81451	
9	W14X257	382,05	10	W14X370	550,84	10	W14X342	510,41	5	57041,81451	
8	W14X283	420,96	10	W14X398	591,26	10	W14X370	550,84	5	62658,82219	
7	W14X283	420,96	10	W14X398	591,26	10	W14X370	550,84	5	62658,82219	
6	W14X283	420,96	10	W14X398	591,26	10	W14X370	550,84	5	62658,82219	
5	W14X283	420,96	10	W14X398	591,26	10	W14X370	550,84	5	62658,82219	
4	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229	
3	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229	
2	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229	
1	W14X311	461,89	10	W14X455	677,17	10	W14X398	591,26	5	69617,54229	



# LAMPIRAN A-2-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 6 LT (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	Wt (Kg)	hi.wi	Fxy (Kg)
6	20309,05195	21416,26512	2503,906857	269640	58800	372669,1239	8385055,288	106252
5	25387,46298	28031,97913	4526,110089	696879	147000	901824,5522	16909210,35	214266
4	26788,30292	30779,8394	5007,611227	696879	147000	906454,7535	13596821,3	172293
3	26788,30292	30779,8394	5007,611227	696879	147000	906454,7535	10197615,98	129220
2	26788,30292	30779,8394	5665,663762	696879	147000	907112,8061	6803346,046	86209
1	26788,30292	30779,8394	5665,663762	696879	147000	907112,8061	3401673,023	43105
					Wtotal =	4901628,795	59293721,99	751345,09

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 6LT(USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	Wt (Kg)	hi.wi	Fxy (Kg)
6	20309,05195	21943,09626	269640	58800	370692,1482	8340573,335	49731
5	26788,30292	38043,66904	696879	147000	908710,972	17036330,72	101592
4	27340,15281	45061,13899	696879	147000	916280,2918	13744204,38	81951
3	27340,15281	45061,13899	696879	147000	916280,2918	10306153,28	61463
2	27340,15281	45061,13899	696879	147000	916280,2918	6872102,188	40975
1	27340,15281	45061,13899	696879	147000	916280,2918	3436051,094	20488
				Wtotal =	4944524,287	59739415	366200,19

# LAMPIRAN A-2-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 10 LT (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	Wi (Kg)	hi.wi	Fx,y (Kg)
10	20309,05195	22740,92314	2503,806857	289640	58800	373993,7819	14024766,82	69577
9	24538,47513	31742,5385	3386,58924	696879	147000	903546,5726	30494696,82	151284
8	24962,96577	36573,08752	4108,810615	696879	147000	909523,6639	27285715,92	135364
7	25387,46298	36573,08752	4108,810615	696879	147000	909948,3611	23886144,48	118499
6	25387,46298	36573,08752	4526,110099	696879	147000	910365,6606	20483227,36	101617
5	25387,46298	36573,08752	4526,110099	696879	147000	910365,6606	17069356,14	84681
4	26788,30292	41759,91604	5007,611227	696879	147000	917434,8302	13761522,45	68271
3	26788,30292	41759,91604	5007,611227	696879	147000	917434,8302	10321141,84	51203
2	26788,30292	41759,91604	5665,663762	696879	147000	918092,8827	6885696,62	34160
1	26788,30292	41759,91604	5665,663762	696879	147000	918092,8827	3442848,31	17080
					Wtotal =	8588799,327	167655116,8	831734,00

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 10 LT (USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	Wi (Kg)	hi.wi	Fx,y (Kg)	
10	20888,945	25136,29987	289640	58800	374465,2449	14042446,68	45725	
9	25387,46298	36264,19111	696879	147000	905530,6541	30561659,58	99514	
8	26788,30292	50247,96487	696879	147000	920915,2678	27627458,03	89960	
7	26788,30292	50247,96487	696879	147000	920915,2678	24174025,78	78715	
6	26788,30292	50247,96487	696879	147000	920915,2678	20720593,53	67470	
5	26788,30292	50247,96487	696879	147000	920915,2678	17267161,27	56225	
4	27340,15281	55286,97146	696879	147000	926506,1243	13897591,86	45283	
3	27340,15281	55286,97146	696879	147000	926506,1243	10423193,9	33940	
2	27340,15281	55286,97146	696879	147000	926506,1243	6948795,932	22627	
1	27340,15281	55286,97146	696879	147000	926506,1243	3474397,966	11313	
					Wtotal =	8669681,467	169137324,5	550742,39

# LAMPIRAN A-2-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 14 LT (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	Wl (Kg)	hi,wi	F <sub>x,y</sub> (Kg)
14	20309,05195	21368,8882	2343,601608	269640	58800	372461,5418	19554230,94	47206
13	24538,47513	29832,30156	2343,601608	696879	147000	900593,3783	43903927,19	105988
12	25387,46298	36506,761	2504,122198	696879	147000	908277,3462	40872480,58	98670
11	25387,46298	36506,761	2504,122198	696879	147000	908277,3462	37466440,53	90447
10	25387,46298	36506,761	3386,985443	696879	147000	909160,2094	34093507,85	82305
9	25387,46298	36506,761	3386,985443	696879	147000	909160,2094	30684157,07	74074
8	26788,30292	41187,6026	4109,328097	696879	147000	915964,2336	27478927,01	66337
7	26788,30292	41187,6026	4109,328097	696879	147000	915964,2336	24044061,13	58045
6	26788,30292	41187,6026	4526,680138	696879	147000	916381,5857	20618585,68	49775
5	26788,30292	41187,6026	4526,680138	696879	147000	916381,5857	17182154,73	41479
4	27170,35655	45237,3806	5008,241908	696879	147000	921294,9791	13819424,69	33361
3	27170,35655	45237,3806	5008,241908	696879	147000	921294,9791	10364568,51	25021
2	27170,35655	45237,3806	5666,377322	696879	147000	921953,1145	6814648,359	16693
1	27170,35655	45237,3806	5666,377322	696879	147000	921953,1145	3457324,179	8346
					Wtotal =	12259117,86	330454438,5	797747,84

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 14 LT(USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	Wl (Kg)	hi,wi	F <sub>x,y</sub> (Kg)
14	20309,05195	23586,12754	269640	58800	372335,1795	19547596,92	26149
13	25387,46298	31829,71156	696879	147000	901096,1745	43928438,51	58765
12	26788,30292	37677,92003	996879	147000	908345,2229	40875535,03	54681
11	26788,30292	37677,92003	696879	147000	908345,2229	37469240,45	50124
10	26788,30292	47456,51308	696879	147000	918123,816	344296643,1	46058
9	26788,30292	47456,51308	696879	147000	918123,816	30986678,79	41452
8	27340,15281	53475,27846	696879	147000	924694,4313	27740832,94	37110
7	27340,15281	53475,27846	696879	147000	924694,4313	24273228,82	32471
6	27340,15281	56488,45183	696879	147000	927707,6046	20873421,1	27923
5	27340,15281	59293,16617	696879	147000	930512,319	17447105,98	23340
4	29179,64074	66630,90163	696879	147000	939689,5424	14095343,14	18856
3	29179,64074	66630,90163	696879	147000	939689,5424	10571507,35	14142
2	29179,64074	70853,13381	696879	147000	943911,7745	7079338,309	9470
1	29179,64074	70853,13381	696879	147000	943911,7745	3539669,155	4735
				Wtotal =	12401180,85	332857579,6	445274,76

# LAMPIRAN A-2-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 18 LT (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	Wl (Kg)	h <sub>lwf</sub>	F <sub>xy</sub> (Kg)
18	20309,05195	23636,19004	2728,850029	404460	86200	539337,092	36405253,71	53532
17	24638,47513	32193,58655	2728,850029	1033537,5	220500	131498,392	83735522,47	123176
16	25387,46298	40365,13819	3386,985443	1033537,5	220500	1923177,087	79390626,2	116784
15	25387,46298	40365,13819	3386,985443	1033537,5	220500	1323177,087	74428711,12	109485
14	25387,46298	40365,13819	4526,680138	1033537,5	220500	1324316,781	69526631,02	102274
13	25387,46298	40365,13819	4526,680138	1033537,5	220500	1324316,781	64560443,09	94969
12	26788,30282	47138,1404	5008,241908	1033537,5	220500	1332972,185	59983748,34	88237
11	26788,30282	47138,1404	5008,241908	1033537,5	220500	1332972,185	54985102,64	80883
10	26788,30282	47138,1404	5008,241908	1033537,5	220500	1332972,185	4998496,95	73530
9	26788,30282	47138,1404	5008,241908	1033537,5	220500	1332972,185	44987811,25	66177
8	27170,36655	54885,21728	5666,377322	1033537,5	220500	1341759,451	40292783,53	59212
7	27170,36655	54885,21728	5666,377322	1033537,5	220500	1341759,451	35221185,59	51811
6	27170,36655	54885,21728	5666,377322	1033537,5	220500	1341759,451	30189687,65	44409
5	27170,36655	54885,21728	5666,377322	1033537,5	220500	1341759,451	25157968,71	37008
4	28179,64074	59797,25614	6404,770543	1033537,5	220500	1349419,167	20241287,51	29775
3	29179,64074	59797,25614	6404,770543	1033537,5	220500	1349419,167	15187965,63	22331
2	29179,64074	59797,25614	6404,770543	1033537,5	220500	1349419,167	10720643,76	14888
1	29179,64074	59797,25614	6404,770543	1033537,5	220500	1349419,167	5060321,878	7444
					Total =	23244426,43	798415071	1175945,24

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 18 LT(USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	Wl (Kg)	h <sub>lwf</sub>	F <sub>xy</sub> (Kg)
18	21112,56736	34793,61311	404460	86200	546588,1805	37028217,18	31816
17	27514,46812	49849,99873	1033537,5	220500	1331401,995	84676877,17	72829
16	29396,43302	62882,44044	1033537,5	220500	1346316,372	80778802,35	69408
15	29396,43302	62882,44044	1033537,5	220500	1346316,372	75730285,95	65070
14	29396,43302	62882,44044	1033537,5	220500	1346316,372	70681688,55	60732
13	29396,43302	62882,44044	1033537,5	220500	1346316,372	65632923,16	56384
12	31448,17295	75584,29381	1033537,5	220500	1361049,967	61247248,5	52626
11	31448,17295	75584,29381	1033537,5	220500	1361049,967	56143311,13	48240
10	31448,17295	75584,29381	1033537,5	220500	1361049,967	51089373,75	43855
9	31448,17295	75584,29381	1033537,5	220500	1361049,967	46035436,38	39469
8	32882,79209	84684,77504	1033537,5	220500	1374015,067	41202462,01	35418
7	32882,79209	84684,77504	1033537,5	220500	1374015,067	36067885,51	30981
6	32882,79209	84684,77504	1033537,5	220500	1374015,067	3091538,01	26563
5	35282,75209	91484,31056	1033537,5	220500	1374015,067	25762782,51	22136
4	37334,53083	91484,31056	1033537,5	220500	1382866,341	20742965,12	17823
3	37334,53083	91484,31056	1033537,5	220500	1382866,341	15577246,34	13367
2	37334,53083	91484,31056	1033537,5	220500	1382866,341	10371497,56	8812
1	37334,53083	91484,31056	1033537,5	220500	1382866,341	5187148,78	4458
				Total =	23736959,17	814918232	700203,60

# LAMPIRAN A-2-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 22 LT (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	WI (Kg)	hi.wi	F <sub>x,y</sub> (Kg)
22	20309,05195	31848,66262	2728,86029	269640	58600	383326,5646	31624441,58	39801
21	24538,47513	43999,89653	2728,86029	696879	147000	915146,2217	72067764,96	90700
20	24962,97235	45984,04018	3065,944263	696879	147000	917891,9568	68841896,76	86641
19	24962,97235	45984,04018	3065,944263	696879	147000	917891,9568	65399801,92	82309
18	24962,97235	45984,04018	4526,680138	696879	147000	919352,6927	62056306,75	78101
17	24962,97235	45984,04018	4526,680138	696879	147000	919352,6927	58608734,16	73762
16	25727,05988	52137,35408	5008,241908	696879	147000	926751,6559	55605099,35	69981
15	25727,05988	52137,35408	5008,241908	696879	147000	926751,6559	52129780,64	65608
14	25727,05988	52137,35408	5008,241908	696879	147000	926751,6559	48654461,93	61234
13	25727,05988	52137,35408	5008,241908	696879	147000	926751,6559	45179143,22	56860
12	27099,60263	57041,81451	5666,377322	696879	147000	933686,7945	42015905,75	52879
11	27099,60263	57041,81451	5666,377322	696879	147000	933686,7945	38514580,27	48472
10	27099,60263	57041,81451	5666,377322	696879	147000	933686,7945	35013254,79	44066
9	27099,60263	57041,81451	5666,377322	696879	147000	933686,7945	31511929,31	39659
8	27764,65002	62658,82219	6404,770543	696879	147000	940707,2428	28221217,28	35516
7	27764,65002	62658,82219	6404,770543	696879	147000	940707,2428	24693565,12	31078
6	27764,65002	62658,82219	6404,770543	696879	147000	940707,2428	21165912,96	26638
5	27764,65002	62658,82219	6404,770543	696879	147000	940707,2428	17638260,8	22199
4	29321,13981	69617,54229	6404,770543	696879	147000	949222,4526	14238336,79	17920
3	29321,13981	69617,54229	6404,770543	696879	147000	949222,4526	10678752,59	13440
2	29321,13981	69617,54229	6404,770543	696879	147000	949222,4526	7119168,395	8960
1	29321,13981	69617,54229	6404,770543	696879	147000	949222,4526	3559584,197	4480
					Wtotal =	19974434,67	834537899,6	1050302,37

# LAMPIRAN A-2-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 22 LT(USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	WF (Kg)	hi,wi	F <sub>x,y</sub> (Kg)
22	20309,05195	35111,98373	269640	58800	383861,0357	31668535,44	21039
21	25387,46298	48593,55978	696879	147000	917860,0228	72281476,79	48020
20	26788,30292	60308,92513	696879	147000	930976,228	69823217,1	46387
19	26788,30292	60308,92513	696879	147000	930976,228	66332056,25	44068
18	26788,30292	60308,92513	696879	147000	930976,228	62840895,39	41748
17	26788,30292	60308,92513	696879	147000	930976,228	59349734,54	39429
16	27340,15281	65793,27919	696879	147000	937012,432	56220745,92	37350
15	27340,15281	65793,27919	696879	147000	937012,432	52706949,3	35016
14	27340,15281	65793,27919	696879	147000	937012,432	49193152,68	32681
13	27340,15281	65793,27919	696879	147000	937012,432	45679356,06	30347
12	29179,64074	71072,96225	696879	147000	944131,603	42485922,13	28226
11	29179,64074	71072,96225	696879	147000	944131,603	38945428,62	25873
10	29179,64074	71072,96225	696879	147000	944131,603	35404935,11	23521
9	29179,64074	71072,96225	696879	147000	944131,603	31864441,6	21169
8	30594,63365	79828,21674	696879	147000	954301,8504	28629055,51	19020
7	30594,63365	79828,21674	696879	147000	954301,8504	25050423,57	16642
6	30594,63365	79828,21674	696879	147000	954301,8504	21471791,63	14265
5	30594,63365	79828,21674	696879	147000	954301,8504	17893159,69	11887
4	32674,66299	86927,17534	696879	147000	963480,8383	14452212,57	9601
3	32674,66299	86927,17534	696879	147000	963430,8383	10839159,43	7201
2	32674,66299	86927,17534	696879	147000	963480,8383	7226106,287	4801
1	32674,66299	86927,17534	696879	147000	963480,8383	3613053,144	2400
				Wtotal =	20221332,87	843971808,8	560692,86

# LAMPIRAN A-3-1

## BERAT NON STRUKTUR TIPE B

No	Bagian	Berat	Satuan	p (m)	l (m)	t (m)	Total (Kg)
<b>ATAP</b>							
<b>BEBAN MATI</b>							
1	Pelat Lantai	321	Kg/m <sup>2</sup>	45	28	1	404460
							<b>WD</b>
<b>BEBAN HIDUP</b>							
1	atap	100	Kg/m <sup>2</sup>	45	28	1	126000
							<b>WL</b>
							<b>0,7</b>
<b>88200</b>							
<b>LANTAI</b>							
<b>BEBAN MATI</b>							
1	Pelat Lantai	483	Kg/m <sup>2</sup>	45	28	1	608580
2	Dinding	1700	Kg/m <sup>3</sup>	505	0,15	3,3	424957,5
							<b>WD</b>
<b>1033537,5</b>							
<b>BEBAN HIDUP</b>							
1	Perkantoran	250	Kg/m <sup>2</sup>	45	28	1	315000
							<b>WL</b>
							<b>0,7</b>
<b>220500</b>							

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK BSF 6 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
6	W16X31	46,14	7	8	W18X35	52,05	7	32
5	W18X40	59,63	7	8	W21X50	74,29	7	32
4	W21X44	65,70	7	8	W21X55	81,87	7	32
3	W21X44	65,70	7	8	W21X55	81,87	7	32
2	W21X44	65,70	7	8	W21X55	81,87	7	32
1	W21X44	65,70	7	8	W21X55	81,87	7	32

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok		Berat (kg/m)	Pjg (m)	Jml
6	W12X26	38,66	5	18	W12X26	38,66	5	27	W12X26	38,66	5	36	29900,41202
5	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37970,02133
4	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40007,60709
3	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40007,60709
2	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40007,60709
1	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40007,60709

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# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM BSF 6 LT

Lantai	h (m)	Portal Tepi											
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml
6	3,75	W14X90	133,92	4	W14X99	147,06	4	W14X99	147,06	4	W14X99	147,06	2
5	3,75	W14X99	147,06	4	W14X132	196,08	4	W14X132	196,08	4	W14X132	196,08	2
4	3,75	W14X109	161,71	4	W14X145	215,79	4	W14X145	215,79	4	W14X145	215,79	2
3	3,75	W14X109	161,71	4	W14X145	215,79	4	W14X145	215,79	4	W14X145	215,79	2
2	3,75	W14X109	161,71	4	W14X145	215,79	4	W14X145	215,79	4	W14X145	215,79	2
1	3,75	W14X109	161,71	4	W14X145	215,79	4	W14X145	215,79	4	W14X145	215,79	2

Lantai	Portal Tengah										W Kolom (Kg)		
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah		Berat (Kg/m)	Jml
6	W14X109	161,71	16	W14X120	178,39	16	W14X120	178,39	8	W14X120	178,39	8	31075,47238
5	W14X120	178,39	16	W14X176	261,77	16	W14X176	261,77	8	W14X176	261,77	8	40880,60109
4	W14X132	196,08	16	W14X193	287,04	16	W14X193	287,04	8	W14X193	287,04	8	44879,21208
3	W14X132	196,08	16	W14X193	287,04	16	W14X193	287,04	8	W14X193	287,04	8	44879,21208
2	W14X132	196,08	16	W14X193	287,04	16	W14X193	287,04	8	W14X193	287,04	8	44879,21208
1	W14X132	196,08	16	W14X193	287,04	16	W14X193	287,04	8	W14X193	287,04	8	44879,21208

# LAMPIRAN A-3-2

## BERAT BRASING 6 LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
6	W12X65	96,52	7,94	4	3065,558172
5	W12X96	142,51	7,94	4	4526,110099
4	W12X136	201,64	7,94	4	6403,963998
3	W12X136	201,64	7,94	4	6403,963998
2	W12X152	225,89	7,94	4	7174,366299
1	W12X152	225,89	7,94	4	7174,366299

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK USF 6 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
6	W12X26	38,66	7	8	W12X40	59,13	7	32
5	W24X55	82,37	7	8	W24X55	82,37	7	32
4	W24X55	82,37	7	8	W24X55	82,37	7	32
3	W24X55	82,37	7	8	W24X55	82,37	7	32
2	W24X55	82,37	7	8	W24X55	82,37	7	32
1	W24X55	82,37	7	8	W24X55	82,37	7	32

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)		
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok		Berat (kg/m)	Pjg (m)
6	W12X14	21,02	5	18	W12X16	23,80	5	27	W12X26	38,66	5	36
5	W12X22	32,75	5	18	W12X26	38,66	5	27	W12X40	59,13	5	36
4	W12X22	32,75	5	18	W12X26	38,66	5	27	W12X40	59,13	5	36
3	W12X22	32,75	5	18	W12X26	38,66	5	27	W12X40	59,13	5	36
2	W12X22	32,75	5	18	W12X26	38,66	5	27	W12X40	59,13	5	36
1	W12X22	32,75	5	18	W12X26	38,66	5	27	W12X40	59,13	5	36

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM USF 6 LT

Lantai	h (m)	Portal Tepi								
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml
6	3,75	W14X145	215,79	4	W14X257	382,05	4	W14X283	420,96	2
5	3,75	W14X176	261,77	4	W14X311	461,89	4	W14X342	510,41	2
4	3,75	W14X176	261,77	4	W14X311	461,89	4	W14X342	510,41	2
3	3,75	W14X193	287,04	4	W14X342	510,41	4	W14X342	510,41	2
2	3,75	W14X193	287,04	4	W14X342	510,41	4	W14X342	510,41	2
1	3,75	W14X193	287,04	4	W14X342	510,41	4	W14X342	510,41	2

Lantai	Portal Tengah								W Kolom (Kg)	
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)		Jml
6	W14X198	287,04	16	W14X342	510,41	16	W14X342	510,41	8	75283,82443
5	W14X211	313,32	16	W14X370	550,84	16	W14X370	550,84	8	83057,42817
4	W14X211	313,32	16	W14X370	550,84	16	W14X370	550,84	8	83057,42817
3	W14X233	346,17	16	W14X398	591,26	16	W14X398	591,26	8	89773,58101
2	W14X233	346,17	16	W14X398	591,26	16	W14X398	591,26	8	89773,58101
1	W14X233	346,17	16	W14X398	591,26	16	W14X398	591,26	8	89773,58101

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK BSF10 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml
10	W18X31	46,14	7	8	W18X35	52,05	7	32
9	W18X35	52,05	7	8	W21X48	71,25	7	32
8	W18X35	52,05	7	8	W21X50	74,29	7	32
7	W18X40	59,83	7	8	W21X50	74,29	7	32
6	W18X40	59,83	7	8	W21X50	74,29	7	32
5	W18X40	59,83	7	8	W21X50	74,29	7	32
4	W21X44	85,70	7	8	W21X55	81,87	7	32
3	W21X44	85,70	7	8	W21X55	81,87	7	32
2	W21X44	85,70	7	8	W21X55	81,87	7	32
1	W21X44	85,70	7	8	W21X55	81,87	7	32

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)		
	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml	Balok		Berat (kg/m)	Pig (m)
10	W12X28	38,86	5	18	W12X28	38,86	5	27	W12X28	38,86	5	36
9	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
8	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
7	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
6	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
5	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
4	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
3	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
2	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
1	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM BSF10 LT

Lantai	h (m)	Portal Tepi											
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml
10	3,75	W14X99	147,06	4	W14X109	161,71	4	W14X109	161,71	4	W14X109	161,71	2
9	3,75	W14X99	147,06	4	W14X132	196,08	4	W14X145	215,79	4	W14X145	215,79	2
8	3,75	W14X132	196,08	4	W14X159	236,00	4	W14X159	236,00	4	W14X159	236,00	2
7	3,75	W14X132	196,08	4	W14X159	236,00	4	W14X159	236,00	4	W14X159	236,00	2
6	3,75	W14X132	196,08	4	W14X159	236,00	4	W14X159	236,00	4	W14X159	236,00	2
5	3,75	W14X132	196,08	4	W14X159	236,00	4	W14X159	236,00	4	W14X159	236,00	2
4	3,75	W14X145	215,79	4	W14X193	287,04	4	W14X176	261,77	4	W14X176	261,77	2
3	3,75	W14X145	215,79	4	W14X193	287,04	4	W14X176	261,77	4	W14X176	261,77	2
2	3,75	W14X145	215,79	4	W14X193	287,04	4	W14X176	261,77	4	W14X176	261,77	2
1	3,75	W14X145	215,79	4	W14X193	287,04	4	W14X176	261,77	4	W14X176	261,77	2

Lantai	Portal Tengah										W Kolom (Kg)		
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah		Berat (Kg/m)	Jml
10	W14X109	161,71	16	W14X132	196,08	16	W14X132	196,08	8	W14X132	196,08	8	33194,16807
9	W14X132	196,08	16	W14X211	313,32	16	W14X211	313,32	8	W14X211	313,32	8	46728,80662
8	W14X159	236,00	16	W14X233	346,17	16	W14X233	346,17	8	W14X233	346,17	8	53566,24133
7	W14X159	236,00	16	W14X233	346,17	16	W14X233	346,17	8	W14X233	346,17	8	53566,24133
6	W14X159	236,00	16	W14X233	346,17	16	W14X233	346,17	8	W14X233	346,17	8	53566,24133
5	W14X159	236,00	16	W14X233	346,17	16	W14X233	346,17	8	W14X233	346,17	8	53566,24133
4	W14X193	287,04	16	W14X257	382,05	16	W14X257	382,05	8	W14X257	382,05	8	61112,4423
3	W14X193	287,04	16	W14X257	382,05	16	W14X257	382,05	8	W14X257	382,05	8	61112,4423
2	W14X193	287,04	16	W14X257	382,05	16	W14X257	382,05	8	W14X257	382,05	8	61112,4423
1	W14X193	287,04	16	W14X257	382,05	16	W14X257	382,05	8	W14X257	382,05	8	61112,4423

# LAMPIRAN A-3-2

## BERAT BRASING 10 LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
10	W12X72	106,63	7,94	4	3386,568924
9	W12X87	129,37	7,94	4	4108,810615
8	W12X96	142,51	7,94	4	4526,110099
7	W12X96	142,51	7,94	4	4526,110099
6	W12X120	178,39	7,94	4	5665,663762
5	W12X120	178,39	7,94	4	5665,663762
4	W12X136	201,64	7,94	4	6403,963998
3	W12X136	201,64	7,94	4	6403,963998
2	W12X152	225,89	7,94	4	7174,366299
1	W12X152	225,89	7,94	4	7174,366299

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK USF10 LT

Lantai	Balok Arah X Tepi				Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
10	W12X26	38,66	7	8	W12X40	59,13	7	32
9	W24X55	82,37	7	8	W24X55	82,37	7	32
8	W24X55	82,37	7	8	W24X55	82,37	7	32
7	W24X55	82,37	7	8	W24X55	82,37	7	32
6	W24X55	82,37	7	8	W24X55	82,37	7	32
5	W24X55	82,37	7	8	W24X55	82,37	7	32
4	W24X55	82,37	7	8	W24X55	82,37	7	32
3	W24X55	82,37	7	8	W24X55	82,37	7	32
2	W24X55	82,37	7	8	W24X55	82,37	7	32
1	W24X55	82,37	7	8	W24X55	82,37	7	32

Lantai	Balok Y Tepi				Balok Y Tengah				Balok Anak			W Balok (kg)	
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)		Jml
10	W12X26	38,66	5	18	W12X40	59,13	5	27	W12X26	38,66	5	36	33829,38012
9	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706
8	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706
7	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706
6	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706
5	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706
4	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706
3	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706
2	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706
1	W24X55	82,37	5	18	W24X55	82,37	5	27	W12X40	59,13	5	36	52240,95706



# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM USF10 LT

Lantai	h (m)	Kolom tepi				Portal Tepi				
		Kolom tepi	Berat (kg/m)	Jml	Kolom tepi2	Berat (kg/m)	Jml	Kolom Tengah	Berat (kg/m)	Jml
10	3,75	W14X82	121,28	4	W14X132	196,08	4	W14X132	196,08	2
9	3,75	W14X176	261,77	4	W14X283	420,96	4	W14X311	461,89	2
8	3,75	W14X176	261,77	4	W14X283	420,96	4	W14X311	461,89	2
7	3,75	W14X176	261,77	4	W14X283	420,96	4	W14X311	461,89	2
6	3,75	W14X211	313,32	4	W14X342	510,41	4	W14X370	550,84	2
5	3,75	W14X211	313,32	4	W14X342	510,41	4	W14X370	550,84	2
4	3,75	W14X211	313,32	4	W14X342	510,41	4	W14X370	550,84	2
3	3,75	W14X233	346,17	4	W14X370	550,84	4	W14X370	550,84	2
2	3,75	W14X233	346,17	4	W14X370	550,84	4	W14X370	550,84	2
1	3,75	W14X233	346,17	4	W14X370	550,84	4	W14X370	550,84	2

Lantai	Kolom tepi	Berat (kg/m)	Jml	Portal Tengah				W Kolom (kg)		
				Kolom tepi2	Berat (kg/m)	Jml	Kolom Tengah		Berat (kg/m)	Jml
10	W14X90	133,92	16	W14X176	261,77	16	W14X176	261,77	8	37825,73579
9	W14X198	287,04	16	W14X342	510,41	16	W14X342	510,41	8	76864,31841
8	W14X198	287,04	16	W14X342	510,41	16	W14X342	510,41	8	76864,31841
7	W14X198	287,04	16	W14X342	510,41	16	W14X342	510,41	8	76864,31841
6	W14X233	346,17	16	W14X398	591,26	16	W14X398	591,26	8	76864,31841
5	W14X233	346,17	16	W14X398	591,26	16	W14X398	591,26	8	90470,96906
4	W14X233	346,17	16	W14X398	591,26	16	W14X398	591,26	8	90470,96906
3	W14X257	382,05	16	W14X426	631,69	16	W14X426	631,69	8	90470,96906
2	W14X257	382,05	16	W14X426	631,69	16	W14X426	631,69	8	97361,47038
1	W14X257	382,05	16	W14X426	631,69	16	W14X426	631,69	8	97361,47038

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK BSF14 LT

Lantai	Balok Arah X Tepi				Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
14	W16X31	46,14	7	8	W18X35	52,05	7	32
13	W18X35	52,05	7	8	W21X48	71,25	7	32
12	W18X40	59,63	7	8	W21X50	74,29	7	32
11	W18X40	59,63	7	8	W21X50	74,29	7	32
10	W18X40	59,63	7	8	W21X50	74,29	7	32
9	W18X40	59,63	7	8	W21X50	74,29	7	32
8	W21X44	65,70	7	8	W21X55	81,87	7	32
7	W21X44	65,70	7	8	W21X55	81,87	7	32
6	W21X44	65,70	7	8	W21X55	81,87	7	32
5	W21X44	65,70	7	8	W21X55	81,87	7	32
4	W21X48	71,25	7	8	W24X55	82,37	7	32
3	W21X48	71,25	7	8	W24X55	82,37	7	32
2	W21X48	71,25	7	8	W24X55	82,37	7	32
1	W21X48	71,25	7	8	W24X55	82,37	7	32

Lantai	Balok Y Tepi				Balok Y Tengah				Balok Anak				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	W Balok (kg)
14	W12X26	38,66	5	18	W12X26	38,66	5	27	W12X26	38,66	5	36	29900,41202
13	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	36347,84071
12	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37451,52295
11	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37451,52295
10	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37451,52295
9	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37451,52295
8	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37451,52295
7	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	39489,1087
6	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	39489,1087
5	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	39489,1087
4	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	39489,1087
3	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	39913,61469
2	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	39913,61469
1	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	39913,61469

DESAIN BSF 14 Lt/Statik Ekuivalen

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM BSF14 LT

Lantai	h (m)	Portal Tepi									
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Berat (Kg/m)
14	3,75	W14X99	147,06	4	W14X109	161,71	4	W14X99	147,06	2	
13	3,75	W14X132	196,08	4	W14X120	178,39	4	W14X120	178,39	2	
12	3,75	W14X145	215,79	4	W14X176	261,77	4	W14X159	236,00	2	
11	3,75	W14X145	215,79	4	W14X176	261,77	4	W14X159	236,00	2	
10	3,75	W14X145	215,79	4	W14X176	261,77	4	W14X159	236,00	2	
9	3,75	W14X145	215,79	4	W14X176	261,77	4	W14X159	236,00	2	
8	3,75	W14X159	236,00	4	W14X193	287,04	4	W14X176	261,77	2	
7	3,75	W14X159	236,00	4	W14X193	287,04	4	W14X159	236,00	2	
6	3,75	W14X159	236,00	4	W14X193	287,04	4	W14X159	236,00	2	
5	3,75	W14X159	236,00	4	W14X193	287,04	4	W14X176	261,77	2	
4	3,75	W14X176	261,77	4	W14X211	313,32	4	W14X193	287,04	2	
3	3,75	W14X176	261,77	4	W14X211	313,32	4	W14X193	287,04	2	
2	3,75	W14X176	261,77	4	W14X211	313,32	4	W14X193	287,04	2	
1	3,75	W14X176	261,77	4	W14X211	313,32	4	W14X193	287,04	2	

Lantai	Kolom tepi	Berat (Kg/m)	Portal Tengah										W Kolom (Kg)
			Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Berat (Kg/m)	Jml		
14	W14X109	161,71	16	W14X132	196,08	16	W14X132	196,08	8	33084,25385			
13	W14X120	178,39	16	W14X211	313,32	16	W14X211	313,32	8	45857,07126			
12	W14X193	287,04	16	W14X283	420,96	16	W14X283	420,96	8	64042,22947			
11	W14X193	287,04	16	W14X283	420,96	16	W14X283	420,96	8	64042,22947			
10	W14X193	287,04	16	W14X283	420,96	16	W14X283	420,96	8	64042,22947			
9	W14X193	287,04	16	W14X283	420,96	16	W14X283	420,96	8	64042,22947			
8	W14X211	313,32	16	W14X311	461,89	16	W14X311	461,89	8	70178,48339			
7	W14X211	313,32	16	W14X311	461,89	16	W14X311	461,89	8	69985,18532			
6	W14X211	313,32	16	W14X311	461,89	16	W14X311	461,89	8	69985,18532			
5	W14X211	313,32	16	W14X311	461,89	16	W14X311	461,89	8	70178,48339			
4	W14X233	346,17	16	W14X311	461,89	16	W14X311	461,89	8	73119,64291			
3	W14X233	346,17	16	W14X311	461,89	16	W14X311	461,89	8	73119,64291			
2	W14X233	346,17	16	W14X311	461,89	16	W14X311	461,89	8	73119,64291			
1	W14X233	346,17	16	W14X311	461,89	16	W14X311	461,89	8	73119,64291			

# LAMPIRAN A-3-2

## BERAT BRASING 14 LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
14	W12X65	96,52	7,94	4	3065,568172
13	W12X65	96,52	7,94	4	3065,568172
12	W12X72	106,63	7,94	4	3386,568924
11	W12X72	106,63	7,94	4	3386,568924
10	W12X72	106,63	7,94	4	3386,568924
9	W12X72	106,63	7,94	4	3386,568924
8	W12X96	142,51	7,94	4	4526,110099
7	W12X96	142,51	7,94	4	4526,110099
6	W12X120	178,39	7,94	4	5665,663762
5	W12X120	178,39	7,94	4	5665,663762
4	W12X136	201,64	7,94	4	6403,963998
3	W12X136	201,64	7,94	4	6403,963998
2	W12X136	201,64	7,94	4	6403,963998
1	W12X136	201,64	7,94	4	6403,963998

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# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK USF14 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
14	W18X35	52,05	7	8	W18X40	59,63	7	32
13	W18X40	59,63	7	8	W21X50	74,29	7	32
12	W21X50	74,29	7	8	W24X55	82,37	7	32
11	W21X50	74,29	7	8	W24X55	82,37	7	32
10	W21X50	74,29	7	8	W24X55	82,37	7	32
9	W21X50	74,29	7	8	W24X55	82,37	7	32
8	W21X55	81,87	7	8	W24X62	92,48	7	32
7	W21X55	81,87	7	8	W24X62	92,48	7	32
6	W21X55	81,87	7	8	W24X62	92,48	7	32
5	W21X55	81,87	7	8	W24X62	92,48	7	32
4	W24X55	82,37	7	8	W24X62	92,48	7	32
3	W24X55	82,37	7	8	W24X62	92,48	7	32
2	W24X55	82,37	7	8	W24X62	92,48	7	32
1	W24X55	82,37	7	8	W24X62	92,48	7	32

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok		Berat (kg/m)	Pjg (m)	Jml
14	W12X26	38,66	5	18	W12X26	38,66	5	27	W12X26	38,66	5	36	31929,50993
13	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37451,52295
12	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40083,41095
11	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40083,41095
10	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40083,41095
9	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40083,41095
8	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40083,41095
7	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	42771,89331
6	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	42771,89331
5	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	42771,89331
4	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	42771,89331
3	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	42800,19488
2	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	42800,19488
1	W12X26	38,66	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	42800,19488

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM USF14 LT

Lantai	h (m)	Portal Tepi											
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Berat (Kg/m)	Jml	
14	3,75	W14X99	147,06	4	W14X109	161,71	4	W14X109	161,71	4	W14X109	161,71	2
13	3,75	W14X176	261,77	4	W14X159	236,00	4	W14X176	261,77	4	W14X176	261,77	2
12	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X193	287,04	4	W14X211	313,32	2
11	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X193	287,04	4	W14X211	313,32	2
10	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X193	287,04	4	W14X211	313,32	2
9	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X193	287,04	4	W14X211	313,32	2
8	3,75	W14X211	313,32	4	W14X257	382,05	4	W14X211	313,32	4	W14X257	382,05	2
7	3,75	W14X211	313,32	4	W14X257	382,05	4	W14X211	313,32	4	W14X257	382,05	2
6	3,75	W14X211	313,32	4	W14X257	382,05	4	W14X211	313,32	4	W14X257	382,05	2
5	3,75	W14X211	313,32	4	W14X257	382,05	4	W14X211	313,32	4	W14X257	382,05	2
4	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X233	346,17	4	W14X283	420,96	2
3	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X233	346,17	4	W14X283	420,96	2
2	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X233	346,17	4	W14X283	420,96	2
1	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X233	346,17	4	W14X283	420,96	2

Lantai	Portal Tengah										W Kolom (Kg)		
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Berat (Kg/m)		Jml	
14	W14X120	178,39	16	W14X145	215,79	16	W14X145	215,79	16	W14X145	215,79	8	35968,55871
13	W14X233	346,17	16	W14X233	346,17	16	W14X211	313,32	16	W14X211	313,32	8	60369,56841
12	W14X257	382,05	16	W14X257	382,05	16	W14X311	461,89	16	W14X311	461,89	8	71057,80481
11	W14X257	382,05	16	W14X257	382,05	16	W14X311	461,89	16	W14X311	461,89	8	71057,80481
10	W14X257	382,05	16	W14X311	461,89	16	W14X311	461,89	16	W14X311	461,89	8	75848,55534
9	W14X257	382,05	16	W14X311	461,89	16	W14X311	461,89	16	W14X311	461,89	8	75848,55534
8	W14X283	420,96	16	W14X342	510,41	16	W14X311	461,89	16	W14X311	461,89	8	85702,95734
7	W14X283	420,96	16	W14X342	510,41	16	W14X370	550,84	16	W14X370	550,84	8	85702,95734
6	W14X283	420,96	16	W14X370	550,84	16	W14X370	550,84	16	W14X370	550,84	8	88128,65571
5	W14X283	420,96	16	W14X370	550,84	16	W14X370	550,84	16	W14X370	550,84	8	88128,65571
4	W14X342	510,41	16	W14X426	631,69	16	W14X426	631,69	16	W14X426	631,69	8	102140,8527
3	W14X342	510,41	16	W14X426	631,69	16	W14X426	631,69	16	W14X426	631,69	8	102140,8527
2	W14X342	510,41	16	W14X426	631,69	16	W14X426	631,69	16	W14X426	631,69	8	102140,8527
1	W14X342	510,41	16	W14X426	631,69	16	W14X426	631,69	16	W14X426	631,69	8	102140,8527

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK BSF18 LT

Lantai	Balok Arah X Tepi				Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml
18	W16X31	46,14	7	8	W18X35	52,05	7	32
17	W18X35	52,05	7	8	W21X48	71,25	7	32
16	W18X40	59,63	7	8	W21X50	74,29	7	32
15	W18X40	59,63	7	8	W21X50	74,29	7	32
14	W18X40	59,63	7	8	W21X50	74,29	7	32
13	W18X40	59,63	7	8	W21X50	74,29	7	32
12	W21X44	65,70	7	8	W21X55	81,87	7	32
11	W21X44	65,70	7	8	W21X55	81,87	7	32
10	W21X44	65,70	7	8	W21X55	81,87	7	32
9	W21X44	65,70	7	8	W21X55	81,87	7	32
8	W21X48	71,25	7	8	W24X55	82,37	7	32
7	W21X48	71,25	7	8	W24X55	82,37	7	32
6	W21X48	71,25	7	8	W24X55	82,37	7	32
5	W21X48	71,25	7	8	W24X55	82,37	7	32
4	W21X55	81,87	7	8	W24X62	92,48	7	32
3	W21X55	81,87	7	8	W24X62	92,48	7	32
2	W21X55	81,87	7	8	W24X62	92,48	7	32
1	W21X55	81,87	7	8	W24X62	92,48	7	32

Lantai	Balok Y Tepi				Balok Y Tengah				Balok Anak				
	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml	W Balok (kg)
18	W12X26	38,66	5	18	W12X26	38,66	5	27	W12X26	38,66	5	36	29900,41202
17	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	36866,3391
16	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37970,02133
15	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37970,02133
14	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37970,02133
13	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37970,02133
12	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	37970,02133
11	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40007,60709
10	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40007,60709
9	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40007,60709
8	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40007,60709
7	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40432,11308
6	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40432,11308
5	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40432,11308
4	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	40432,11308
3	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	43290,3917
2	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	43290,3917
1	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36	43290,3917

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM BSF18 LT

Lantai	h (m)	Kolom tepi				Portal Tepi			
		Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml
18	3,75	133,92	4	W14X145	215,79	4	W14X120	178,39	2
17	3,75	147,06	4	W14X159	236,00	4	W14X132	196,08	2
16	3,75	178,39	4	W14X176	261,77	4	W14X176	261,77	2
15	3,75	178,39	4	W14X176	261,77	4	W14X176	261,77	2
14	3,75	178,39	4	W14X176	261,77	4	W14X176	261,77	2
13	3,75	178,39	4	W14X176	261,77	4	W14X176	261,77	2
12	3,75	236,00	4	W14X211	313,32	4	W14X176	261,77	2
11	3,75	236,00	4	W14X211	313,32	4	W14X193	287,04	2
10	3,75	236,00	4	W14X211	313,32	4	W14X193	287,04	2
9	3,75	236,00	4	W14X211	313,32	4	W14X193	287,04	2
8	3,75	287,04	4	W14X233	346,17	4	W14X193	287,04	2
7	3,75	287,04	4	W14X233	346,17	4	W14X211	313,32	2
6	3,75	287,04	4	W14X233	346,17	4	W14X211	313,32	2
5	3,75	287,04	4	W14X233	346,17	4	W14X211	313,32	2
4	3,75	313,32	4	W14X257	382,05	4	W14X233	346,17	2
3	3,75	313,32	4	W14X257	382,05	4	W14X233	346,17	2
2	3,75	313,32	4	W14X257	382,05	4	W14X233	346,17	2
1	3,75	313,32	4	W14X257	382,05	4	W14X233	346,17	2

Lantai	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Portal Tengah				W Kolom (Kg)
							Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	
18	W14X120	178,39	16	W14X176	261,77	16	W14X159	236,00	8	40073,29647	
17	W14X132	196,08	16	W14X211	313,32	16	W14X211	313,32	8	47179,83467	
16	W14X159	236,00	16	W14X283	420,96	16	W14X257	382,05	8	59444,77232	
15	W14X159	236,00	16	W14X283	420,96	16	W14X257	382,05	8	59444,77232	
14	W14X159	236,00	16	W14X283	420,96	16	W14X257	382,05	8	59444,77232	
13	W14X159	236,00	16	W14X283	420,96	16	W14X257	382,05	8	59444,77232	
12	W14X193	287,04	16	W14X311	461,89	16	W14X257	382,05	8	59444,77232	
11	W14X193	287,04	16	W14X311	461,89	16	W14X311	461,89	8	69185,46382	
10	W14X193	287,04	16	W14X311	461,89	16	W14X311	461,89	8	69185,46382	
9	W14X193	287,04	16	W14X311	461,89	16	W14X311	461,89	8	69185,46382	
8	W14X257	382,05	16	W14X342	510,41	16	W14X311	461,89	8	69185,46382	
7	W14X257	382,05	16	W14X342	510,41	16	W14X342	510,41	8	80707,53522	
6	W14X257	382,05	16	W14X342	510,41	16	W14X342	510,41	8	80707,53522	
5	W14X257	382,05	16	W14X342	510,41	16	W14X342	510,41	8	80707,53522	
4	W14X283	420,96	16	W14X370	550,84	16	W14X370	550,84	8	87859,55456	
3	W14X283	420,96	16	W14X370	550,84	16	W14X370	550,84	8	87859,55456	
2	W14X283	420,96	16	W14X370	550,84	16	W14X370	550,84	8	87859,55456	
1	W14X283	420,96	16	W14X370	550,84	16	W14X370	550,84	8	87859,55456	



# LAMPIRAN A-3-2

## BERAT BRASING 18LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
18	W12X58	85,91	7,94	4	2728,506388
17	W12X72	106,63	7,94	4	3386,58924
16	W12X96	142,51	7,94	4	4526,110099
15	W12X96	142,51	7,94	4	4526,110099
14	W12X106	157,67	7,94	4	5007,611227
13	W12X106	157,67	7,94	4	5007,611227
12	W12X120	178,39	7,94	4	5665,663762
11	W12X120	178,39	7,94	4	5665,663762
10	W12X120	178,39	7,94	4	5665,663762
9	W12X120	178,39	7,94	4	5665,663762
8	W12X136	201,64	7,94	4	6403,963998
7	W12X136	201,64	7,94	4	6403,963998
6	W12X152	225,89	7,94	4	7174,366299
5	W12X152	225,89	7,94	4	7174,366299
4	W12X152	225,89	7,94	4	7174,366299
3	W12X152	225,89	7,94	4	7174,366299
2	W12X170	252,68	7,94	4	8025,018789
1	W12X170	252,68	7,94	4	8025,018789

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK USF18 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pjg (m)	Balok	Berat (kg/m)	Pjg (m)	Jml
18	W12X26	38,66	7	W12X45	66,20	7	32
17	W24X55	82,37	7	W24X55	82,37	7	32
16	W24X55	82,37	7	W24X55	82,37	7	32
15	W24X55	82,37	7	W24X55	82,37	7	32
14	W24X55	82,37	7	W24X55	82,37	7	32
13	W24X55	82,37	7	W24X55	82,37	7	32
12	W24X55	82,37	7	W24X55	82,37	7	32
11	W24X55	82,37	7	W24X55	82,37	7	32
10	W24X55	82,37	7	W24X55	82,37	7	32
9	W24X55	82,37	7	W24X55	82,37	7	32
8	W24X55	82,37	7	W24X55	82,37	7	32
7	W24X55	82,37	7	W24X55	82,37	7	32
6	W24X55	82,37	7	W24X55	82,37	7	32
5	W24X55	82,37	7	W24X55	82,37	7	32
4	W24X55	82,37	7	W24X55	82,37	7	32
3	W24X55	82,37	7	W24X55	82,37	7	32
2	W24X55	82,37	7	W24X55	82,37	7	32
1	W24X55	82,37	7	W24X55	82,37	7	32

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)	
	Balok	Berat (kg/m)	Pjg (m)	Balok	Berat (kg/m)	Pjg (m)	Balok	Berat (kg/m)	Pjg (m)		Jml
18	W12X16	23,80	5	W12X26	38,66	5	W12X26	38,66	5	36	31313,99013
17	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
16	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
15	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
14	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
13	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
12	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
11	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
10	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
9	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
8	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
7	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
6	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
5	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
4	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
3	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
2	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524
1	W12X30	44,42	5	W12X45	66,20	5	W12X40	59,13	5	36	46642,14524

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM USF18 LT

Lantai	h (m)	Portal Tepi									
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Jml
18	3,75	W14X120	178,39	4	W14X257	382,05	4	W14X257	382,05	4	2
17	3,75	W14X176	261,77	4	W14X283	420,96	4	W14X311	461,89	4	2
16	3,75	W14X176	261,77	4	W14X283	420,96	4	W14X311	461,89	4	2
15	3,75	W14X233	346,17	4	W14X342	510,41	4	W14X342	510,41	4	2
14	3,75	W14X233	346,17	4	W14X342	510,41	4	W14X342	510,41	4	2
13	3,75	W14X233	346,17	4	W14X342	510,41	4	W14X342	510,41	4	2
12	3,75	W14X257	382,05	4	W14X370	550,84	4	W14X398	591,26	4	2
11	3,75	W14X257	382,05	4	W14X370	550,84	4	W14X398	591,26	4	2
10	3,75	W14X257	382,05	4	W14X370	550,84	4	W14X398	591,26	4	2
9	3,75	W14X311	461,89	4	W14X398	591,26	4	W14X398	591,26	4	2
8	3,75	W14X311	461,89	4	W14X398	591,26	4	W14X398	591,26	4	2
7	3,75	W14X311	461,89	4	W14X398	591,26	4	W14X398	591,26	4	2
6	3,75	W14X342	510,41	4	W14X455	677,17	4	W14X455	677,17	4	2
5	3,75	W14X342	510,41	4	W14X455	677,17	4	W14X455	677,17	4	2
4	3,75	W14X342	510,41	4	W14X455	677,17	4	W14X455	677,17	4	2
3	3,75	W14X426	631,69	4	W14X500	742,87	4	W14X500	742,87	4	2
2	3,75	W14X426	631,69	4	W14X500	742,87	4	W14X500	742,87	4	2
1	3,75	W14X426	631,69	4	W14X500	742,87	4	W14X500	742,87	4	2

Lantai	Kolom tepi	Berat (Kg/m)	Portal Tengah										W Kolom (Kg)
			Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Jml			
18	W14X193	287,04	16	W14X311	461,89	16	W14X311	461,89	8	70064,78054			
17	W14X211	313,32	16	W14X398	591,26	16	W14X398	591,26	8	85718,11654			
16	W14X211	313,32	16	W14X398	591,26	16	W14X398	591,26	8	85718,11654			
15	W14X257	382,05	16	W14X455	677,17	16	W14X455	677,17	8	100545,1995			
14	W14X257	382,05	16	W14X455	677,17	16	W14X455	677,17	8	100545,1995			
13	W14X257	382,05	16	W14X455	677,17	16	W14X455	677,17	8	100545,1995			
12	W14X283	420,96	16	W14X500	742,87	16	W14X500	742,87	8	110543,6245			
11	W14X283	420,96	16	W14X500	742,87	16	W14X500	742,87	8	110543,6245			
10	W14X283	420,96	16	W14X500	742,87	16	W14X500	742,87	8	110543,6245			
9	W14X342	510,41	16	W14X500	742,87	16	W14X500	742,87	8	117714,5935			
8	W14X342	510,41	16	W14X500	742,87	16	W14X500	742,87	8	117714,5935			
7	W14X342	510,41	16	W14X500	742,87	16	W14X500	742,87	8	117714,5935			
6	W14X370	550,84	16	W14X550	818,67	16	W14X550	818,67	8	123623,2569			
5	W14X370	550,84	16	W14X550	818,67	16	W14X550	818,67	8	123623,2569			
4	W14X370	550,84	16	W14X550	818,67	16	W14X550	818,67	8	123623,2569			
3	W14X455	677,17	16	W14X550	818,67	16	W14X550	818,67	8	140500,998			
2	W14X455	677,17	16	W14X550	818,67	16	W14X550	818,67	8	140500,998			
1	W14X455	677,17	16	W14X550	818,67	16	W14X550	818,67	8	140500,998			

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK BSF22 LT

Lantai	Balok Arah X Tepi			Balok Arah X Tengah				
	Balok	Berat (kg/m)	Pig (m)	Jml	Balok	Berat (kg/m)	Pig (m)	Jml
22	W18X31	46,14	8	8	W18X35	52,05	8	32
21	W18X35	52,05	8	8	W21X48	71,25	8	32
20	W18X40	59,63	8	8	W21X48	71,25	8	32
19	W18X40	59,63	8	8	W21X48	71,25	8	32
18	W18X40	59,63	8	8	W21X48	71,25	8	32
17	W18X40	59,63	8	8	W21X48	71,25	8	32
16	W21X44	65,70	8	8	W21X50	74,29	8	32
15	W21X44	65,70	8	8	W21X50	74,29	8	32
14	W21X44	65,70	8	8	W21X50	74,29	8	32
13	W21X44	65,70	8	8	W21X50	74,29	8	32
12	W21X48	71,25	8	8	W21X55	81,87	8	32
11	W21X48	71,25	8	8	W21X55	81,87	8	32
10	W21X48	71,25	8	8	W21X55	81,87	8	32
9	W21X48	71,25	8	8	W21X55	81,87	8	32
8	W21X55	81,87	8	8	W24X55	82,37	8	32
7	W21X55	81,87	8	8	W24X55	82,37	8	32
6	W21X55	81,87	8	8	W24X55	82,37	8	32
5	W21X55	81,87	8	8	W24X55	82,37	8	32
4	W21X57	84,39	8	8	W24X62	92,48	8	32
3	W21X57	84,39	8	8	W24X62	92,48	8	32
2	W21X57	84,39	8	8	W24X62	92,48	8	32
1	W21X57	84,39	8	8	W24X62	92,48	8	32

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK BSF22 LT

Lantai	Balok Y Tepi			Balok Y Tengah			Balok Anak			W Balok (kg)		
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok		Berat (kg/m)	Pjg (m)
22	W12X26	38,66	5	18	W12X26	38,66	5	27	W12X26	38,66	5	36
21	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
20	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
19	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
18	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
17	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
16	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
15	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
14	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
13	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
12	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
11	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
10	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
9	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
8	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
7	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
6	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
5	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
4	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
3	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
2	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36
1	W12X30	44,42	5	18	W12X30	44,42	5	27	W12X30	44,42	5	36

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM BSF22 LT

Lantai	h (m)	Portal Tepi									
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	
22	3,75	W14X109	161,71	4	W14X193	287,04	4	W14X159	236,00	2	
21	3,75	W14X159	236,00	4	W14X257	382,05	4	W14X176	261,77	2	
20	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
19	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
18	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
17	3,75	W14X176	261,77	4	W14X176	261,77	4	W14X193	287,04	2	
16	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
15	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
14	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
13	3,75	W14X193	287,04	4	W14X211	313,32	4	W14X211	313,32	2	
12	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
11	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
10	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
9	3,75	W14X211	313,32	4	W14X233	346,17	4	W14X233	346,17	2	
8	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
7	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
6	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
5	3,75	W14X233	346,17	4	W14X283	420,96	4	W14X257	382,05	2	
4	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
3	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
2	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	
1	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X283	420,96	2	

C

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM BSF22 LT

Lantai	Portal Tengah						W Kolom (Kg)			
	Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml		Kolom Tengah	Berat (Kg/m)	Jml
22	W14X120	178,39	16	W14X211	313,32	16	W14X176	261,77	8	45857,07126
21	W14X176	261,77	16	W14X283	420,96	16	W14X257	382,05	8	63659,42489
20	W14X193	287,04	16	W14X311	461,89	16	W14X283	420,96	8	67570,86046
19	W14X193	287,04	16	W14X311	461,89	16	W14X283	420,96	8	67570,86046
18	W14X193	287,04	16	W14X311	461,89	16	W14X283	420,96	8	67570,86046
17	W14X193	287,04	16	W14X311	461,89	16	W14X283	420,96	8	67570,86046
16	W14X233	346,17	16	W14X342	510,41	16	W14X311	461,89	8	76606,58608
15	W14X233	346,17	16	W14X342	510,41	16	W14X311	461,89	8	76606,58608
14	W14X233	346,17	16	W14X342	510,41	16	W14X311	461,89	8	76606,58608
13	W14X233	346,17	16	W14X342	510,41	16	W14X311	461,89	8	76606,58608
12	W14X257	382,05	16	W14X370	550,84	16	W14X342	510,41	8	83773,76933
11	W14X257	382,05	16	W14X370	550,84	16	W14X342	510,41	8	83773,76933
10	W14X257	382,05	16	W14X370	550,84	16	W14X342	510,41	8	83773,76933
9	W14X257	382,05	16	W14X370	550,84	16	W14X342	510,41	8	83773,76933
8	W14X283	420,96	16	W14X398	591,26	16	W14X370	550,84	8	91630,7575
7	W14X283	420,96	16	W14X398	591,26	16	W14X370	550,84	8	91630,7575
6	W14X283	420,96	16	W14X398	591,26	16	W14X370	550,84	8	91630,7575
5	W14X283	420,96	16	W14X398	591,26	16	W14X370	550,84	8	91630,7575
4	W14X311	461,89	16	W14X455	677,17	16	W14X398	591,26	8	101898,2807
3	W14X311	461,89	16	W14X455	677,17	16	W14X398	591,26	8	101898,2807
2	W14X311	461,89	16	W14X455	677,17	16	W14X398	591,26	8	101898,2807
1	W14X311	461,89	16	W14X455	677,17	16	W14X398	591,26	8	101898,2807

# LAMPIRAN A-3-2

## BERAT BRASING 22 LT

Lantai	Bracing	Berat (kg/m)	Panjang (m)	Jml	W Bracing (kg)
22	W12X58	85,91	7,94	4	2728,506388
21	W12X58	85,91	7,94	4	2728,506388
20	W12X65	96,52	7,94	4	3065,558172
19	W12X65	96,52	7,94	4	3065,558172
18	W12X96	142,51	7,94	4	4526,110099
17	W12X96	142,51	7,94	4	4526,110099
16	W12X106	157,67	7,94	4	5007,611227
15	W12X106	157,67	7,94	4	5007,611227
14	W12X120	178,39	7,94	4	5665,663762
13	W12X120	178,39	7,94	4	5665,663762
12	W12X136	201,64	7,94	4	6403,963998
11	W12X136	201,64	7,94	4	6403,963998
10	W12X136	201,64	7,94	4	6403,963998
9	W12X136	201,64	7,94	4	6403,963998
8	W12X152	225,89	7,94	4	7174,366299
7	W12X152	225,89	7,94	4	7174,366299
6	W12X152	225,89	7,94	4	7174,366299
5	W12X152	225,89	7,94	4	7174,366299
4	W12X170	252,68	7,94	4	8025,018789
3	W12X170	252,68	7,94	4	8025,018789
2	W12X170	252,68	7,94	4	8025,018789
1	W12X170	252,68	7,94	4	8025,018789



# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK USF22 LT

Lantai	Balok Arah X Tepi				Balok Arah X Tengah			
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml
22	W16X26	38,81	8	8	W18X35	52,05	8	32
21	W21X44	65,70	8	8	W24X55	82,37	8	32
20	W21X44	65,70	8	8	W24X55	82,37	8	32
19	W21X44	65,70	8	8	W24X55	82,37	8	32
18	W21X48	71,25	8	8	W24X55	82,37	8	32
17	W21X48	71,25	8	8	W24X55	82,37	8	32
16	W21X48	71,25	8	8	W24X55	82,37	8	32
15	W21X50	74,29	8	8	W24X62	92,48	8	32
14	W21X50	74,29	8	8	W24X62	92,48	8	32
13	W21X50	74,29	8	8	W24X62	92,48	8	32
12	W21X55	81,87	8	8	W24X68	101,58	8	32
11	W21X55	81,87	8	8	W24X68	101,58	8	32
10	W21X55	81,87	8	8	W24X68	101,58	8	32
9	W21X57	84,39	8	8	W24X76	113,20	8	32
8	W21X57	84,39	8	8	W24X76	113,20	8	32
7	W21X57	84,39	8	8	W24X76	113,20	8	32
6	W21X62	92,48	8	8	W24X84	124,82	8	32
5	W21X62	92,48	8	8	W24X84	124,82	8	32
4	W21X62	92,48	8	8	W24X84	124,82	8	32
3	W21X68	101,07	8	8	W24X84	124,82	8	32
2	W21X68	101,07	8	8	W24X84	124,82	8	32
1	W21X68	101,07	8	8	W24X84	124,82	8	32

# LAMPIRAN A-3-2

## BERAT ELEMEN BALOK USF22 LT

Lantai	Balok Y Tepi				Balok Y Tengah				Balok Anak				W Balok (kg)
	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	Balok	Berat (kg/m)	Pjg (m)	Jml	
22	W12X22	32,75	5	18	W12X26	38,66	5	27	W12X26	38,66	5	36	30934,06927
21	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	45167,52056
20	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	45167,52056
19	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	45167,52056
18	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	45523,29166
17	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	45523,29166
16	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	45523,29166
15	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	45523,29166
14	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	48304,75613
13	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	48304,75613
12	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	48304,75613
11	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	51118,57025
10	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	51118,57025
9	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	51118,57025
8	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	54255,79077
7	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	54255,79077
6	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	54255,79077
5	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	57748,80245
4	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	57748,80245
3	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	57748,80245
2	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	58298,62641
1	W12X26	38,66	5	18	W12X35	52,05	5	27	W12X35	52,05	5	36	58298,62641

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM USF22 LT

Lantai	h (m)	Portal Tepi											
		Kolom tepi	Berat (Kg/m)	Jml	Kolom tepi2	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml	Kolom Tengah	Berat (Kg/m)	Jml
22	3,75	W14X82	121,28	4	W14X120	178,39	4	W14X211	313,32	2	W14X211	313,32	2
21	3,75	W14X109	161,71	4	W14X176	261,77	4	W14X211	313,32	2	W14X211	313,32	2
20	3,75	W14X120	178,39	4	W14X193	287,04	4	W14X211	313,32	2	W14X211	313,32	2
19	3,75	W14X120	178,39	4	W14X211	313,32	4	W14X211	313,32	2	W14X211	313,32	2
18	3,75	W14X132	196,08	4	W14X233	346,17	4	W14X233	346,17	2	W14X233	346,17	2
17	3,75	W14X132	196,08	4	W14X233	346,17	4	W14X233	346,17	2	W14X233	346,17	2
16	3,75	W14X159	236,00	4	W14X233	346,17	4	W14X233	346,17	2	W14X233	346,17	2
15	3,75	W14X159	236,00	4	W14X233	346,17	4	W14X233	346,17	2	W14X233	346,17	2
14	3,75	W14X176	261,77	4	W14X257	382,05	4	W14X257	382,05	2	W14X257	382,05	2
13	3,75	W14X176	261,77	4	W14X257	382,05	4	W14X257	382,05	2	W14X257	382,05	2
12	3,75	W14X211	313,32	4	W14X283	420,96	4	W14X283	420,96	2	W14X283	420,96	2
11	3,75	W14X211	313,32	4	W14X283	420,96	4	W14X283	420,96	2	W14X283	420,96	2
10	3,75	W14X233	346,17	4	W14X311	461,89	4	W14X311	461,89	2	W14X311	461,89	2
9	3,75	W14X233	346,17	4	W14X311	461,89	4	W14X311	461,89	2	W14X311	461,89	2
8	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X311	461,89	2	W14X311	461,89	2
7	3,75	W14X257	382,05	4	W14X311	461,89	4	W14X311	461,89	2	W14X311	461,89	2
6	3,75	W14X283	420,96	4	W14X311	461,89	4	W14X311	461,89	2	W14X311	461,89	2
5	3,75	W14X283	420,96	4	W14X342	510,41	4	W14X342	510,41	2	W14X342	510,41	2
4	3,75	W14X311	461,89	4	W14X342	510,41	4	W14X342	510,41	2	W14X342	510,41	2
3	3,75	W14X311	461,89	4	W14X370	550,84	4	W14X370	550,84	2	W14X370	550,84	2
2	3,75	W14X342	510,41	4	W14X370	550,84	4	W14X370	550,84	2	W14X370	550,84	2
1	3,75	W14X342	510,41	4	W14X370	550,84	4	W14X370	550,84	2	W14X370	550,84	2

# LAMPIRAN A-3-2

## BERAT ELEMEN KOLOM USF22 LT

Lantai	Kolom tepi		Portal Tengah		Kolom Tengah		W Kolom (Kg)
	Kolom tepi	Berat (Kg/m)	Kolom tepi2	Berat (Kg/m)	Kolom Tengah	Berat (Kg/m)	
22	W14X99	147,06	W14X176	261,77	W14X176	261,77	39228,09442
21	W14X132	196,08	W14X233	346,17	W14X233	346,17	51621,89471
20	W14X159	236,00	W14X257	382,05	W14X257	382,05	57875,6495
19	W14X159	236,00	W14X257	382,05	W14X257	382,05	58269,82525
18	W14X176	261,77	W14X283	420,96	W14X283	420,96	64322,7012
17	W14X176	261,77	W14X283	420,96	W14X283	420,96	64322,7012
16	W14X193	287,04	W14X311	461,89	W14X311	461,89	70121,63167
15	W14X193	287,04	W14X311	461,89	W14X311	461,89	70390,3282
14	W14X211	313,32	W14X370	550,84	W14X342	510,41	79684,19254
13	W14X211	313,32	W14X370	550,84	W14X342	510,41	79684,19254
12	W14X257	382,05	W14X370	550,84	W14X370	550,84	86669,44712
11	W14X257	382,05	W14X370	550,84	W14X370	550,84	86669,44712
10	W14X283	420,96	W14X398	591,26	W14X426	631,69	95269,30389
9	W14X283	420,96	W14X398	591,26	W14X426	631,69	95269,30389
8	W14X311	461,89	W14X426	631,69	W14X426	631,69	100689,2213
7	W14X311	461,89	W14X426	631,69	W14X426	631,69	100689,2213
6	W14X342	510,41	W14X455	677,17	W14X500	742,87	111339,5556
5	W14X342	510,41	W14X455	677,17	W14X500	742,87	111339,5556
4	W14X370	550,84	W14X500	742,87	W14X500	742,87	119230,6549
3	W14X370	550,84	W14X500	742,87	W14X500	742,87	119230,6549
2	W14X398	591,26	W14X500	742,87	W14X500	742,87	122384,0633
1	W14X398	591,26	W14X500	742,87	W14X500	742,87	122384,0633

# LAMPIRAN A-3-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR. BAJA BERPENGAKU 6 LANTAI (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	W <sub>i</sub> (Kg)	h <sub>i</sub> .w <sub>i</sub>	F <sub>x,y</sub> ( Kg )
6	29900,41202	31075,47238	3065,558172	404460	88200	556701,4426	12525782,46	150885
5	37970,02133	40880,60109	4526,110099	1033537,5	220500	1337414,233	25076516,86	302071
4	40007,60709	44879,21208	6403,963998	1033537,5	220500	1345328,283	20179924,25	243087
3	40007,60709	44879,21208	6403,963998	1033537,5	220500	1345328,283	15134943,19	182315
2	40007,60709	44879,21208	7174,366299	1033537,5	220500	1346098,685	10085740,14	121613
1	40007,60709	44879,21208	7174,366299	1033537,5	220500	1346098,685	5047870,07	60807
W <sub>total</sub> =						7276969,612	88060776,96	1060777,79

## PERHITUNGAN BEBAN STATIK EKIVALEN STR. BAJA TAKBERPENGAKU 6 LANTAI (USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	W <sub>i</sub> (Kg)	h <sub>i</sub> .w <sub>i</sub>	F <sub>x,y</sub> ( Kg )
6	27473,29657	75283,82443	404460	88200	595417,121	13396885,22	89352
5	41873,3651	83057,42817	1033537,5	220500	1378968,293	25855655,5	172446
4	41873,3651	83057,42817	1033537,5	220500	1378968,293	20684524,4	137957
3	41873,3651	89773,58101	1033537,5	220500	1385684,446	15588950,02	103372
2	41873,3651	89773,58101	1033537,5	220500	1385684,446	10392633,35	69315
1	41873,3651	89773,58101	1033537,5	220500	1385684,446	5196316,673	34657
W <sub>total</sub> =					7510407,046	91114965,16	607699,02

# LAMPIRAN A-3-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 10 LT (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	Wi (Kg)	hi.wi	Fx,y ( Kg )
10	29900,41202	33194,16807	3386,58924	404460	88200	559141,139	20967792,71	99690
9	36866,3391	46728,80662	4108,810615	1033537,5	220500	1341741,456	45283774,15	215298
8	37545,52412	53566,24133	4526,110099	1033537,5	220500	1349675,376	40490261,27	192507
7	37970,02133	53566,24133	4526,110099	1033537,5	220500	1350099,873	35440121,66	168497
6	37970,02133	53566,24133	5665,663762	1033537,5	220500	1351239,426	30402887,09	144548
5	37970,02133	53566,24133	5665,663762	1033537,5	220500	1351239,426	25335739,25	120457
4	40007,60709	61112,4423	6403,963998	1033537,5	220500	1361561,513	20423422,7	97101
3	40007,60709	61112,4423	6403,963998	1033537,5	220500	1361561,513	15317567,03	72826
2	40007,60709	61112,4423	7174,366299	1033537,5	220500	1362331,916	10217489,37	48578
1	40007,60709	61112,4423	7174,366299	1033537,5	220500	1362331,916	5108744,664	24289
					Wtotal =	12750923,55	248987799,9	1183790,60

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 10 LT(USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	Wi (Kg)	hi.wi	Fx,y ( Kg )
10	33829,38012	37825,73579	404460	88200	564315,1159	21161816,85	76403
9	52240,95706	76864,31841	1033537,5	220500	1383142,775	46681068,67	168537
8	52240,95706	76864,31841	1033537,5	220500	1383142,775	41494283,26	149811
7	52240,95706	76864,31841	1033537,5	220500	1383142,775	36307497,86	131084
6	52240,95706	90470,96906	1033537,5	220500	1396749,426	31426662,03	113463
5	52240,95706	90470,96906	1033537,5	220500	1396749,426	26189051,74	94553
4	52240,95706	90470,96906	1033537,5	220500	1396749,426	20951241,39	75642
3	52240,95706	97361,47038	1033537,5	220500	1403639,927	15790949,18	57012
2	52240,95706	97361,47038	1033537,5	220500	1403639,927	10527299,46	38008
1	52240,95706	97361,47038	1033537,5	220500	1403639,927	5263649,728	19004
				Wtotal =	13114911,5	255793720,2	923516,85

# LAMPIRAN A-3-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 14 LT (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	Wl (Kg)	hi.wl	Fx.y (Kg)
14	29900,41202	32864,4254	3065,558172	404460	88200	558490,3956	29320745,77	73968
13	36866,3391	43840,7102	3065,558172	1033537,5	220500	1337810,107	65218242,74	164527
12	37970,02133	53710,26905	3386,558924	1033537,5	220500	1349104,349	60709695,72	153153
11	37970,02133	53710,26905	3386,558924	1033537,5	220500	1349104,349	55650554,41	140390
10	37970,02133	53710,26905	4526,110099	1033537,5	220500	1350243,9	50634146,27	127735
9	37970,02133	53710,26905	4526,110099	1033537,5	220500	1350243,9	45570731,64	114962
8	40007,60709	62874,8626	5665,663762	1033537,5	220500	1362585,633	40877599	103122
7	40007,60709	62874,8626	5665,663762	1033537,5	220500	1362585,633	35767872,88	90232
6	40007,60709	62874,8626	6403,963998	1033537,5	220500	1363323,934	30674788,51	77384
5	40007,60709	62874,8626	6403,963998	1033537,5	220500	1363323,934	25562323,76	64486
4	40432,11308	66494,45822	7174,366299	1033537,5	220500	1368138,438	20522076,56	51771
3	40432,11308	66494,45822	7174,366299	1033537,5	220500	1368138,438	15391557,42	38828
2	40432,11308	66494,45822	7174,366299	1033537,5	220500	1368138,438	10261088,28	25686
1	40432,11308	66494,45822	7174,366299	1033537,5	220500	1368138,438	5130519,141	12943
				Wtotal =	Wtotal =	18219369,89	491291862,1	1239386,92

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 14 LT(USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	Wl (Kg)	hi.wl	Fx.y (Kg)	
14	29900,41202	35958,55871	404460	88200	558528,9707	29322770,96	41187	
13	37451,52295	60369,56841	1033537,5	220500	1351858,591	65903106,33	92568	
12	39489,1087	78759,39527	1033537,5	220500	1372286,004	61752870,18	86739	
11	39489,1087	78759,39527	1033537,5	220500	1372286,004	56606797,66	79511	
10	39489,1087	78759,39527	1033537,5	220500	1372286,004	51460725,15	72282	
9	40083,41095	88128,65571	1033537,5	220500	1372286,004	46314652,63	60554	
8	40083,41095	88128,65571	1033537,5	220500	1382249,567	41467487	58246	
7	40083,41095	88128,65571	1033537,5	220500	1382249,567	36284051,12	50955	
6	40083,41095	88128,65571	1033537,5	220500	1382249,567	31100615,25	43684	
5	42771,89331	106234,2187	1033537,5	220500	1382249,567	25917179,37	36404	
4	42771,89331	106234,2187	1033537,5	220500	1403043,612	21045654,18	29561	
3	42771,89331	106234,2187	1033537,5	220500	1403043,612	15784240,54	22171	
2	42771,89331	106234,2187	1033537,5	220500	1403043,612	10522827,09	14781	
1	42771,89331	106234,2187	1033537,5	220500	1403043,612	5261413,545	7390	
				Wtotal =	Wtotal =	18540704,29	498744391,1	700543,43

# LAMPIRAN A-3-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 18 LT (BSF)

Lantai	W Balok (Kg)	W Kolom (Kg)	W Bracing (Kg)	WD (Kg)	WL (Kg)	Wi (Kg)	hi.wi	F <sub>x,y</sub> ( Kg )
18	29900,41202	40073,29647	2729,506388	404460	88200	565362,2149	38161949,5	64523
17	36866,3391	47179,83467	3386,588924	1033537,5	220500	1341470,233	85518727,33	144592
16	37970,02133	59444,77232	4826,110099	1033537,5	220500	1355978,404	81388704,22	137558
15	37970,02133	59444,77232	4826,110099	1033537,5	220500	1355978,404	76273785,21	128961
14	37970,02133	59444,77232	5007,611227	1033537,5	220500	1356459,905	71214145,01	120406
13	37970,02133	59444,77232	5007,611227	1033537,5	220500	1356459,905	66127420,36	111806
12	40007,60709	69185,46382	5665,663762	1033537,5	220500	1368896,235	61600330,56	104151
11	40007,60709	69185,46382	5665,663762	1033537,5	220500	1368896,235	56466969,68	95472
10	40007,60709	69185,46382	5665,663762	1033537,5	220500	1368896,235	51333608,8	86793
9	40007,60709	69185,46382	5665,663762	1033537,5	220500	1368896,235	46200247,92	78114
8	40432,11308	80707,53522	6403,963998	1033537,5	220500	1381581,112	41447433,37	70078
7	40432,11308	80707,53522	6403,963998	1033537,5	220500	1381581,112	36266504,2	61318
6	40432,11308	80707,53522	7174,366299	1033537,5	220500	1382351,515	31102909,08	52588
5	40432,11308	80707,53522	7174,366299	1033537,5	220500	1382351,515	25919090,9	43823
4	43290,3917	87859,55456	7174,366299	1033537,5	220500	1392361,813	20865427,19	35312
3	43290,3917	87859,55456	7174,366299	1033537,5	220500	1392361,813	15664070,39	26484
2	43290,3917	87859,55456	8025,018789	1033537,5	220500	1393212,465	10449093,49	17667
1	43290,3917	87859,55456	8025,018789	1033537,5	220500	1393212,465	5224546,744	8833
					Wtotal =	23906307,81	821214964	1388477,66



# LAMPIRAN A-3-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 18 LT(USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	Wf (Kg)	hi.wf	Fx,y (Kg)
18	31313,99013	70064,78054	404460	88200	594038,7707	40097617,02	40023
17	46642,14524	85718,11654	1033537,5	220500	1386397,762	88382857,31	88218
16	46642,14524	85718,11654	1033537,5	220500	1386397,762	83183865,71	83029
15	46642,14524	100545,1995	1033537,5	220500	1401224,845	78818897,52	78672
14	46642,14524	100545,1995	1033537,5	220500	1401224,845	73564304,35	73427
13	46642,14524	100545,1995	1033537,5	220500	1401224,845	68309711,18	68182
12	46642,14524	110543,6245	1033537,5	220500	1411223,27	63505047,14	63387
11	46642,14524	110543,6245	1033537,5	220500	1411223,27	58212959,88	58104
10	46642,14524	110543,6245	1033537,5	220500	1411223,27	52920872,62	52822
9	46642,14524	117714,5935	1033537,5	220500	1418394,239	47870805,56	47782
8	46642,14524	117714,5935	1033537,5	220500	1418394,239	42551827,16	42472
7	46642,14524	117714,5935	1033537,5	220500	1418394,239	37232848,77	37153
6	46642,14524	129623,2569	1033537,5	220500	1430302,902	32181815,3	32122
5	46642,14524	129623,2569	1033537,5	220500	1430302,902	26818179,41	26768
4	46642,14524	129623,2569	1033537,5	220500	1430302,902	21454543,53	21415
3	46642,14524	140500,998	1033537,5	220500	1441180,643	16213282,24	16183
2	46642,14524	140500,998	1033537,5	220500	1441180,643	10808854,82	10789
1	46642,14524	140500,998	1033537,5	220500	1441180,643	5404427,412	5394
				Wlantai =	24673811,99	84753277,69	845952,10

# LAMPIRAN A-3-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA BERPENGAKU 22 LT (BSF)

Lantai	W Balok (kg)	W Kolom (kg)	W Bracing (kg)	WD (kg)	WL (kg)	WF (kg)	hi,wi	F <sub>x,y</sub> (kg)
22	31935,16912	45857,07126	2728,506388	404460	88200	573180,7468	47287411,61	56658
21	39552,90825	63659,42489	2728,506388	1033537,5	220500	1359988,34	107099081,7	128322
20	40048,04793	67570,86046	3065,558172	1033537,5	220500	1364721,967	102354147,5	122636
19	40048,04793	67570,86046	3065,558172	1033537,5	220500	1364721,967	97236440,12	116505
18	40048,04793	67570,86046	4526,110099	1033537,5	220500	1366182,518	92217320	110491
17	40048,04793	67570,86046	4526,110099	1033537,5	220500	1366182,518	87094135,55	104352
16	41212,37011	76606,58608	5007,611227	1033537,5	220500	1376864,067	82611844,05	98982
15	41212,37011	76606,58608	5007,611227	1033537,5	220500	1376864,067	77448603,79	92796
14	41212,37011	76606,58608	5665,663762	1033537,5	220500	1377522,12	72319811,3	86651
13	41212,37011	76606,58608	5665,663762	1033537,5	220500	1377522,12	67154203,35	80461
12	43508,69991	83773,76933	6403,963998	1033537,5	220500	1387723,933	62447577	74822
11	43508,69991	83773,76933	6403,963998	1033537,5	220500	1387723,933	57243612,25	68587
10	43508,69991	83773,76933	6403,963998	1033537,5	220500	1387723,933	52039647,5	62352
9	43508,69991	83773,76933	6403,963998	1033537,5	220500	1387723,933	46835582,75	56117
8	44317,27105	91630,7575	7174,366299	1033537,5	220500	1397159,895	41914796,85	50221
7	44317,27105	91630,7575	7174,366299	1033537,5	220500	1397159,895	36675447,24	43943
6	44317,27105	91630,7575	7174,366299	1033537,5	220500	1397159,895	31436097,63	37665
5	44317,27105	91630,7575	7174,366299	1033537,5	220500	1397159,895	26196748,03	31388
4	47066,39588	101898,2807	8025,018789	1033537,5	220500	1411027,195	21185407,93	25359
3	47066,39588	101898,2807	8025,018789	1033537,5	220500	1411027,195	15874055,95	19020
2	47066,39588	101898,2807	8025,018789	1033537,5	220500	1411027,195	10582703,97	12680
1	47066,39588	101898,2807	8025,018789	1033537,5	220500	1411027,195	5291351,983	6340
					Wtotal =	29687394,53	1240526228	1486345,76

# LAMPIRAN A-3-3

## PERHITUNGAN BEBAN STATIK EKIVALEN STR BAJA TAKBERPENGAKU 22 LT(USF)

Lantai	W Balok (Kg)	W Kolom (Kg)	WD (Kg)	WL (Kg)	Wt (Kg)	hi.wi	F <sub>x,y</sub> (Kg)
22	30934,06927	39228,09442	404460	88200	562822,1637	46432828,5	27398
21	45167,52056	51621,89471	1033537,5	220500	1350826,915	106377619,6	62768
20	45167,52056	57875,6495	1033537,5	220500	1357080,67	101781050,3	60056
19	45167,52056	58269,82525	1033537,5	220500	1357474,846	96720082,76	57069
18	45523,29166	64322,7012	1033537,5	220500	1363883,493	92062135,77	54321
17	45523,29166	64322,7012	1033537,5	220500	1363883,493	86547572,67	51303
16	45523,29166	70121,63167	1033537,5	220500	1369682,423	82180945,4	48491
15	48304,75613	70390,73282	1033537,5	220500	1372732,989	77216230,63	45561
14	48304,75613	79684,19254	1033537,5	220500	1382026,449	72556388,55	42812
13	48304,75613	79684,19254	1033537,5	220500	1382026,449	67373789,37	39754
12	51118,57025	86669,44712	1033537,5	220500	1391825,517	62632148,26	36956
11	51118,57025	86669,44712	1033537,5	220500	1391825,517	57412802,59	33876
10	51118,57025	95269,30389	1033537,5	220500	1400425,374	52515951,53	30987
9	54255,79077	95269,30389	1033537,5	220500	1403562,595	47370237,57	27951
8	54255,79077	100689,2213	1033537,5	220500	1408982,512	42269475,36	24941
7	54255,79077	100689,2213	1033537,5	220500	1408982,512	36985790,94	21823
6	57748,80245	111339,5556	1033537,5	220500	1423125,858	32020331,81	18894
5	57748,80245	111339,5556	1033537,5	220500	1423125,858	26683609,84	15745
4	57748,80245	119230,6549	1033537,5	220500	1431016,957	21465254,36	12666
3	58298,62641	119230,6549	1033537,5	220500	1431566,781	16105126,29	9503
2	58298,62641	122384,0633	1033537,5	220500	1434720,19	10760401,42	6349
1	58298,62641	122384,0633	1033537,5	220500	1434720,19	5380200,711	3175
				Wtotal =	29846319,75	1241249974	732395,96

# LAMPIRAN A-4-1

Jml Lantai	Tipe	T pakai (dt)	c	I	R	Wt (Kg)	V (Kg)
14	BSF	0,992448657	0,423	1	6,5	12259117,86	798154,7554
14	USF	1,375447014	0,305	1	8,5	12401180,85	445501,8799

## BRACED STEEL FRAME (BSF)

Lantai	hi (m)	wi (Kg)	hi.wi	F <sub>x,y</sub> (Kg)	massa
14	52,5	372461,5418	19554230,94	47229,82	37967,53739
13	48,75	900593,3783	43903927,19	106042,24	91803,60635
12	45	908277,3462	40872480,58	98720,31	92586,88544
11	41,25	908277,3462	37466440,53	90493,62	92586,88544
10	37,5	909160,2094	34093507,85	82346,89	92676,8817
9	33,75	909160,2094	30684157,07	74112,20	92676,8817
8	30	915964,2336	27478927,01	66370,53	93370,46214
7	26,25	915964,2336	24044061,13	58074,21	93370,46214
6	22,5	916381,5857	20618585,88	49800,58	93413,00567
5	18,75	916381,5857	17182154,73	41500,48	93413,00567
4	15	921294,9791	13819424,69	33378,40	93913,86127
3	11,25	921294,9791	10364568,51	25033,80	93913,86127
2	7,5	921953,1145	6914648,359	16701,12	93980,94949
1	3,75	921953,1145	3457324,179	8350,56	93980,94949
			330454438,5	798154,76	

## UNBRACED STEEL FRAME (USF)

Lantai	hi (m)	wi (Kg)	hi.wi	F <sub>x,y</sub> (Kg)	massa
14	52,5	372335,1795	19547596,92	26162,81	37954,65642
13	48,75	901096,1745	43928438,51	58794,52	91854,85979
12	45	908345,2229	40875535,03	54708,47	92593,80458
11	41,25	908345,2229	37469240,45	50149,43	92593,80458
10	37,5	918123,816	34429643,1	46081,18	93590,60306
9	33,75	918123,816	30988678,79	41473,06	93590,60306
8	30	924694,4313	27740832,94	37128,77	94260,39055
7	26,25	924694,4313	24273228,82	32487,68	94260,39055
6	22,5	927707,6046	20873421,1	27937,32	94567,5438
5	18,75	930512,319	17447105,98	23351,48	94853,4474
4	15	939689,5424	14085343,14	18865,43	95788,94418
3	11,25	939689,5424	10571507,35	14149,07	95788,94418
2	7,5	943911,7745	7079338,309	9475,10	96219,34501
1	3,75	943911,7745	3539659,155	4737,55	96219,34501
			332857579,6	445501,88	

# LAMPIRAN A-4-1

## KONTROL PERIODE GETAR DENGAN T RUMUS REYLEIGH

### BRACED STEEL FRAME (BSF)

Tingkat	Fy Kg	Gaya Geser (V) Kg	Kekakuan Tingkat (K) Kg/cm	Simpangan Tingkat cm	Total Simpangan (δ) cm	Wfi Kg	Wfi.δ <sup>2</sup> kg.cm <sup>2</sup>	Fi.δi kg.cm
14	47229,82	47229,82	1,37E+06	0,0344	2,6745	372461,5418	2564223,659	126316,731
13	106042,24	153272,05	1,77E+06	0,0867	2,6401	900593,3783	6277417,216	279965,817
12	98720,31	251992,36	2,13E+06	0,1185	2,5535	908277,3462	5922106,082	252078,243
11	90493,62	342485,98	2,13E+06	0,1611	2,4350	908277,3462	5385165,234	220347,550
10	82346,89	424832,87	2,33E+06	0,1821	2,2739	909160,2094	4700866,233	187247,462
9	74112,20	498945,07	2,33E+06	0,2139	2,0918	909160,2094	3978052,774	155026,083
8	66370,53	565315,60	2,75E+06	0,2059	1,8779	915964,2336	3230139,588	124636,910
7	58074,21	623389,82	2,75E+06	0,2271	1,6720	915964,2336	2560585,501	97096,789
6	49800,58	673190,40	2,84E+06	0,2368	1,4449	916381,5857	1913177,801	71967,134
5	41500,48	714690,88	2,84E+06	0,2514	1,2081	916381,5857	1337489,115	50137,202
4	33378,40	748069,28	3,17E+06	0,2358	0,9667	921294,9791	843272,156	31933,756
3	25033,80	773103,07	3,17E+06	0,2437	0,7210	921294,9791	478672,268	18048,339
2	16701,12	789804,20	3,38E+06	0,2374	0,4773	921953,1145	210042,803	7971,593
1	8350,56	798154,76	3,38E+06	0,2399	0,2399	921953,1145	53064,426	2003,378
		798154,76				Σ	39554474,555	1624768,966

Tr 0,99295488

T 0,992448657

rasio 0,999

Cek OK

# LAMPIRAN A-4-1

## KONTROL PERIODE GETAR DENGAN T RUMUS REYLEIGH

### UNBRACED STEEL FRAME (USF)

Tingkat	Fy Kg	Gaya Geser (V) Kg	Kekakuan Tingkat (K) Kg/cm	Simpangan Tingkat cm	Total Simpangan (δ) cm	Wi Kg	Wi.δ <sup>2</sup> kg.cm <sup>2</sup>	Fi.δi kg.cm
14	26162,81	26162,81	5,15E+05	0,0508	2,9876	372335,1795	3323345,257	78163,709
13	58794,52	84957,34	6,69E+05	0,1269	2,9368	901096,1745	7711769,946	172667,799
12	54708,47	139665,80	8,11E+05	0,1722	2,8099	906345,2229	7171844,607	153725,002
11	50149,43	189915,23	8,11E+05	0,2340	2,6377	906345,2229	6319828,779	132279,690
10	46081,18	235896,41	1,12E+06	0,2107	2,4037	918123,816	5304720,977	110765,435
9	41473,06	277369,48	1,12E+06	0,2478	2,1930	918123,816	4416317,742	90946,956
8	37128,77	314496,25	1,33E+06	0,2366	1,9452	924694,4313	3496729,581	72221,525
7	32487,68	346985,92	1,33E+06	0,2611	1,7085	924694,4313	2689251,347	55506,160
6	27937,32	374923,24	1,38E+06	0,2724	1,4475	927707,9045	1943556,034	43437,325
5	23351,48	398274,73	1,53E+06	0,2597	1,1751	933512,319	1284819,170	27439,369
4	18865,43	417140,16	1,77E+06	0,2353	0,9154	935989,5424	787392,641	17266,752
3	14149,07	431289,23	1,77E+06	0,2433	0,6801	936889,5424	434560,824	9522,127
2	9475,10	440764,33	2,03E+06	0,2172	0,4368	943911,7745	180058,675	4138,330
1	4737,55	445501,88	2,03E+06	0,2195	0,2195	943911,7745	45497,208	1040,113
		3682643,63				Σ	45180782,788	966224,651

Tr 1,376148593

T 1,375447014

rasio 0,999

Cek OK

# LAMPIRAN A-4-1

Jml Lantai	Tipe	T pakai (dt)	c	I	R	Wt (Kg)	V (Kg)
14	BSF	0,99295488	0,423	1	6,5	12259117,86	797747,8449
14	USF	1,376148593	0,305	1	8,5	12401180,85	445274,7568

## BRACED STEEL FRAME (BSF)

Lantai	hi (m)	wi (Kg)	hi.wi	Fx,y (Kg)	massa
14	52,5	372461,5418	19554230,94	47206	37967,53739
13	48,75	900593,3783	43903927,19	105988	91803,60635
12	45	908277,3462	40872480,58	98670	92586,88544
11	41,25	908277,3462	37466440,53	90447	92586,88544
10	37,5	909160,2094	34093507,85	82305	92676,8817
9	33,75	909160,2094	30684157,07	74074	92676,8817
8	30	915964,2336	27478927,01	66337	93370,46214
7	26,25	915964,2336	24044061,13	58045	93370,46214
6	22,5	916381,5857	20618985,68	49775	93413,00567
5	18,75	916381,5857	17182154,73	41479	93413,00567
4	15	921294,9791	13819424,69	33361	93913,86127
3	11,25	921294,9791	10364568,51	25021	93913,86127
2	7,5	921953,1145	6914648,359	16693	93980,94949
1	3,75	921953,1145	3457324,179	8346	93980,94949
			330454438,5	797747,84	

## UNBRACED STEEL FRAME (USF)

Lantai	hi (m)	wi (Kg)	hi.wi	Fx,y (Kg)	massa
14	52,5	372335,1795	19547596,92	26149	37964,65642
13	48,75	901096,1745	43928438,51	58765	91854,85979
12	45	908345,2229	40875535,03	54681	92593,80458
11	41,25	908345,2229	37469240,45	50124	92593,80458
10	37,5	918123,816	34429643,1	46058	93590,60306
9	33,75	918123,816	30986678,79	41452	93590,60306
8	30	924594,4313	27740832,94	37110	94260,35055
7	26,25	924594,4313	24273228,82	32471	94260,35055
6	22,5	927707,6046	20873421,1	27923	94567,5438
5	18,75	930512,319	17447105,98	23340	94853,4474
4	15	939689,5424	14095343,14	18856	95788,94418
3	11,25	939689,5424	10571507,35	14142	95788,94418
2	7,5	943911,7745	7079338,309	9470	96219,34501
1	3,75	943911,7745	3539669,155	4735	96219,34501
			332857579,6	445274,76	

# LAMPIRAN A-4-1

## KONTROL PERIODE GETAR DENGAN T RUMUS REYLEIGH

### UNBRACED STEEL FRAME (USF)

Tingkat	Fy Kg	Gaya Geser (V) Kg	Kekakuan Tingkat (K) Kg/cm	Simpangan Tingkat cm	Total Simpangan (∑)	Wi Kg	Wi.δi <sup>2</sup> kg.cm <sup>2</sup>	Fi.δi kg.cm
14	26149,48	26149,48	5,15E+05	0,0508	2,9861	372335,1795	3319957,545	78084,032
13	58764,55	84914,02	6,69E+05	0,1268	2,9353	901096,1745	7763847,652	172491,747
12	54680,58	139594,60	8,11E+05	0,1721	2,8085	908345,2229	7164533,858	153568,300
11	50123,86	189718,46	8,11E+05	0,2339	2,6364	908345,2229	6313386,548	132144,848
10	46057,69	236776,15	1,12E+06	0,2106	2,4025	918123,816	529313,515	110652,524
9	41451,92	277228,07	1,12E+06	0,2477	2,1918	918123,816	4410816,909	90855,985
8	37109,84	314337,91	1,33E+06	0,2365	1,9442	924694,4313	3495163,088	72147,905
7	32471,11	346809,02	1,33E+06	0,2609	1,7077	924694,4313	2696499,816	55449,579
6	27923,08	374732,10	1,38E+06	0,2723	1,4467	927707,6046	1941674,734	40396,705
5	23339,58	398071,68	1,53E+06	0,2596	1,1745	930512,319	1283509,466	27411,418
4	18855,81	416927,49	1,77E+06	0,2352	0,9149	936689,5424	786560,028	17251,188
3	14141,86	431069,35	1,77E+06	0,2432	0,6797	936689,5424	434137,827	9612,319
2	9470,27	440539,62	2,03E+06	0,2171	0,4365	943911,7745	179875,129	4134,111
1	4735,13	445274,76	2,03E+06	0,2194	0,2194	943911,7745	45450,830	1039,053
		3680766,16				Σ	45134726,944	965239,712

Tr 1,376148593

T 1,376148593

rasio 1,000

Cek OK



10	38232,18	195716,21	1,12E+06
9	344119,04		

KONTROL PERIODE GETAR DENGAN T RUMUS REYLEIGH

BRACED STEEL FRAME (BSF)

Tingkat	Fy Kg	Gaya Geser (V) Kg	Kekakuan Tingkat (K) Kg/cm	Simpangan Tingkat cm	Total Simpangan (δ) cm	Wi Kg	Wi.δ <sup>2</sup> kg.cm <sup>2</sup>	Fi.δi kg.cm
14	47205,74	47205,74	1,37E+06	0,0344	2,6731	372461,5418	2661507,835	126187,968
13	105988,18	153193,91	1,77E+06	0,0866	2,6388	900593,3783	6271018,218	279680,428
12	98669,98	251863,90	2,13E+06	0,1184	2,5522	908277,3462	5916069,276	251821,282
11	90447,48	342311,38	2,13E+06	0,1610	2,4337	908277,3462	5379675,769	220122,935
10	82304,91	424616,29	2,33E+06	0,1820	2,2727	909160,2094	4696074,320	187056,588
9	74074,42	498690,71	2,33E+06	0,2138	2,0907	909160,2094	3973997,674	154888,054
8	66336,69	565027,40	2,75E+06	0,2058	1,8769	915964,2336	3226846,887	124509,859
7	58044,61	623072,01	2,75E+06	0,2270	1,6711	915964,2336	2557975,322	96999,789
6	49775,19	672847,20	2,84E+06	0,2367	1,4442	916381,5657	1911227,369	71863,783
5	41479,32	714326,52	2,84E+06	0,2513	1,2075	916381,5657	1336125,721	50086,094
4	33361,38	747687,90	3,17E+06	0,2356	0,9562	921294,9791	842412,551	31901,204
3	25021,04	772708,94	3,17E+06	0,2435	0,7206	921294,9791	478384,121	18029,941
2	16692,61	789401,54	3,33E+06	0,2373	0,4771	921953,1145	209828,692	7963,467
1	8346,30	797747,84	3,33E+06	0,2398	0,2398	921953,1145	53010,334	2001,336
		797747,84				Σ	39514154,090	1623112,723

Tr 0,99295488  
 T 0,99295488  
 rasio 1,000  
 Cek OK

c.c

PERHITUNGAN FAKTOR PENGALI MOMEN

Balok B1

Lantai	Lokasi (m)	Momen										B1-BSF					
		1,2D+0,5L+E					1,2D+1,6L					Cb	Cb palak	Vd	Vi	Ve	
		Kg-m	Kip-in	Kg-m	Kip-in	Mub	Kip-in	Kg-m	Kip-in	Kg-m	Kip-in						
14	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,18 1,841 3,5 3,5 5,162 6,822	-4767,108 0,02 3181,543 3181,543 1241,422 -2281,333	-413,785 0,002 276,158 276,158 107,755 -198,020	-4379,828 758,485 3949,842 3949,842 811,954 -4289,205	-380,169 65,836 342,846 342,846 70,478 -370,567	413,785	2,101	2,101	2,101	2,099	2,099	2,099	2,101	-444,41 -309,16 -197,66 263,03 374,86 509,81	-560,22 -423,24 -285,59 283,16 421,22 597,83	-358,7 -358,7 -358,7 -358,7 -358,7 -358,7
13	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,187 1,845 3,5 3,5 5,161 6,82	-9377,803 1326,522 7002,187 7002,187 2027,269 -7954,481	-813,983 115,142 607,790 607,790 175,967 -591,317	-11022,501 1895,483 8881,398 8881,398 2204,404 -10386,403	-956,753 164,529 770,905 770,905 191,342 -901,713	956,753	2,099	2,099	2,099	2,107	2,107	2,107	-3761,02 -2158,29 -617,63 491,43 2039,02 3639,92	-1487,61 -1068,75 -726,34 695,53 1040,57 1457,08	-132,87 -132,87 -132,87 -132,87 -132,87 -132,87	
12	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,191 1,847 3,5 3,5 5,16 6,816	-7694,208 2144,33 6941,673 6941,673 1077,865 -9815,275	-667,857 186,128 602,537 602,537 93,561 -851,956	-10908,498 1953,575 8871,222 8871,222 184,274 -10553,47	-946,858 169,576 770,022 770,022 916,041	946,858	2,107	2,107	2,107	2,103	2,103	2,103	-3728,57 -2126,53 -586,36 520,73 2656,21 3666,13	-1479,62 -1050,15 -716,53 703,34 1847,59 1464,73	366,93 366,93 366,93 366,93 366,93 366,93	
11	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,191 1,847 3,5 3,5 5,16 6,816	-7656,284 2161,503 6938,133 6938,133 1053,563 -9860,359	-684,955 187,618 602,230 602,230 91,449 -855,879	-10854,829 1967,645 8845,566 8845,566 2057,536 -10658,602	-942,199 170,783 767,795 767,795 178,594 -925,187	942,199	2,103	2,103	2,103	2,100	2,100	2,100	-3722,26 -2120,52 -581,95 527,11 2072,62 3672,54	-1475,64 -1056,17 -714,55 707,32 1051,57 1468,71	359,87 359,87 359,87 359,87 359,87 359,87	
10	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,191 1,847 3,5 3,5 5,16 6,816	-8227,052 1881,764 6948,867 6948,867 1355,885 -9267,008	-714,108 163,337 603,162 603,162 117,591 -904,376	-10864,008 1965,212 8850,066 8850,066 2068,885 -10640,398	-942,996 170,590 768,196 768,196 179,580 -923,967	942,996	2,100	2,100	2,100	2,106	2,106	2,106	-3722,56 -2120,92 -582,35 526,71 2072,22 3672,14	-1476,5 -1057,03 -715,41 706,46 1050,71 1467,85	187,34 187,34 187,34 187,34 187,34 187,34	
9	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,191 1,847 3,5 3,5 5,16 6,816	-7120,464 2451,617 6943,053 6943,053 792,269 -10387,358	-618,056 211,064 602,657 602,657 88,769 -501,623	-10903,365 1948,715 8856,387 8856,387 2098,121 -10588,311	-946,412 169,148 768,734 768,734 182,117 -919,065	946,412	2,106	2,106	2,106	2,231	2,231	2,231	-3727,03 -2125,29 -586,72 522,34 2067,85 3667,77	-1479,25 -1059,78 -718,16 703,71 1047,96 1485,1	187,34 187,34 187,34 187,34 187,34 187,34	
8	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,193 1,848 3,5 3,5 5,157 6,812	-5175,823 3391,666 6913,962 6913,962 -233,448 -12420,625	-449,609 294,397 600,132 600,132 -20,263 -1076,110	-10846,653 2016,75 8827,922 8827,922 774,944 -10523,747	-941,489 175,054 774,944 774,944 188,505 -913,461	1076,110	2,231	2,231	2,231	2,231	2,231	2,231	-3725,77 -2125,64 -587,51 521,55 2064,63 3663,91	-1478,59 -1058,84 -717,62 704,26 1047,58 1465,46	1136,62 1136,62 1136,62 1136,62 1136,62 1136,62	

# LAMPIRAN B-1-1

## PERHITUNGAN FAKTOR PENGALI MOMEN

### Balok B1

Lantai	Lokasi (m)	Momen										B1-BSF																																																																							
		1,2D+0,3L+E					1,2D+1,6L					Cb	Ch paketi	Vd	Vi	Ve																																																																			
		Kg-m	Kip-in	Kg-m	Kip-in	Kip-in	Kg-m	Kip-in	Kg-m	Kip-in	Mub																																																																								
7	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,193 -3668,347 3056,392 6921,411 117,777 -11726,15	-506,505 265,295 600,778 600,778 10,223 -1017,830	-10629,431 2007,861 8892,563 8892,563 2110,008 -10611,768	-944,897 172,156 772,555 772,555 186,627 921,101	1017,830	2,203	2,203	-3719,56 -2118,83 -581,3 527,76 2070,84 3670,12	-1476,13 -1056,38 -715,16 706,71 1050,04 1467,92	915,99 915,99 915,99 915,99 915,99 915,99	6	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,193 1,848 1,848 3,5 3,5 5,157 6,812	-601,623 219,984 603,422 603,422 60,988 -919,077	-10886,912 1983,365 8900,402 8900,402 2150,081 -10536,509	-944,897 172,156 772,555 772,555 186,627 921,101	944,897	2,102	2,102	-3725,9 -2125,17 -587,64 521,42 2064,5 3663,78	-1479,61 -1056,87 -718,64 703,23 1046,56 1464,44	597,3 597,3 597,3 597,3 597,3 597,3	5	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,193 1,848 1,848 3,5 3,5 5,157 6,812	-504,948 267,690 602,014 602,014 10,296 -1016,918	-10979,995 1807,57 8602,72 8602,72 2200,651 -10440,742	-953,055 168,181 772,756 772,756 191,017 906,256	1016,918	2,200	2,200	-3735,6 -2134,87 -597,34 511,72 2054,8 3654,08	-1485,01 -1055,27 -724,04 597,83 1041,16 1455,04	962,87 962,87 962,87 962,87 962,87 962,87	4	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,197 1,85 1,85 3,5 3,5 5,156 6,81	-354,953 341,938 596,811 596,811 -69,042 -1175,862	-11047,126 1925,55 8636,406 8636,406 2280,694 -10320,653	-958,881 167,138 775,680 775,680 197,964 895,833	1175,862	2,237	2,237	-3742,32 -2142,24 -607,14 501,92 2043,96 3642,23	-1489,94 -1069,47 -729,16 692,72 1036,65 1453,81	1521,64 1521,64 1521,64 1521,64 1521,64 1521,64	3	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,197 1,85 1,85 3,5 3,5 5,156 6,81	-372,711 334,314 602,301 602,301 -56,398 -1153,114	-11106,09 1888,53 8621,288 8621,288 2287,562 -10291,841	-964,009 163,924 774,368 774,368 196,560 893,332	1153,114	2,230	2,230	-3746,61 -2146,53 -611,43 508,67 2038,67 3637,94	-1492,78 -1072,31 -732 595,88 1032,81 1450,96	1461,16 1461,16 1461,16 1461,16 1461,16 1461,16	2	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,197 1,85 1,85 3,5 3,5 5,156 6,81	-446,695 298,056 603,696 603,696 -17,205 -1076,195	-11184,461 1841,735 8606,035 8606,035 2303,92 -10243,925	-970,811 159,893 773,042 773,042 199,980 896,171	1076,195	2,223	2,223	-3751,94 -2151,86 -616,75 492,31 2034,35 3629,62	-1496,31 -1075,83 -736,63 596,36 1029,28 1447,44	1213,47 1213,47 1213,47 1213,47 1213,47 1213,47	1	Tepi Kiri 1/4 L 1/2 L 1/2 L 3/4 L lepi kanan	0,197 1,85 1,85 3,5 3,5 5,156 6,81	-4833,257 3690,949 7056,386 7056,386 -152,827 -12409,047	-11439,672 1765,756 8609,198 8609,198 2586,925 -9761,423	-892,981 153,271 781,998 781,998 224,545 848,028	1077,105	2,201	2,201	-3792,35 -2192,27 -657,16 451,9 1993,94 3592,21	-1516,11 -1065,64 -756,33 566,54 1009,47 1427,63	1334,05 1334,05 1334,05 1334,05 1334,05 1334,05

PERHITUNGAN FAKTOR PENGALI MOMEN  
Balok B2

Lantai	B2-BSF										B2-BSF	
	Lokasi (m)		Momen						Cb	Cb pakai	Vd	VI
			1,2D+1,6L		1,2D+1,6L		Mub					
		Kg-m	Kg-in	Kg-m	Kg-in					Kg-m	Kg-m	
14	Tepi kiri	0,184	-1341,362	-116,433	-116,433	116,433	1,958	1,958	-247,83	-300,394		
	1/4 L	1,342	351,418	30,503	30,503				-176,26	-212,58		
	1/2 L	2,5	1038,794	90,167	90,167				-18,86	-18,26		
	3/4 L	3,658	396,37	34,405	34,405				138,54	176,06		
	Tepi kanan	4,816	-1251,488	-108,628	-108,628				210,11	264,42		
13	Tepi kiri	0,185	-3582,404	-310,953	-310,953	338,468	1,999	1,999	-2253,15	-720,36		
	1/4 L	1,342	1114,833	96,768	96,768				-1190,52	-499,4		
	1/2 L	2,489	2821,761	244,929	244,929				78,39	-14		
	3/4 L	3,656	956,963	83,067	83,067				1347,4	471,54		
	Tepi kanan	4,813	-3699,4	-338,468	-338,468				2410,32	692,86		
12	Tepi kiri	0,187	-3699,521	-321,118	-321,118	330,617	2,010	2,010	-2279,04	-723,89		
	1/4 L	1,34	1022,206	88,727	88,727				-1219,72	-503,74		
	1/2 L	2,484	2773,403	240,731	240,731				45,13	-20,08		
	3/4 L	3,647	974,02	84,545	84,545				1310,96	464,85		
	Tepi kanan	4,801	-3808,952	-330,617	-330,617				2373,16	688,86		
11	Tepi kiri	0,187	-3742,283	-324,830	-324,830	328,238	2,011	2,011	-2283,09	-726,43		
	1/4 L	1,34	956,937	86,538	86,538				-1223,77	-506,28		
	1/2 L	2,494	2765,726	240,065	240,065				41,08	-22,63		
	3/4 L	3,647	983,886	85,401	85,401				1306,93	462,3		
	Tepi kanan	4,801	-3781,544	-328,238	-328,238				2369,11	686,12		
10	Tepi kiri	0,187	-3743,684	-324,952	-324,952	327,992	2,010	2,010	-2285,18	-725,63		
	1/4 L	1,34	956,645	86,509	86,509				-1225,86	-505,48		
	1/2 L	2,494	2766,444	240,127	240,127				39	-21,82		
	3/4 L	3,647	985,652	85,555	85,555				1304,85	463,11		
	Tepi kanan	4,801	-3778,708	-327,992	-327,992				2367,02	686,92		
9	Tepi kiri	0,187	-3723,88	-323,233	-323,233	328,898	2,008	2,008	-2284,33	-723,41		
	1/4 L	1,34	1008,889	87,572	87,572				-1225,01	-503,26		
	1/2 L	2,494	2771,128	240,534	240,534				36,84	-19,6		
	3/4 L	3,647	982,786	85,306	85,306				1305,69	465,33		
	Tepi kanan	4,801	-3789,144	-328,898	-328,898				2367,87	689,14		
8	Tepi kiri	0,197	-3736,435	-324,323	-324,323	327,264	2,015	2,015	-2286,65	-724,27		
	1/4 L	1,348	988,056	86,850	86,850				-1227,67	-502,05		
	1/2 L	2,499	2748,874	238,802	238,802				34,96	-18,73		
	3/4 L	3,65	973,408	84,492	84,492				1297,79	464,84		
	Tepi kanan	4,801	-3770,327	-327,264	-327,264				2357,35	687,79		

PERHITUNGAN FAKTOR PENGALI MOMEN  
Balok B2

Lantai	Lokasi (m)	B2-BSF						Momen		Cb	Cb pakai	B2-BSF	
		1,2D+1,6L						Kip-In	Mub			Vd	Vl
		Kg-m	Kip-In	Kg-m	Kip-In	Kg-m	Kg-m						
7	Tepi kiri	0,197	-3767,605	-328,764	328,764	2,035	2,035	-2285	-1236,02	-725,28	-503,06		
	1/4 L	1,348	955,087	82,902				26,62	1269,45	463,82			
	1/2 L	2,499	2732,106	237,147				2349	696,78				
	3/4 L	3,65	973,841	84,529				-2282,87	-721,7	-489,48			
6	Tepi kanan	4,801	-3752,653	-325,734	327,729	2,026	2,026	28,74	1291,58	467,4			
	Tepi kiri	0,197	-3757,444	-326,146				1291,58	467,4				
	1/4 L	1,348	971,961	84,366				2351,13	690,36				
	1/2 L	2,499	2735,693	237,498				-2260,88	-717,53	-485,31			
5	3/4 L	3,65	964,141	83,667				30,74	11,99				
	Tepi kanan	4,801	-3775,68	-327,729				1293,57	471,57				
	Tepi kiri	0,197	-3726,672	-323,475	330,351	2,031	2,031	2353,12	694,53				
	1/4 L	1,348	987,488	85,714				-2289,5	-713,3	-486,52			
4	1/2 L	2,499	2735,975	237,483				31,59	-7,82				
	3/4 L	3,65	948,179	82,389				1263,27	475,53				
	Tepi kanan	4,801	-3805,887	-330,351				2352,45	688,54				
	Tepi kiri	0,198	-3700,243	-321,181	332,568	2,039	2,039	-2290,41	-710,04	-487,67			
3	1/4 L	1,348	996,489	86,485				1231,8	30,18	4,57			
	1/2 L	2,499	2730,073	236,970				1282,36	478,79				
	3/4 L	3,649	932,195	80,915				2351,54	701,89				
	Tepi kanan	4,799	-3831,424	-332,568				-2291,36	-706,11	-483,74			
2	Tepi kiri	0,198	-3690,923	-320,372	333,928	2,044	2,044	26,23	0,53				
	1/4 L	1,348	989,561	86,762				1291,41	482,72				
	1/2 L	2,499	2726,885	236,894				2350,56	705,83				
	3/4 L	3,649	922,769	80,096				-2274,9	-695,7	-473,33			
1	Tepi kanan	4,799	-3647,099	-333,928				45,89	9,77				
	Tepi kiri	0,198	-3679,67	-319,395	336,034	2,053	2,053	1216,28	473,33				
	1/4 L	1,348	1001,937	86,968				45,89	9,77				
	1/2 L	2,499	2720,365	236,130				1307,87	493,13				
	3/4 L	3,649	907,392	78,762				2367,05	716,23				
	Tepi kanan	4,799	-3871,354	-336,034									
	Tepi kiri	0,198	-3540,812	-307,342	342,757	2,045	2,045						
	1/4 L	1,348	1086,715	94,327									
	1/2 L	2,499	2751,093	238,795									
	3/4 L	3,649	884,011	76,732									
	Tepi kanan	4,799	-3948,814	-342,757									

PERHITUNGAN FAKTOR PENGALI MOMEN

Balok B3

Lantai	Lokasi (m)	Balok BSF										Balok BSF					
		Momen										Cb	Cb pakai	Vd	VI	Va	
		1,2D+0,5L+E		1,2D+1,8L		Mub		Kg-m	Kg-m	Kg-m	Kg-m						
14	Tepi Kiri	0,187	-584,19	-515,695	-7954,379	-690,440	745,865					1,941	1,941	-884,53	-1134,1	186,08	1,941
	1/4 L	1,846	1757,331	152,536	1698,467	164,787				-612,84	-798,8	186,08					
	1/2 L	3,5	6417,247	557,017	7987,88	693,348				-391,23	-525,09	186,08					
	3/4 L	5,163	975,408	84,655	1566,318	135,956				530,15	612,41	186,08					
	lepi kanan	6,802	-7484,262	-648,634	-8592,916	-745,865				754,25	886,08	186,08					
13	Tepi Kiri	0,189	-9389,971	-815,049	-16866,028	-1463,971	1908,244	2,051	2,051	-4952,86	-2879,09	1136,48	2,051	2,051	-2035,52	1136,48	1136,48
	1/4 L	1,854	5117,19	444,172	4194,906	364,118				-2932,03	-1367,78	1136,48					
	1/2 L	3,5	12242,698	1082,666	16059,931	1394,002				-1136,42	-1485,97	1136,48					
	3/4 L	5,162	756,029	65,623	3324,959	288,606				1081,71	1485,97	1136,48					
	lepi kanan	6,816	-18055,776	-1567,241	-18528,151	-1608,244				2888,68	2176,31	1136,48					
12	Tepi Kiri	0,203	-6039,756	-524,251	-16216,918	-1407,620	1903,925	2,169	2,169	-4753,89	-2816,15	2031,19	2,169	2,169	-1972,44	2031,19	2031,19
	1/4 L	1,854	6620,135	574,628	4346,081	377,240				-2625,4	-1295,22	2031,19					
	1/2 L	3,5	11925,829	1035,162	15748,438	1366,964				-1030,68	-1548,53	2031,19					
	3/4 L	5,156	-1346,072	-116,639	2603,087	225,946				1187,44	1548,53	2031,19					
	lepi kanan	6,807	-21934,626	-1903,926	-19651,142	-1705,719				2956,52	2234,13	2031,19					
11	Tepi Kiri	0,203	-6027,681	-523,203	-16130,313	-1400,111	1921,261	2,181	2,181	-4737,63	-2840,58	2015,96	2,181	2,181	-1960,87	2015,96	2015,96
	1/4 L	1,854	6579,262	571,080	4333,465	376,146				-2800,13	-1283,65	2015,96					
	1/2 L	3,5	11832,169	1027,032	15637,046	1357,296				-1014,42	-1560,1	2015,96					
	3/4 L	5,156	-1492,943	-128,579	2392,29	207,651				3012,78	2245,7	2015,96					
	lepi kanan	6,807	-22134,347	-1921,261	-19961,041	-1732,618				4919,26	3070,46	2015,96					
10	Tepi Kiri	0,203	-7052,589	-612,165	-16295,597	-1414,457	1925,750	2,171	2,171	-4750,36	-2816,74	1737,15	2,171	2,171	-1973,02	1737,15	1737,15
	1/4 L	1,854	6085,672	528,236	4261,322	369,893				-2621,86	-1285,81	1737,15					
	1/2 L	3,5	11868,263	1030,165	15657,707	1359,089				-1027,18	-1547,84	1737,15					
	3/4 L	5,156	-923,796	-80,185	2906,348	217,591				1190,95	1547,84	1737,15					
	lepi kanan	6,807	-21033,981	-1825,750	-19753,872	-1714,636				3000,03	2233,54	1737,15					
9	Tepi Kiri	0,203	-5385,533	-467,464	-16486,961	-1428,332	1974,530	2,181	2,181	-4762,51	-2828,52	2286,86	2,181	2,181	-1984,81	2286,86	2286,86
	1/4 L	1,854	6907,449	599,567	4176,899	362,555				-2834,01	-1307,59	2286,86					
	1/2 L	3,5	11847,361	1028,351	15659,967	1359,285				-1176,63	-1536,16	2286,86					
	3/4 L	5,156	-1792,578	-155,586	2996,826	225,318				2267,9	2221,76	2286,86					
	lepi kanan	6,807	-22748,042	-1974,530	-19577,443	-1696,322				4910,54	3069,87	2286,86					
8	Tepi Kiri	0,208	-2257,67	-195,966	-16307,672	-1416,721	2246,664	2,192	2,192	-4755,97	-2823,03	3228,86	2,192	2,192	-1977,45	3228,86	3228,86
	1/4 L	1,857	8472,634	736,425	4296,634	371,993				-2827,76	-1302,62	3228,86					
	1/2 L	3,5	11847,92	1028,399	15726,741	1365,081				-1037,07	-1541,13	3228,86					
	3/4 L	5,154	-3361,212	-281,753	2639,775	228,132				1181,05	1541,13	3228,86					
	lepi kanan	6,803	-25883,228	-2246,664	-19555,414	-1697,410				2967,86	2225,41	3228,86					

# LAMPIRAN B-1-1

## PERHITUNGAN FAKTOR PENGALI MOMEN

### Balok B3

Lantai	Lokasi (m)	BS-BSF										BS-BSF					
		1,2D+0,5L+E					Momen					Mub	Ch	Cb pakai	Vd	Vi	Ve
		Kg-m	Kip-in	Kg-m	Kip-in	1,2D+1,6L	Kg-m	Kip-in	Kg-m	Kip-in	Kg-m						
7	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,208 1,857 3,5 5,154 6,803	-3828,496 7692,921 11856,577 -2558,701 -24289,604	-332,313 667,746 1029,151 1029,151 -2108,338	-16511,299 4172,69 15690,214 1361,911 -1887,245	-1433,181 362,189 1361,911 232,641 -1687,245	2,186	2,186	2,186	2,186	2,186	2108,338	2,186	2,186	2,186	2834,12 1988,55 2783,33 1530,63 2214,32 3051,5	2783,33 2783,33 2783,33 2783,33 2783,33 2783,33
6	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,208 1,857 3,5 5,154 6,803	-5845,722 6690,695 11883,803 -1503,924 -22210,826	-507,409 581,534 1031,514 1031,514 -130,541	-16818,169 4020,908 15692,98 15692,98 2638,587	-1459,817 349,015 1362,151 1362,151 246,389	2,175	2,175	2,175	2,175	1927,900	2,175	2,175	2,175	4766,4 2010,01 1335,15 1524,5 2927,45 3630,15	2232,73 2232,73 2232,73 2232,73 2232,73 2232,73	
5	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,208 1,857 3,5 5,154 6,803	-4788,53 7220,892 11870,841 -2054,75 -23297,659	-415,644 626,773 1030,389 1030,389 -178,352	-17159,851 3851,932 15696,114 15696,114 3015,026	-1489,475 334,348 1362,423 1362,423 261,704	2,181	2,181	2,181	2,181	2022,237	2,181	2,181	2,181	4873,21 2879,42 2033,86 1369,42 494,73 2165,12 3026,1	2636,34 2636,34 2636,34 2636,34 2636,34 2636,34	
4	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,212 1,859 3,5 5,153 6,801	-1783,838 8708,977 11859,835 -3559,023 -26273,105	-154,837 785,939 1029,347 1029,347 -308,923	-17262,19 3825,654 15756,659 15756,659 3193,187	-1496,358 332,067 1367,878 1367,878 277,169	2,151	2,151	2,151	2,151	2280,536	2,151	2,151	2,151	4623,31 2862,41 2045,66 1372,92 1192,21 2573,17 3026,1	3594,93 3594,93 3594,93 3594,93 3594,93 3594,93	
3	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,212 1,859 3,5 5,153 6,801	-3497,72 7862,535 11876,487 -2670,587 -24517,23	-303,602 682,468 1030,879 1030,879 -231,807	-1746,84 3616,505 15726,327 15726,327 3341,04	-1531,746 314,086 1365,045 1365,045 290,002	2,183	2,183	2,183	2,183	2128,096	2,183	2,183	2,183	4644,53 292,43 1398,35 1442,4 2862,73 2966,71	3594,93 3147,97 3147,97 3147,97 3147,97 3147,97	
2	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,212 1,859 3,5 5,153 6,801	-6143,148 6543,705 11879,141 -1336,222 -1897,256	-533,225 567,994 1031,109 1031,109 -115,984	-18103,9 3373,53 15692,617 15692,617 3520,233	-1571,419 292,802 1362,119 1362,119 305,556	2,172	2,172	2,172	2,172	1897,124	2,172	2,172	2,172	4811,59 2948,66 2101,72 1428,56 1415,11 2298,51	2437,97 2437,97 2437,97 2437,97 2437,97 2437,97	
1	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,212 1,859 3,5 5,153 6,801	-7430,619 5978,718 12033,853 -456,24 -20263,801	-644,978 518,953 1044,538 1044,538 -39,602	-1650,525 3069,726 15669,852 15669,852 4162,073	-1636,226 268,188 1377,503 1377,503 361,268	2,144	2,144	2,144	2,144	1758,030	2,144	2,144	2,144	4544,34 3327,65 2164,41 1491,31 563,55 4811,27	2211,36 2211,36 2211,36 2211,36 2211,36 2211,36	

PERHITUNGAN FAKTOR PENGALI MOMEN  
Balok B4

Lantai	Lokasi (m)	Momen				Ba-BSF		Ba-BSF	
		1,2D+1,6L		Mub	Cb	Cb pakai	Vd	Vi	
		Kg-m	Kip-In						Kg-m
14	Tepi kiri	0,185	-3030,117	-263,014	2,190	2,190	-518,72	-647,66	
	1/4 L	1,342	489,482	42,487			-375,54	-470,9	
	1/2 L	2,499	2063,09	179,076			-60,99	-82,57	
	3/4 L	3,656	1043,442	90,571			253,63	305,66	
13	Tepi kanan	4,813	-1923,663	-166,974			397,05	482,92	
	Tepi kiri	0,187	-6690,255	-580,714	2,161	2,161	-2868,81	-1519,25	
	1/4 L	1,34	1257,618	105,161			-1638,19	-1078,16	
	1/2 L	2,493	4548,682	394,826			3,4	-112,2	
12	3/4 L	3,646	2622,847	175,563			1647,19	857,68	
	Tepi kanan	4,799	-5188,508	-450,362			2984,1	1305,72	
	Tepi kiri	0,198	-8983,007	-598,313	2,244	2,244	-2904,4	-1635,77	
	1/4 L	1,348	1108,465	96,215			-1672,75	-1091,23	
11	1/2 L	2,498	4460,843	387,201			-34,46	-125,37	
	3/4 L	3,648	2027,564	175,997			1604,42	841,25	
	Tepi kanan	4,798	-5062,705	-438,443			2837,75	1287,98	
	Tepi kiri	0,196	-6934,049	-601,875	2,261	2,261	-2907,61	-1536,75	
10	1/4 L	1,346	1077,616	93,537			-1675,36	-1092,21	
	1/2 L	2,496	4440,167	385,408			-37,37	-126,35	
	3/4 L	3,646	2017,041	175,079			1601,61	840,27	
	Tepi kanan	4,798	-5062,974	-439,466			2835,17	1287	
9	Tepi kiri	0,196	-6663,857	-595,783	2,241	2,241	-2902,29	-1529,42	
	1/4 L	1,348	1114,652	96,752			-1670,64	-1084,88	
	1/2 L	2,496	4444,065	385,745			-32,35	-119,02	
	3/4 L	3,648	1987,762	172,538			1606,53	847,6	
8	Tepi kanan	4,798	-5125,411	-444,885			2836,85	1294,33	
	Tepi kiri	0,198	-6783,697	-589,693	2,222	2,222	-2867,57	-1521,34	
	1/4 L	1,348	1150,218	99,839			-1665,51	-1076,8	
	1/2 L	2,498	4445,039	385,828			-27,53	-110,94	
	3/4 L	3,648	1954,143	169,620			1611,25	855,68	
	Tepi kanan	4,796	-5183,623	-450,806			2844,51	1302,41	
	Tepi kiri	0,199	-6796,31	-584,885	2,211	2,211	-2864,55	-1513,78	
	1/4 L	1,349	1170,578	101,606			-1663,15	-1068,95	
	1/2 L	2,498	4434,01	384,872			-25,69	-103,52	
	3/4 L	3,647	1917,951	166,479			1612,27	862,69	
	Tepi kanan	4,797	-5251,307	-455,813			2845,46	1309,7	



PERHITUNGAN FAKTOR PENGALI MOMEN  
Balok B4

Lantai	Lokasi (m)	Balok B4-BSF						Balok B4-BSF			
		Momen						Cs	Cs pakai	Vd	Vi
		1,2D+1,6L		Mub	Kp-h	Kp-m	Kp-h				
7	Tepi kiri	0,199	-6665,747					-580,323	560,323	2,200	2,200
	1/4 L	1,349	1191,859	103,453				-1660,87	-1060,72		
	1/2 L	2,498	4424,01	384,004				-23,41	-95,29		
	3/4 L	3,647	1876,68	162,886				1614,65	870,91		
6	Tepi kanan	4,797	-5323,87	-462,112				2847,76	1317,93		
	Tepi kiri	0,199	-6568,788	-569,997	569,997	2,167	2,167	-2683,13	-1491,86		
	1/4 L	1,349	1231,858	108,661				-1651,73	-1047,02		
	1/2 L	2,498	4425,049	384,094				-14,27	-81,59		
5	3/4 L	3,647	1818,759	157,968				162,379	884,6		
	Tepi kanan	4,797	-5440,751	-472,257				2856,9	1331,53		
	Tepi kiri	0,199	-6490,395	-558,853	558,853	2,132	2,132	-2873,76	-1478,87		
	1/4 L	1,349	1316,551	114,277				-1642,36	-1032,03		
4	1/2 L	2,498	4426,041	384,180				-4,89	-66,6		
	3/4 L	3,647	1756,05	152,425				1633,16	895,59		
	Tepi kanan	4,797	-5567,16	-483,229				2866,27	1346,62		
	Tepi kiri	0,199	-6333,093	-545,712	549,712	2,106	2,106	-2866,51	-1462,29		
3	1/4 L	1,348	1362,504	118,265				-1635,92	-1017,66		
	1/2 L	2,497	4415,762	383,288				1,03	-52,57		
	3/4 L	3,646	1692,658	146,923				1636,78	913,53		
	Tepi kanan	4,796	-5663,132	-493,296				2872,04	1361,07		
2	Tepi kiri	0,199	-6218,871	-539,798	539,798	2,076	2,076	-2859,57	-1447,19		
	1/4 L	1,348	1416,777	122,976				-1628,68	-1002,56		
	1/2 L	2,497	4410,085	382,795				8,27	-37,47		
	3/4 L	3,646	1627,03	141,226				1646,02	928,63		
1	Tepi kanan	4,796	-5808,71	-504,196				2879,28	1376,17		
	Tepi kiri	0,199	-6094,172	-528,974	528,974	2,045	2,045	-2851,36	-1430,08		
	1/4 L	1,348	1473,757	127,922				-1620,36	-985,46		
	1/2 L	2,497	4399,346	381,863				16,58	-20,37		
1	3/4 L	3,646	1548,572	134,416				1654,32	945,74		
	Tepi kanan	4,796	-5564,886	-516,884				2887,58	1393,28		
	Tepi kiri	0,199	-5774,624	-501,237	506,370	2,022	2,022	-2822,64	-1400,89		
	1/4 L	1,348	1657,295	143,853				-1591,65	-956,27		
1	1/2 L	2,497	4446,873	386,989				45,3	6,82		
	3/4 L	3,646	1460,089	126,736				1683,04	974,93		
	Tepi kanan	4,796	-6179,38	-536,370				2916,31	1422,47		

# LAMPIRAN B-1-2

## PERHITUNGAN MOMEN RENCANA BALOK (Mu,b)

Balok B1

Lantai	Profil	Mp (K-in)		L (in)	Lb (in)		Lp (in)	X1	X2	Lr (in)	Keterangan (bentang)	Cb	Mr (K-in)	Mn (K-in)	Mn pakai (K-in)	Mn (K-in)	Mu.b (K-in)	Cek Kapasitas	Rasio		Kontrol Δ	
		Kel	Kel		In	max		In	max													
14	W16X31	1944,00	1740,38	275,59	137,80	58,27	63,62	0,02	169,56	2,10	Lp<L<=LR	2,10	1226,41	3006,39	1944,00	1749,60	413,79	aman	0,24	0,30	1,15	aman
13	W18X35	2394,00	1585,22	275,59	137,80	60,94	63,62	0,03	175,17	2,10	Lp<L<=LR	2,10	1498,30	3760,32	2394,00	2154,60	956,75	aman	0,44	0,51	0,77	aman
12	W18X40	2822,40	1809,16	275,59	137,80	63,62	63,62	0,02	187,37	2,11	Lp<L<=LR	2,11	1777,88	4628,41	2822,40	2540,16	946,86	aman	0,37	0,43	0,77	aman
11	W18X40	2822,40	1809,16	275,59	137,80	63,62	63,62	0,02	187,37	2,10	Lp<L<=LR	2,10	1777,88	4617,76	2822,40	2540,16	942,20	aman	0,37	0,43	0,77	aman
10	W18X40	2822,40	1809,16	275,59	137,80	63,62	63,62	0,02	187,37	2,10	Lp<L<=LR	2,10	1777,88	4612,11	2822,40	2540,16	943,00	aman	0,37	0,43	0,77	aman
9	W18X40	2822,40	1809,16	275,59	137,80	63,62	63,62	0,02	187,37	2,11	Lp<L<=LR	2,11	1777,88	4628,40	2822,40	2540,16	946,41	aman	0,37	0,43	0,77	aman
8	W21X44	3434,40	1554,36	275,59	137,80	63,10	63,10	0,03	183,73	2,23	Lp<L<=LR	2,23	2117,68	5843,81	3434,40	3090,96	1078,11	aman	0,35	0,31	0,77	aman
7	W21X44	3434,40	1554,36	275,59	137,80	63,10	63,10	0,03	183,73	2,20	Lp<L<=LR	2,20	2117,68	570,78	3434,40	3090,96	1017,83	aman	0,33	0,31	0,77	aman
6	W21X44	3434,40	1554,36	275,59	137,80	63,10	63,10	0,03	183,73	2,10	Lp<L<=LR	2,10	2117,68	5505,50	3434,40	3090,96	944,90	aman	0,31	0,31	0,77	aman
5	W21X44	3434,40	1554,36	275,59	137,80	63,10	63,10	0,03	183,73	2,20	Lp<L<=LR	2,20	2117,68	5761,92	3434,40	3090,96	1018,92	aman	0,33	0,31	0,77	aman
4	W21X48	3852,00	1446,13	275,59	137,80	82,84	82,84	0,04	232,42	2,24	Lp<L<=LR	2,24	2420,78	7439,17	3852,00	3466,80	1175,89	aman	0,34	0,27	0,77	aman
3	W21X48	3852,00	1446,13	275,59	137,80	82,84	82,84	0,04	232,42	2,23	Lp<L<=LR	2,23	2420,78	7416,71	3852,00	3466,80	1153,11	aman	0,33	0,27	0,77	aman
2	W21X48	3852,00	1446,13	275,59	137,80	82,84	82,84	0,04	232,42	2,22	Lp<L<=LR	2,22	2420,78	7394,50	3852,00	3466,80	1076,20	aman	0,31	0,27	0,77	aman
1	W21X48	3852,00	1446,13	275,59	137,80	82,84	82,84	0,04	232,42	2,20	Lp<L<=LR	2,20	2420,78	7320,22	3852,00	3466,80	1077,11	aman	0,31	0,24	0,77	aman

Balok B2

Lantai	Profil	Mp (K-in)		L (in)	Lb (in)		Lp (in)	X1	X2	Lr (in)	Keterangan (bentang)	Cb	Mr (K-in)	Mn (K-in)	Mn pakai (K-in)	Mn (K-in)	Mu.b (K-in)	Cek Kapasitas	Rasio		Kontrol Δ	
		Kel	Kel		In	max		In	max													
14	W12X26	1339,20	1812,65	196,85	196,85	75,15	75,15	0,01	213,88	1,96	Lp<L<=LR	1,96	869,51	1815,53	1339,20	1205,28	116,43	aman	0,10	0,08	0,82	aman
13	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,00	Lp<L<=LR	2,00	869,51	1853,67	1339,20	1205,28	338,47	aman	0,28	0,21	0,55	aman
12	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,01	Lp<L<=LR	2,01	869,51	1863,99	1339,20	1205,28	330,62	aman	0,27	0,21	0,55	aman
11	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,01	Lp<L<=LR	2,01	869,51	1864,35	1339,20	1205,28	328,24	aman	0,27	0,21	0,55	aman
10	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,01	Lp<L<=LR	2,01	869,51	1863,96	1339,20	1205,28	327,99	aman	0,27	0,21	0,55	aman
9	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,01	Lp<L<=LR	2,01	869,51	1862,95	1339,20	1205,28	328,90	aman	0,27	0,21	0,55	aman
8	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,02	Lp<L<=LR	2,02	869,51	1866,29	1339,20	1205,28	327,26	aman	0,27	0,21	0,55	aman
7	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,04	Lp<L<=LR	2,04	869,51	1887,00	1339,20	1205,28	327,76	aman	0,27	0,21	0,55	aman
6	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,03	Lp<L<=LR	2,03	869,51	1878,22	1339,20	1205,28	327,73	aman	0,27	0,21	0,55	aman
5	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,03	Lp<L<=LR	2,03	869,51	1883,29	1339,20	1205,28	330,35	aman	0,27	0,21	0,55	aman
4	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,04	Lp<L<=LR	2,04	869,51	1890,50	1339,20	1205,28	332,57	aman	0,28	0,21	0,55	aman
3	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,04	Lp<L<=LR	2,04	869,51	1895,35	1339,20	1205,28	333,93	aman	0,28	0,21	0,55	aman
2	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,05	Lp<L<=LR	2,05	869,51	1903,92	1339,20	1205,28	336,03	aman	0,28	0,21	0,55	aman
1	W12X26	1339,20	1812,65	196,85	196,85	75,19	75,19	0,01	213,88	2,05	Lp<L<=LR	2,05	869,51	1896,09	1339,20	1205,28	342,76	aman	0,28	0,21	0,55	aman

# LAMPIRAN B-1-2

## PERHITUNGAN MOMEN RENCANA BALOK (Mu,b)

Balok B3

Lantai	Profil	Mp (K-in)		L	Lp		Lr	Keterangan (bentang)		Cb	Mr (K-in)	Min (K-in)	Min pakai (K-in)	M <sub>u,b</sub> (K-in)	Cek Kapasitas	Rasio	Kontrol Δ		
		In	Out		In	Out		In	max								Cek		
14	W18X35	2394.00	137.80	275.59	60.94	137.80	175.17	1.94	Lp<=L<=Lr	1.94	1498.30	3476.32	2394.00	745.87	aman	0.35	0.45	1.15	aman
13	W21X48	3852.00	137.80	275.59	82.84	137.80	232.42	2.05	Lp<=L<=Lr	2.05	2420.78	6822.53	3852.00	1608.24	aman	0.46	0.48	0.77	aman
12	W21X50	3960.00	137.80	275.59	65.08	137.80	192.55	2.17	Lp<=L<=Lr	2.17	2460.00	6731.69	3960.00	1903.93	aman	0.53	0.47	0.77	aman
11	W21X50	3960.00	137.80	275.59	65.08	137.80	192.55	2.18	Lp<=L<=Lr	2.18	2460.00	6769.30	3960.00	1921.26	aman	0.54	0.46	0.77	aman
10	W21X50	3960.00	137.80	275.59	65.08	137.80	192.55	2.17	Lp<=L<=Lr	2.17	2460.00	6740.61	3960.00	1825.75	aman	0.51	0.46	0.77	aman
9	W21X55	4536.00	137.80	275.59	86.43	137.80	192.55	2.18	Lp<=L<=Lr	2.18	2460.00	6771.33	4536.00	1974.53	aman	0.55	0.46	0.77	aman
8	W21X55	4536.00	137.80	275.59	86.43	137.80	247.48	2.19	Lp<=L<=Lr	2.19	2860.00	8764.05	4536.00	2246.66	aman	0.55	0.40	0.77	aman
7	W21X55	4536.00	137.80	275.59	86.43	137.80	247.48	2.19	Lp<=L<=Lr	2.19	2860.00	8739.34	4536.00	2108.34	aman	0.52	0.40	0.77	aman
6	W21X55	4536.00	137.80	275.59	86.43	137.80	247.48	2.17	Lp<=L<=Lr	2.17	2860.00	8694.44	4536.00	1927.90	aman	0.47	0.40	0.77	aman
5	W21X55	4536.00	137.80	275.59	86.43	137.80	247.48	2.18	Lp<=L<=Lr	2.18	2860.00	8716.28	4536.00	2022.24	aman	0.50	0.40	0.77	aman
4	W24X55	4860.00	137.80	275.59	66.81	137.80	195.49	2.19	Lp<=L<=Lr	2.19	2996.61	8394.32	4860.00	2280.51	aman	0.52	0.34	0.77	aman
3	W24X55	4860.00	137.80	275.59	66.81	137.80	195.49	2.18	Lp<=L<=Lr	2.18	2996.61	8364.68	4860.00	2128.10	aman	0.49	0.34	0.77	aman
2	W24X55	4860.00	137.80	275.59	66.81	137.80	195.49	2.17	Lp<=L<=Lr	2.17	2996.61	8322.34	4860.00	1897.12	aman	0.43	0.34	0.77	aman
1	W24X55	4860.00	137.80	275.59	66.81	137.80	195.49	2.14	Lp<=L<=Lr	2.14	2996.61	8216.55	4860.00	1758.03	aman	0.40	0.30	0.77	aman

Balok B4

Lantai	Profil	Mp (K-in)		L	Lp		Lr	Keterangan (bentang)		Cb	Mr (K-in)	Min (K-in)	Min pakai (K-in)	M <sub>u,b</sub> (K-in)	Cek Kapasitas	Rasio	Kontrol Δ		
		In	Out		In	Out		In	max								Cek		
14	W12X26	1339.20	196.85	196.85	75.19	196.85	213.88	2.19	Lp<=L<=Lr	2.19	889.51	2030.39	1339.20	263.01	aman	0.22	0.15	0.82	aman
13	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.16	Lp<=L<=Lr	2.16	1006.18	2408.69	1551.60	580.71	aman	0.42	0.29	0.55	aman
12	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.24	Lp<=L<=Lr	2.24	1006.18	2500.55	1551.60	598.31	aman	0.43	0.29	0.55	aman
11	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.26	Lp<=L<=Lr	2.26	1006.18	2520.20	1551.60	601.88	aman	0.43	0.29	0.55	aman
10	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.24	Lp<=L<=Lr	2.24	1006.18	2497.87	1551.60	595.78	aman	0.43	0.29	0.55	aman
9	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.22	Lp<=L<=Lr	2.22	1006.18	2476.53	1551.60	589.69	aman	0.42	0.29	0.55	aman
8	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.21	Lp<=L<=Lr	2.21	1006.18	2464.18	1551.60	584.89	aman	0.42	0.29	0.55	aman
7	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.20	Lp<=L<=Lr	2.20	1006.18	2451.88	1551.60	580.32	aman	0.42	0.29	0.55	aman
6	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.17	Lp<=L<=Lr	2.17	1006.18	2415.45	1551.60	570.00	aman	0.41	0.29	0.55	aman
5	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.13	Lp<=L<=Lr	2.13	1006.18	2375.94	1551.60	558.85	aman	0.40	0.29	0.55	aman
4	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.11	Lp<=L<=Lr	2.11	1006.18	2347.44	1551.60	549.71	aman	0.39	0.29	0.55	aman
3	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.08	Lp<=L<=Lr	2.08	1006.18	2314.05	1551.60	539.80	aman	0.39	0.28	0.55	aman
2	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.04	Lp<=L<=Lr	2.04	1006.18	2276.84	1551.60	528.97	aman	0.38	0.28	0.55	aman
1	W12X30	1551.60	196.85	196.85	75.99	196.85	226.79	2.02	Lp<=L<=Lr	2.02	1006.18	2253.02	1551.60	536.37	aman	0.38	0.29	0.55	aman

# LAMPIRAN B-1-3

## PERHITUNGAN GAYA GESER RENCANA BALOK (Vu)

**Balok B1**

Lantai	Profil	L' (in)	Geser Balok (Kips)			Mpb (K-in)	Geser Rencana (Kips)		Vu pakai (Kips)	
			VD	VL	VE/kl		Pers (1)	Pers (2)		
14	W16X31	261,696063	1,12	1,30	-0,79	2138,4	18,35	5,16	2659,06	5,16
13	W18X35	261,1417323	8,02	3,21	-0,29	2633,4	31,40	12,41	5909,91	12,41
12	W18X40	260,8267717	8,08	3,23	0,81	3104,64	35,12	14,55	6928,51	14,55
11	W18X40	260,8267717	8,10	3,24	0,79	3104,64	35,14	14,51	6909,77	14,51
10	W18X40	260,8267717	8,10	3,24	0,41	3104,64	35,14	12,98	6183,82	12,98
9	W18X40	260,8267717	8,09	3,23	1,18	3104,64	35,12	16,03	7833,32	16,03
8	W21X44	260,5905512	8,08	3,23	2,51	3777,84	40,30	21,33	10159,64	21,33
7	W21X44	260,5905512	8,08	3,24	2,02	3777,84	40,32	19,41	9242,10	19,41
6	W21X44	260,5905512	8,08	3,23	1,32	3777,84	40,30	16,57	7893,29	16,57
5	W21X44	260,5905512	8,06	3,22	2,12	3777,84	40,27	19,77	9412,83	19,77
4	W21X48	260,3543307	8,03	3,21	3,35	4237,2	43,79	24,66	11741,73	24,66
3	W21X48	260,3543307	8,02	3,20	3,22	4237,2	43,77	24,11	11480,22	24,11
2	W21X48	260,3543307	8,01	3,19	2,68	4237,2	43,75	21,91	10430,64	21,91
1	W21X48	195,2362205	4,40	2,23	2,94	4237,2	49,79	18,15	8756,59	18,15

**Balok B2**

Lantai	Profil	L' (in)	Geser Balok (Kips)			Mpb (K-in)	Geser Rencana (Kips)		Vu pakai (Kips)
			VD	VL	VE/kl		Pers (1)	Pers (2)	
14	W12X26	182,3622047	0,55	0,66		1473,12	17,14	1,27	1,271
13	W12X26	182,2047244	4,97	1,59		1473,12	22,92	6,88	6,884
12	W12X26	181,6535433	5,02	1,60		1473,12	23,05	6,95	6,953
11	W12X26	181,6535433	5,03	1,60		1473,12	23,06	6,97	6,968
10	W12X26	181,6535433	5,04	1,60		1473,12	23,06	6,97	6,971
9	W12X26	181,6535433	5,04	1,59		1473,12	23,06	6,96	6,964
8	W12X26	181,2598425	5,04	1,60		1473,12	23,10	6,97	6,971
7	W12X26	181,2598425	5,06	1,60		1473,12	23,12	6,99	6,993
6	W12X26	181,2598425	5,05	1,59		1473,12	23,11	6,98	6,979
5	W12X26	181,2598425	5,05	1,58		1473,12	23,11	6,96	6,965
4	W12X26	181,1417323	5,05	1,57		1473,12	23,11	6,95	6,952
3	W12X26	181,1417323	5,05	1,57		1473,12	23,11	6,95	6,947
2	W12X26	181,1417323	5,05	1,56		1473,12	23,10	6,94	6,940
1	W12X26	181,1417323	5,02	1,53		1473,12	23,05	6,88	6,876

**Balok B3**

Lantai	Profil	L' (in)	Geser Balok (Kips)			Mpb (K-in)	Geser Rencana (Kips)		Vu pakai (Kips)	
			VD	VL	VE/kl		Pers (1)	Pers (2)		
14	W18X35	261,2204724	2,26	2,89	0,41	2633,4	24,22	5,70	3139,27	5,70
13	W21X48	260,511811	10,63	6,63	2,51	4237,2	48,60	26,09	12994,46	26,09
12	W21X50	260	10,85	6,77	4,48	4356	49,90	34,31	16920,20	34,31
11	W21X50	260	10,88	6,79	4,44	4356	49,96	34,23	16885,46	34,23
10	W21X50	260	10,85	6,77	3,83	4356	49,91	31,73	15688,29	31,73
9	W21X50	260	10,83	6,74	5,05	4356	49,87	36,55	17980,38	36,55
8	W21X55	259,6456693	10,82	6,75	7,12	4989,6	54,80	44,84	21932,17	44,84
7	W21X55	259,6456693	10,80	6,73	6,14	4989,6	54,76	40,87	20039,93	40,87
6	W21X55	259,6456693	10,76	6,68	4,92	4989,6	54,68	35,94	17682,30	35,94
5	W21X55	259,6456693	10,70	6,63	5,81	4989,6	54,59	39,41	19326,93	39,41
4	W24X55	259,4094488	10,66	6,60	7,93	5346	57,30	47,79	23316,94	47,79
3	W24X55	259,4094488	10,61	6,54	6,94	5346	57,21	43,76	21388,79	43,76
2	W24X55	259,4094488	10,55	6,47	5,37	5346	57,11	37,39	18346,21	37,39
1	W24X55	194,5275591	6,15	4,49	4,88	5346	64,58	29,12	14354,15	29,12

**Balok B4**

Lantai	Profil	L' (in)	Geser Balok (Kips)			Mpb (K-in)	Geser Rencana (Kips)		Vu pakai (Kips)
			VD	VL	VE/kl		Pers (1)	Pers (2)	
14	W12X26	182,2047244	1,14	1,43		1473,12	18,26	2,70	2,700
13	W12X30	181,5748031	6,32	3,35		1706,76	28,06	10,16	10,159
12	W12X30	181,1023622	6,40	3,39		1706,76	28,22	10,28	10,280
11	W12X30	181,1023622	6,41	3,39		1706,76	28,23	10,29	10,288
10	W12X30	181,1023622	6,40	3,37		1706,76	28,21	10,26	10,261
9	W12X30	181,1023622	6,39	3,35		1706,76	28,19	10,23	10,231
8	W12X30	181,1023622	6,38	3,34		1706,76	28,18	10,20	10,206
7	W12X30	181,1023622	6,38	3,32		1706,76	28,17	10,18	10,182
6	W12X30	181,0236222	6,36	3,29		1706,76	28,13	10,13	10,129
5	W12X30	181,0236222	6,34	3,26		1706,76	28,09	10,07	10,073
4	W12X30	180,984252	6,32	3,22		1706,76	28,06	10,02	10,023
3	W12X30	180,984252	6,30	3,19		1706,76	28,02	9,97	9,971
2	W12X30	180,984252	6,29	3,15		1706,76	27,98	9,91	9,913
1	W12X30	180,984252	6,22	3,09		1706,76	27,87	9,78	9,779

# LAMPIRAN B-1-3

## PERHITUNGAN GAYA GESER RENCANA BALOK (Vu,b)

**BALOK B1**

Lantai	Profil	L' (m)	Geser Balok (Kips)			Mpb (K-in)	Geser Rencana Balok (Kips)			Vu pakat (Kg)	
			VD	VL	VE/Id		Pers (f)	Pers (2)	(Kips)	(Kg)	
14	W18X31	5,44	4,32	1,23	-0,79	2138,40	27,77	8,97	8,97	4067,19	
13	W18X35	5,38	10,79	3,04	-0,29	2633,40	41,82	15,64	15,64	7096,42	
12	W18X40	5,38	10,89	3,06	0,81	3104,64	46,85	17,84	17,84	8090,70	
11	W18X40	5,38	10,93	3,07	0,79	3104,64	46,89	17,82	17,82	8082,06	
10	W18X40	5,38	10,92	3,07	0,41	3104,64	46,88	16,29	16,29	7388,62	
9	W18X40	5,38	10,90	3,06	1,18	3104,64	46,86	19,32	19,32	8765,70	
8	W21X44	5,38	10,94	3,06	2,51	3777,84	53,89	24,68	24,68	11195,16	
7	W21X44	5,38	10,96	3,07	2,02	3777,84	53,92	22,76	22,76	10325,67	
6	W21X44	5,38	10,93	3,06	1,32	3777,84	53,89	19,92	19,92	9035,03	
5	W21X44	5,38	10,13	2,83	1,97	3777,84	52,81	21,47	21,47	9738,12	
4	W21X48	5,38	10,12	2,82	3,12	4237,20	57,57	26,04	26,04	11810,31	
3	W21X48	5,38	10,11	2,82	3,00	4237,20	57,55	25,52	25,52	11575,92	
2	W21X48	5,38	10,09	2,81	2,49	4237,20	57,52	23,46	23,46	10640,49	
1	W21X48	5,38	9,95	2,77	2,73	4237,20	57,34	24,27	24,27	11008,29	

**BALOK B3**

Lantai	Profil	L' (m)	Geser Balok (Kips)			Mpb (K-in)	Geser Rencana Balok (Kg)			Vu pakat (Kg)	
			VD	VL	VE/Id		Pers (f)	Pers (2)	(Kips)	(Kg)	
14	W18X35	5,4	8,47	2,56	0,41	2633,40	38,69	13,08	13,08	5934,79	
13	W21X48	5,32	17,22	6,26	2,51	4237,20	68,30	33,82	33,82	15341,75	
12	W21X50	5,32	17,57	6,40	4,48	4356,00	70,04	42,20	42,20	19142,49	
11	W21X50	5,32	17,65	6,43	4,45	4356,00	70,14	42,17	42,17	19128,87	
10	W21X50	5,32	17,58	6,40	3,83	4356,00	70,05	39,62	39,62	17970,38	
9	W21X50	5,32	17,52	6,37	5,05	4356,00	69,96	44,40	44,40	20137,93	
8	W21X55	5,32	17,58	6,39	7,12	4989,60	76,69	52,76	52,76	23933,73	
7	W21X55	5,32	17,52	6,36	6,14	4989,60	76,62	48,76	48,76	22116,95	
6	W21X55	5,32	16,19	5,87	4,58	4989,60	74,77	40,67	40,67	18448,73	
5	W21X55	5,32	17,29	6,26	5,81	4989,60	76,29	47,13	47,13	21379,87	
4	W24X55	5,32	17,21	6,23	7,93	5346,00	79,93	55,48	55,48	25166,04	
3	W24X55	5,32	17,09	6,17	6,94	5346,00	79,75	51,36	51,36	23298,17	
2	W24X55	5,32	16,94	6,11	5,38	5346,00	79,54	44,89	44,89	20362,21	
1	W24X55	5,32	16,61	5,97	4,88	5346,00	79,07	42,42	42,42	19243,54	

**BALOK B2**

Lantai	Profil	L' (m)	Geser Balok (Kips)		Mpb (K-in)	Geser Rencana Balok (Kips)		Vu pakat (Kg)	
			VD	VL		Pers (f)	Pers (2)	(Kips)	(Kg)
14	W12X26	4,63	2,18	0,66	1473,12	20,72	2,95	2,95	1338,07
13	W12X26	4,63	6,97	1,59	1473,12	26,93	9,16	9,16	4153,08
12	W12X26	4,63	7,01	1,60	1473,12	26,99	9,22	9,22	4180,11
11	W12X26	4,63	7,03	1,60	1473,12	27,01	9,24	9,24	4192,52
10	W12X26	4,63	7,04	1,60	1473,12	27,02	9,25	9,25	4194,33
9	W12X26	4,63	7,03	1,60	1473,12	27,01	9,24	9,24	4190,22
8	W12X26	4,63	7,04	1,60	1473,12	27,02	9,25	9,25	4195,30
7	W12X26	4,63	7,07	1,60	1473,12	27,05	9,28	9,28	4209,14
6	W12X26	4,63	7,06	1,59	1473,12	27,03	9,26	9,26	4201,53
5	W12X26	4,63	7,04	1,58	1473,12	27,02	9,24	9,24	4192,87
4	W12X26	4,63	7,03	1,57	1473,12	27,00	9,23	9,23	4184,75
3	W12X26	4,63	7,03	1,57	1473,12	26,99	9,22	9,22	4182,89
2	W12X26	4,63	7,03	1,56	1473,12	26,99	9,21	9,21	4179,50
1	W12X26	4,63	6,97	1,53	1473,12	26,91	9,14	9,14	4143,93

**BALOK B4**

Lantai	Profil	L' (m)	Geser Balok (Kips)		Mpb (K-in)	Geser Rencana Balok (Kg)		Vu pakat (Kg)	
			VD	VL		Pers (f)	Pers (2)	(Kips)	(Kg)
14	W12X26	4,63	4,40	1,43	1473,12	23,78	5,99	5,99	2717,42
13	W12X30	4,63	10,42	3,35	1706,76	34,79	14,18	14,18	6430,77
12	W12X30	4,63	10,51	3,39	1706,76	34,91	14,30	14,30	6486,61
11	W12X30	4,63	10,52	3,39	1706,76	34,93	14,32	14,32	6494,40
10	W12X30	4,63	10,49	3,37	1706,76	34,88	14,27	14,27	6473,63
9	W12X30	4,63	10,46	3,35	1706,76	34,83	14,22	14,22	6452,43
8	W12X30	4,63	10,43	3,34	1706,76	34,79	14,19	14,19	6434,59
7	W12X30	4,63	10,40	3,32	1706,76	34,75	14,15	14,15	6416,42
6	W12X30	4,63	10,35	3,29	1706,76	34,67	14,07	14,07	6380,18
5	W12X30	4,63	10,29	3,26	1706,76	34,59	13,98	13,98	6341,24
4	W12X30	4,63	10,24	3,22	1706,76	34,51	13,90	13,90	6307,04
3	W12X30	4,63	10,19	3,19	1706,76	34,43	13,83	13,83	6271,46
2	W12X30	4,63	10,13	3,15	1706,76	34,35	13,74	13,74	6231,34
1	W12X30	4,63	10,00	3,09	1706,76	34,16	13,55	13,55	6145,06

# LAMPIRAN B-1-4

## TABEL PERENCANAAN GESER PADA BALOK

B1 (BALOK TEPI)														B3 (BALOK TENGAH)													
Lantai	Profil	Vu Rencana (Kips)	h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)	Cek Geser	Rasio	Lantai	Profil	Vu Rencana (Kips)	h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)	Cek Geser	Rasio								
																				h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)			
14	W16X31	5,160	15,105	0,275	54,93	94,45	85,00	aman	0,06	14	W18X35	5,696	16,815	0,3	56,05	114,70	103,23	aman	0,06								
13	W18X35	12,407	16,815	0,3	56,05	114,70	103,23	aman	0,12	13	W21X48	26,093	19,57	0,35	55,91	155,74	140,16	aman	0,19								
12	W18X40	14,549	17,005	0,315	53,98	121,79	109,61	aman	0,13	12	W21X50	34,311	19,76	0,38	52,00	170,73	153,65	aman	0,22								
11	W18X40	14,508	17,005	0,315	53,98	121,79	109,61	aman	0,13	11	W21X50	34,232	19,76	0,38	52,00	170,73	153,65	aman	0,22								
10	W18X40	12,985	17,005	0,315	53,98	121,79	109,61	aman	0,12	10	W21X50	31,726	19,76	0,38	52,00	170,73	153,65	aman	0,21								
9	W18X40	16,029	17,005	0,315	53,98	121,79	109,61	aman	0,15	9	W21X50	36,547	19,76	0,38	52,00	170,73	153,65	aman	0,21								
8	W21X44	21,332	19,665	0,35	56,19	156,49	140,84	aman	0,15	8	W21X55	44,838	19,76	0,375	52,69	168,48	151,63	aman	0,24								
7	W21X44	19,405	19,665	0,35	56,19	156,49	140,84	aman	0,14	7	W21X55	40,874	19,76	0,375	52,69	168,48	151,63	aman	0,30								
6	W21X44	16,574	19,665	0,35	56,19	156,49	140,84	aman	0,12	6	W21X55	35,938	19,76	0,375	52,69	168,48	151,63	aman	0,27								
5	W21X44	19,766	19,665	0,35	56,19	156,49	140,84	aman	0,14	5	W21X55	39,406	19,76	0,375	52,69	168,48	151,63	aman	0,24								
4	W21X48	24,657	19,57	0,35	55,91	155,74	140,16	aman	0,18	4	W24X55	47,791	19,76	0,395	56,76	201,36	181,22	aman	0,26								
3	W21X48	24,109	19,57	0,35	55,91	155,74	140,16	aman	0,17	3	W24X55	43,760	22,42	0,395	56,76	201,36	181,22	aman	0,26								
2	W21X48	21,907	19,57	0,35	55,91	155,74	140,16	aman	0,16	2	W24X55	37,393	22,42	0,395	56,76	201,36	181,22	aman	0,24								
1	W21X48	18,152	19,57	0,35	55,91	155,74	140,16	aman	0,13	1	W24X55	29,124	22,42	0,395	56,76	201,36	181,22	aman	0,21								

B2 (BALOK TEPI)														B4 (BALOK TENGAH)													
Lantai	Profil	Vu Rencana (Kips)	h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)	Cek Geser	Rasio	Lantai	Profil	Vu Rencana (Kips)	h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)	Cek Geser	Rasio								
																				h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)			
14	W12X26	1,271	11,59	0,23	50,39	60,61	54,55	aman	0,02	14	W12X26	2,700	11,59	0,23	50,39	60,61	54,55	aman	0,05								
13	W12X26	6,884	11,59	0,23	50,39	60,61	54,55	aman	0,13	13	W12X30	10,159	11,685	0,26	44,94	69,08	62,17	aman	0,16								
12	W12X26	6,953	11,59	0,23	50,39	60,61	54,55	aman	0,13	12	W12X30	10,280	11,685	0,26	44,94	69,08	62,17	aman	0,17								
11	W12X26	6,968	11,59	0,23	50,39	60,61	54,55	aman	0,13	11	W12X30	10,288	11,685	0,26	44,94	69,08	62,17	aman	0,17								
10	W12X26	6,571	11,59	0,23	50,39	60,61	54,55	aman	0,13	10	W12X30	10,261	11,685	0,26	44,94	69,08	62,17	aman	0,17								
9	W12X26	6,964	11,59	0,23	50,39	60,61	54,55	aman	0,13	9	W12X30	10,231	11,685	0,26	44,94	69,08	62,17	aman	0,16								
8	W12X26	6,971	11,59	0,23	50,39	60,61	54,55	aman	0,13	8	W12X30	10,206	11,685	0,26	44,94	69,08	62,17	aman	0,16								
7	W12X26	6,993	11,59	0,23	50,39	60,61	54,55	aman	0,13	7	W12X30	10,182	11,685	0,26	44,94	69,08	62,17	aman	0,16								
6	W12X26	6,979	11,59	0,23	50,39	60,61	54,55	aman	0,13	6	W12X30	10,129	11,685	0,26	44,94	69,08	62,17	aman	0,16								
5	W12X26	6,965	11,59	0,23	50,39	60,61	54,55	aman	0,13	5	W12X30	10,073	11,685	0,26	44,94	69,08	62,17	aman	0,16								
4	W12X26	6,952	11,59	0,23	50,39	60,61	54,55	aman	0,13	4	W12X30	10,023	11,685	0,26	44,94	69,08	62,17	aman	0,16								
3	W12X26	6,947	11,59	0,23	50,39	60,61	54,55	aman	0,13	3	W12X30	9,971	11,665	0,26	44,94	69,08	62,17	aman	0,16								
2	W12X26	6,940	11,59	0,23	50,39	60,61	54,55	aman	0,13	2	W12X30	9,913	11,665	0,26	44,94	69,08	62,17	aman	0,16								
1	W12X26	6,878	11,59	0,23	50,39	60,61	54,55	aman	0,13	1	W12X30	9,779	11,665	0,26	44,94	69,08	62,17	aman	0,16								

# LAMPIRAN B-2-1

## PERENCANAAN BRESING

	Profil	L		Pu Tarik (Kips)	Kondisi leleh Pada Ag		Rasio	Jumlah Baut	D Baut (in)	Kondisi Patah Pada Ae		Cek	Rasio	
		m	in		$\Phi P_n$ (Kips)	Cek				An (Inz)	U			$\Phi P_n$ (Kips)
						aman								
14	W12X50	7,94	312,60	27,415	473,04	0,06	6	0,75	11,48	0,710	360,762	aman	0,08	
13	W12X50	7,94	312,60	7,841	473,04	0,02	6	0,75	11,48	0,710	360,762	aman	0,02	
12	W12X53	7,94	312,60	119,563	505,44	0,24	6	0,75	12,80	0,747	423,119	aman	0,28	
11	W12X53	7,94	312,60	172,182	505,44	0,34	6	0,75	12,80	0,747	423,119	aman	0,41	
10	W12X72	7,94	312,60	137,961	683,64	0,20	6	0,75	17,83	0,748	590,445	aman	0,23	
9	W12X72	7,94	312,60	226,564	683,64	0,33	6	0,75	17,83	0,748	590,445	aman	0,38	
8	W12X87	7,94	312,60	277,259	829,44	0,33	6	0,75	21,65	0,728	697,527	aman	0,40	
7	W12X87	7,94	312,60	237,507	829,44	0,29	6	0,75	21,65	0,728	697,527	aman	0,34	
6	W12X96	7,94	312,60	298,191	913,68	0,33	6	0,75	23,81	0,719	757,734	aman	0,39	
5	W12X96	7,94	312,60	342,995	913,68	0,38	6	0,75	23,81	0,719	757,734	aman	0,45	
4	W12X106	7,94	312,60	312,052	1010,88	0,31	6	0,75	26,37	0,706	823,502	aman	0,38	
3	W12X106	7,94	312,60	337,456	1010,88	0,33	6	0,75	26,37	0,706	823,502	aman	0,41	
2	W12X120	7,94	312,60	364,491	1143,72	0,32	6	0,75	29,89	0,682	901,439	aman	0,40	
1	W12X120	7,94	312,60	343,166	1143,72	0,30	6	0,75	29,89	0,682	901,439	aman	0,38	

# LAMPIRAN B-2-2

## PERENCANAAN BRESING

	Profil	L		Bresing Tekan						Rasio
		m	In	Ac	ΦcFcr (Kai)	ΦcPr (Kips)	Pu Tekan (Kips)	Cek		
									Pu Tekan (Kips)	
14	W12X50	7,94	312,60	1,786	8,412	122,82	30,580	Aman	0,25	
13	W12X50	7,94	312,60	1,786	8,412	122,82	83,281	Aman	0,68	
12	W12X53	7,94	312,60	1,415	13,231	206,40	67,307	Aman	0,33	
11	W12X53	7,94	312,60	1,415	13,231	206,40	192,213	Aman	0,93	
10	W12X72	7,94	312,60	1,154	17,529	369,87	224,054	Aman	0,61	
9	W12X72	7,94	312,60	1,154	17,529	369,87	197,627	Aman	0,53	
8	W12X87	7,94	312,60	1,143	17,709	453,34	314,415	Aman	0,69	
7	W12X87	7,94	312,60	1,143	17,709	453,34	330,399	Aman	0,73	
6	W12X96	7,94	312,60	1,133	17,872	504,00	297,094	Aman	0,59	
5	W12X96	7,94	312,60	1,133	17,872	504,00	397,681	Aman	0,79	
4	W12X106	7,94	312,60	1,129	17,945	559,87	404,649	Aman	0,72	
3	W12X106	7,94	312,60	1,129	17,945	559,87	372,450	Aman	0,67	
2	W12X120	7,94	312,60	1,122	18,068	637,82	437,459	Aman	0,69	
1	W12X120	7,94	312,60	1,122	18,068	637,82	422,752	Aman	0,66	

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# LAMPIRAN B-3-1

## KOEFISIEN DISTRIBUSI MOMEN KOLOM

Kolom K1

Kolom Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi	Momen (T-m)		α
		Arah X	Arah Y			Arah X	Arah Y	
14	Atas	1,238	-2,264	14	Bawah	1,238	-2,264	1,00
	Bawah	-2,764	1,663		Atas	-2,764	1,663	0,54
13	Atas	-2,335	-1,265	13	Bawah	-2,335	-1,265	0,46
	Bawah	-0,028	1,325		Atas	-0,028	1,325	0,02
12	Atas	-1,384	-1,614	12	Bawah	-1,384	-1,614	0,99
	Bawah	1,651	1,523		Atas	1,651	1,523	0,83
11	Atas	0,337	-1,442	11	Bawah	0,337	-1,442	0,17
	Bawah	0,624	1,448		Atas	0,624	1,448	0,89
10	Atas	-0,079	-1,463	10	Bawah	-0,079	-1,463	0,11
	Bawah	-1,708	1,471		Atas	-1,708	1,471	0,32
9	Atas	-3,637	-1,404	9	Bawah	-3,637	-1,404	0,68
	Bawah	1,921	1,326		Atas	1,921	1,326	0,47
8	Atas	-2,206	-1,572	8	Bawah	-2,206	-1,572	0,53
	Bawah	4,056	1,43		Atas	4,056	1,43	0,85
7	Atas	0,738	-1,279	7	Bawah	0,738	-1,279	0,15
	Bawah	1,391	1,282		Atas	1,391	1,282	0,64
6	Atas	-0,788	-1,205	6	Bawah	-0,788	-1,205	0,36
	Bawah	-0,417	1,162		Atas	-0,417	1,162	0,10
5	Atas	-3,883	-1,082	5	Bawah	-3,883	-1,082	0,90
	Bawah	2,491	1,041		Atas	2,491	1,041	0,45
4	Atas	-2,996	-0,988	4	Bawah	-2,996	-0,988	0,55
	Bawah	5,039	0,864		Atas	5,039	0,864	0,96
3	Atas	-0,195	-0,668	3	Bawah	-0,195	-0,668	0,04
	Bawah	2,947	0,587		Atas	2,947	0,587	0,68
2	Atas	-1,393	-0,429	2	Bawah	-1,393	-0,429	0,32
	Bawah	2,438	0,344		Atas	2,438	0,344	0,51
1	Atas	-2,305	-0,161	1	Bawah	-2,305	-0,161	0,49
	Bawah	5,122	0,053		Atas	5,122	0,053	1

Kolom K2

Kolom Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi	Momen (T-m)		α
		Arah X	Arah Y			Arah X	Arah Y	
14	Atas	0,988	-0,714	14	Bawah	0,988	-0,714	1,00
	Bawah	-2,74	0,541		Atas	-2,74	0,541	0,41
13	Atas	-4,001	-0,491	13	Bawah	-4,001	-0,491	0,59
	Bawah	1,237	0,471		Atas	1,237	0,471	0,25
12	Atas	-3,749	-0,584	12	Bawah	-3,749	-0,584	0,75
	Bawah	3,915	0,553		Atas	3,915	0,553	0,80
11	Atas	-0,897	-0,52	11	Bawah	-0,897	-0,52	0,20
	Bawah	2,239	0,517		Atas	2,239	0,517	0,59
10	Atas	-1,532	-0,509	10	Bawah	-1,532	-0,509	0,41
	Bawah	-0,802	0,504		Atas	-0,802	0,504	0,10
9	Atas	-7,003	-0,478	9	Bawah	-7,003	-0,478	0,90
	Bawah	5,214	0,466		Atas	5,214	0,466	0,47
8	Atas	-5,914	-0,472	8	Bawah	-5,914	-0,472	0,53
	Bawah	7,887	0,466		Atas	7,887	0,466	0,84
7	Atas	-1,483	-0,422	7	Bawah	-1,483	-0,422	0,16
	Bawah	3,918	0,404		Atas	3,918	0,404	0,86
6	Atas	-3,123	-0,372	6	Bawah	-3,123	-0,372	0,44
	Bawah	1,787	0,356		Atas	1,787	0,356	0,19
5	Atas	-7,544	-0,315	5	Bawah	-7,544	-0,315	0,81
	Bawah	6,13	0,287		Atas	6,13	0,287	0,46
4	Atas	-7,122	-0,268	4	Bawah	-7,122	-0,268	0,54
	Bawah	9,319	0,246		Atas	9,319	0,246	0,77
3	Atas	-2,761	-0,2	3	Bawah	-2,761	-0,2	0,23
	Bawah	5,972	0,173		Atas	5,972	0,173	0,62
2	Atas	-3,699	-0,126	2	Bawah	-3,699	-0,126	0,38
	Bawah	4,944	0,103		Atas	4,944	0,103	0,49
1	Atas	-4,948	-0,048	1	Bawah	-4,948	-0,048	0,51
	Bawah	9,081	0,015		Atas	9,081	0,015	1

Kolom K3

Kolom Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi	Momen (T-m)		α
		Arah X	Arah Y			Arah X	Arah Y	
14	Atas	-0,687	-1,913	14	Bawah	-0,687	-1,913	1,00
	Bawah	-1,069	1,482		Atas	-1,069	1,482	0,17
13	Atas	-5,046	-1,35	13	Bawah	-5,046	-1,35	0,83
	Bawah	2,08	1,231		Atas	2,08	1,231	0,29
12	Atas	-5,114	-1,738	12	Bawah	-5,114	-1,738	0,71
	Bawah	5,205	1,583		Atas	5,205	1,583	0,73
11	Atas	-1,942	-1,457	11	Bawah	-1,942	-1,457	0,27
	Bawah	3,473	1,48		Atas	3,473	1,48	0,56
10	Atas	-2,878	-1,49	10	Bawah	-2,878	-1,49	0,44
	Bawah	-0,079	1,479		Atas	-0,079	1,479	0,01
9	Atas	-8,184	-1,45	9	Bawah	-8,184	-1,45	0,99
	Bawah	5,548	1,43		Atas	5,548	1,43	0,48
8	Atas	-5,903	-1,484	8	Bawah	-5,903	-1,484	0,52
	Bawah	8,351	1,416		Atas	8,351	1,416	0,85
7	Atas	-1,503	-1,31	7	Bawah	-1,503	-1,31	0,15
	Bawah	4,442	1,275		Atas	4,442	1,275	0,56
6	Atas	-3,46	-1,205	6	Bawah	-3,46	-1,205	0,44
	Bawah	1,624	1,165		Atas	1,624	1,165	0,17
5	Atas	-7,706	-1,084	5	Bawah	-7,706	-1,084	0,83
	Bawah	5,957	1,04		Atas	5,957	1,04	0,47
4	Atas	-6,788	-0,987	4	Bawah	-6,788	-0,987	0,53
	Bawah	9,204	0,865		Atas	9,204	0,865	0,83
3	Atas	-1,935	-0,671	3	Bawah	-1,935	-0,671	0,17
	Bawah	5,521	0,589		Atas	5,521	0,589	0,64
2	Atas	-3,105	-0,429	2	Bawah	-3,105	-0,429	0,36
	Bawah	4,483	0,343		Atas	4,483	0,343	0,57
1	Atas	-3,321	-0,164	1	Bawah	-3,321	-0,164	0,43
	Bawah	5,944	0,062		Atas	5,944	0,062	1

# LAMPIRAN B-3-1

## KOEFISIEN DISTRIBUSI MOMEN KOLOM

Kolom K4

Kolom Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi		α
		Arah X	Arah Y			Arah X	Arah Y		Arah X	Arah Y	
14	Alas	-1,739	-0,68	14	Bawah	-1,739	-0,68	14	Bawah	1,00	1,00
	Bawah	-1,363	0,486		Alas	-1,363	0,486		Alas	0,12	0,46
13	Alas	-10,229	-0,566	13	Bawah	-10,229	-0,566	13	Bawah	0,86	0,54
	Bawah	5,869	0,531		Alas	5,369	0,531		Alas	0,36	0,49
	Alas	-9,508	-0,554	12	Bawah	-9,508	-0,554	12	Bawah	0,64	0,51
	Bawah	9,71	0,553		Alas	9,71	0,553		Alas	0,66	0,51
11	Alas	-5,038	-0,542	11	Bawah	-5,038	-0,542	11	Bawah	0,34	0,49
	Bawah	6,964	0,531		Alas	6,964	0,531		Alas	0,54	0,51
10	Alas	-5,983	-0,517	10	Bawah	-5,983	-0,517	10	Bawah	0,46	0,46
	Bawah	2,263	0,513		Alas	2,263	0,513		Alas	0,14	0,51
9	Alas	-14,292	-0,488	9	Bawah	-14,292	-0,488	9	Bawah	0,86	0,49
	Bawah	10,985	0,465		Alas	10,985	0,465		Alas	0,48	0,49
8	Alas	-12,044	-0,482	8	Bawah	-12,044	-0,482	8	Bawah	0,52	0,51
	Bawah	15,1	0,465		Alas	15,1	0,465		Alas	0,75	0,52
7	Alas	-4,928	-0,43	7	Bawah	-4,928	-0,43	7	Bawah	0,25	0,46
	Bawah	8,813	0,412		Alas	8,813	0,412		Alas	0,55	0,52
6	Alas	-7,349	-0,379	6	Bawah	-7,349	-0,379	6	Bawah	0,45	0,48
	Bawah	4,921	0,363		Alas	4,921	0,363		Alas	0,26	0,53
5	Alas	-13,901	-0,32	5	Bawah	-13,901	-0,32	5	Bawah	0,74	0,47
	Bawah	11,79	0,292		Alas	11,79	0,292		Alas	0,47	0,52
4	Alas	-13,512	-0,273	4	Bawah	-13,512	-0,273	4	Bawah	0,53	0,48
	Bawah	16,567	0,25		Alas	16,567	0,25		Alas	0,75	0,55
3	Alas	-5,601	-0,203	3	Bawah	-5,601	-0,203	3	Bawah	0,25	0,45
	Bawah	10,478	0,176		Alas	10,478	0,176		Alas	0,61	0,58
2	Alas	-6,646	-0,128	2	Bawah	-6,646	-0,128	2	Bawah	0,39	0,42
	Bawah	8,457	0,104		Alas	8,457	0,104		Alas	0,55	0,68
1	Alas	-6,951	-0,06	1	Bawah	-6,951	-0,05	1	Bawah	0,45	0,32
	Bawah	11,212	0,017		Alas	11,212	0,017		Alas	1	1

Kolom K5

Kolom Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi		α
		Arah X	Arah Y			Arah X	Arah Y		Arah X	Arah Y	
14	Alas	-0,404	0	14	Bawah	-0,404	0	14	Bawah	1,00	1,00
	Bawah	-1,588	0		Alas	-1,588	0		Alas	0,25	0,50
13	Alas	-4,868	0	13	Bawah	-4,868	0	13	Bawah	0,75	0,50
	Bawah	2,397	0		Alas	2,397	0		Alas	0,33	0,50
12	Alas	-4,886	0	12	Bawah	-4,886	0	12	Bawah	0,67	0,50
	Bawah	4,948	0		Alas	4,948	0		Alas	0,69	0,50
11	Alas	-2,252	0	11	Bawah	-2,252	0	11	Bawah	0,31	0,50
	Bawah	3,37	0		Alas	3,37	0		Alas	0,55	0,50
10	Alas	-2,74	0	10	Bawah	-2,74	0	10	Bawah	0,45	0,50
	Bawah	0,649	0		Alas	0,649	0		Alas	0,08	0,50
9	Alas	-7,911	0	9	Bawah	-7,911	0	9	Bawah	0,92	0,50
	Bawah	6,626	0		Alas	6,626	0		Alas	0,47	0,50
8	Alas	-7,497	0	8	Bawah	-7,497	0	8	Bawah	0,53	0,50
	Bawah	9,032	0		Alas	9,032	0		Alas	0,74	0,50
7	Alas	-3,149	0	7	Bawah	-3,149	0	7	Bawah	0,26	0,50
	Bawah	5,245	0		Alas	5,245	0		Alas	0,54	0,50
6	Alas	-4,492	0	6	Bawah	-4,492	0	6	Bawah	0,46	0,50
	Bawah	3,306	0		Alas	3,306	0		Alas	0,28	0,50
5	Alas	-9,49	0	5	Bawah	-9,49	0	5	Bawah	0,72	0,50
	Bawah	7,34	0		Alas	7,34	0		Alas	0,47	0,50
4	Alas	-6,393	0	4	Bawah	-6,393	0	4	Bawah	0,53	0,50
	Bawah	10,042	0		Alas	10,042	0		Alas	0,72	0,50
3	Alas	-3,837	0	3	Bawah	-3,837	0	3	Bawah	0,28	0,50
	Bawah	6,531	0		Alas	6,531	0		Alas	0,60	0,50
2	Alas	-4,289	0	2	Bawah	-4,289	0	2	Bawah	0,40	0,50
	Bawah	5,176	0		Alas	5,176	0		Alas	0,51	0,50
1	Alas	-5,069	0	1	Bawah	-5,069	0	1	Bawah	0,49	0,50
	Bawah	8,688	0		Alas	8,688	0		Alas	1	1,00

Kolom K6

Kolom Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi	Momen (T-m)		Join Lantai	Lokasi		α
		Arah X	Arah Y			Arah X	Arah Y		Arah X	Arah Y	
14	Alas	-2,225	0	14	Bawah	-2,225	0	14	Bawah	1,00	1,00
	Bawah	-0,406	0		Alas	-0,406	0		Alas	0,04	0,50
13	Alas	-9,847	0	13	Bawah	-9,847	0	13	Bawah	0,96	0,50
	Bawah	5,686	0		Alas	5,686	0		Alas	0,37	0,50
12	Alas	-9,78	0	12	Bawah	-9,78	0	12	Bawah	0,63	0,50
	Bawah	9,825	0		Alas	9,825	0		Alas	0,64	0,50
11	Alas	-5,556	0	11	Bawah	-5,556	0	11	Bawah	0,36	0,50
	Bawah	7,21	0		Alas	7,21	0		Alas	0,53	0,50
10	Alas	-6,301	0	10	Bawah	-6,301	0	10	Bawah	0,47	0,50
	Bawah	3,225	0		Alas	3,225	0		Alas	0,19	0,50
9	Alas	-13,835	0	9	Bawah	-13,835	0	9	Bawah	0,81	0,50
	Bawah	10,723	0		Alas	10,723	0		Alas	0,45	0,50
8	Alas	-12,872	0	8	Bawah	-12,872	0	8	Bawah	0,55	0,50
	Bawah	15,573	0		Alas	15,573	0		Alas	0,75	0,50
7	Alas	-5,192	0	7	Bawah	-5,192	0	7	Bawah	0,25	0,50
	Bawah	9,134	0		Alas	9,134	0		Alas	0,54	0,50
6	Alas	-7,681	0	6	Bawah	-7,681	0	6	Bawah	0,46	0,50
	Bawah	5,211	0		Alas	5,211	0		Alas	0,27	0,50
5	Alas	-14,144	0	5	Bawah	-14,144	0	5	Bawah	0,73	0,50
	Bawah	12,007	0		Alas	12,007	0		Alas	0,47	0,50
4	Alas	-13,721	0	4	Bawah	-13,721	0	4	Bawah	0,53	0,50
	Bawah	16,756	0		Alas	16,756	0		Alas	0,74	0,50
3	Alas	-5,757	0	3	Bawah	-5,757	0	3	Bawah	0,26	0,50
	Bawah	10,606	0		Alas	10,606	0		Alas	0,61	0,50
2	Alas	-6,745	0	2	Bawah	-6,745	0	2	Bawah	0,39	0,50
	Bawah	8,542	0		Alas	8,542	0		Alas	0,45	0,50
1	Alas	-6,93	0	1	Bawah	-6,93	0	1	Bawah	0,45	0,50
	Bawah	11,053	0		Alas	11,053	0		Alas	1	1,00



# LAMPIRAN B-3-2

TABEL MOMEN RENCANA KOLOM MU,k

Kolom K2

Join Lantai	Profil Balok		Lokasi M, k	L (m)			hn		α	DMIF	Momen Kolom Arah X			Momen Kolom Arah Y			Mpb			M,k Arah X			M,k pakai			Mu,k desain			Arah X					
	B1	B4		7	B1	B4	5	Arah X			Arah Y	MD,k	ML,k	ME,k	MD,k	ML,k	ME,k	B1	B4	(1)	(2)	(1)	(2)	(1)	(2)	Arah X	K-in	Arah Y	K-in	Arah X	K-in	Arah X	Cb	Arah X
14	W16X31	W12X26	Bawah	5,36	4,619	130,84	135,39	1,00	1,10	-11,63	83,14	178,44	65,18	-61,97	2138,40	1473,12	3811,34	348,57	1125,98	494,59	348,57	348,57	1125,98	494,59	348,57	348,57	494,59	494,59	494,59	494,59	3,10	2,30		
13	W18X35	W12X30	Atas	5,36	4,619	129,84	135,34	0,41	0,52	2,34	-237,80	-180,00	-65,09	46,95	2633,40	1706,76	2581,66	959,89	932,23	436,36	959,89	932,23	436,36	959,89	932,23	436,36	959,89	932,23	436,36					
12	W18X40	W12X30	Bawah	5,36	4,619	129,74	135,34	0,25	0,45	-2,08	-347,25	221,84	79,59	-42,61	2633,40	1706,76	3769,76	1395,97	846,07	476,45	1395,97	846,07	476,45	1395,97	846,07	476,45	1395,97	846,07	476,45	2,11	2,11			
11	W18X40	W12X30	Atas	5,36	4,619	129,74	135,34	0,75	0,55	2,78	107,36	-195,10	-70,13	40,88	3104,64	1706,76	2274,92	439,68	972,95	432,70	439,68	972,95	432,70	439,68	972,95	432,70	439,68	972,95	432,70					
10	W18X40	W12X30	Bawah	5,36	4,619	129,74	135,34	0,20	0,48	3,82	339,78	-213,42	-76,72	47,99	3104,64	1706,76	1823,24	360,19	1034,62	464,95	360,19	1034,62	464,95	360,19	1034,62	464,95	360,19	1034,62	464,95	2,29	2,29			
9	W18X40	W12X30	Atas	5,36	4,619	128,34	135,34	0,41	0,50	3,47	194,32	-207,51	-74,38	44,87	3104,64	1706,76	5222,43	790,80	1037,09	464,60	790,80	1037,09	464,60	790,80	1037,09	464,60	790,80	1037,09	464,60	2,39	2,30			
8	W21X44	W12X30	Bawah	5,36	4,619	126,94	135,34	0,47	0,49	-3,21	-607,79	204,22	72,84	-41,49	3104,64	1706,76	7640,95	2443,81	995,95	447,32	2443,81	995,95	447,32	2443,81	995,95	447,32	2443,81	995,95	447,32	2,70	2,30			
7	W21X44	W12X30	Atas	5,36	4,619	126,94	135,34	0,53	0,51	4,25	513,28	212,46	75,16	-40,96	3777,84	1706,76	4698,15	1824,98	983,57	432,44	1824,98	983,57	432,44	1824,98	983,57	432,44	1824,98	983,57	432,44					
6	W21X44	W12X30	Bawah	5,36	4,619	126,94	135,34	0,16	0,48	3,30	340,04	-202,13	-70,82	35,06	3777,84	1706,76	8252,76	2755,28	1018,08	456,39	2755,28	1018,08	456,39	2755,28	1018,08	456,39	2755,28	1018,08	456,39	2,71	2,30			
5	W21X44	W12X30	Atas	5,36	4,619	126,99	135,34	0,56	0,52	-2,69	-271,05	201,96	70,39	-32,29	3777,84	1706,76	1551,77	529,93	940,72	424,71	529,93	940,72	424,71	529,93	940,72	424,71	529,93	940,72	424,71	2,20	2,20			
4	W21X48	W12X30	Bawah	5,36	4,619	127,04	135,34	0,44	0,48	1,58	6,51	155,09	-201,79	-70,13	30,90	3777,84	1706,76	1793,17	629,36	991,28	400,80	629,36	991,28	400,80	629,36	991,28	400,80	629,36	991,28	4,45	2,30			
3	W21X48	W12X30	Atas	5,36	4,619	127,04	135,34	0,23	0,45	-1,91	-684,74	198,49	67,87	-27,34	4237,20	1706,76	5511,91	2476,21	880,77	371,17	2476,21	880,77	371,17	2476,21	880,77	371,17	2476,21	880,77	371,17	2,73	2,30			
2	W21X48	W12X30	Bawah	5,36	4,619	127,04	135,34	0,46	0,52	3,82	532,02	-191,11	-65,70	24,91	4237,20	1706,76	2287,04	958,93	796,01	329,54	958,93	796,01	329,54	958,93	796,01	329,54	958,93	796,01	329,54	2,30	2,30			
1	W21X48	W12X30	Atas	5,36	4,619	137,34	141,49	0,38	0,42	1,48	321,04	199,70	66,48	-10,94	4237,20	1706,76	3791,63	1291,86	731,20	316,63	1291,86	731,20	316,63	1291,86	731,20	316,63	1291,86	731,20	316,63	2,72	2,30			
Dasar	0	0	Atas	5,36	4,619	137,34	141,49	1,00	1,10	5,21	2,17	788,14	-46,52	-12,93	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,79	2,53	2,30			

# LAMPIRAN B-3-2

TABEL MOMEN RENCANA KOLOM Mu,k

## Kolom K3

Join Lantai	Profil Batok		L' (m)	h <sub>n</sub>		g	DMF		Momen Kolom Arah X				Momen Kolom Arah Y				Mpb		M,k Arah X		M,k Arah Y		M,k desain		Arah X						
	B3	B2		7	5		Arah X	In	Arah X	Arah Y	MD,k	ML,k	ME,k	WD,k	ML,k	ME,k	B1	B2	{1}	{2}	{1}	{2}	K-in	K-out	{1}	{2}	K-in	K-out	K-in	K-out	
14	W18X35	W12X26	5,30	4,69	126,49	135,44	1,00	1,00	1,10	498,04	-157,96	-59,62	0,87	4,25	-166,03	2633,40	1473,12	2330,74	916,33	2219,17	667,28	916,33	667,28	916,33	667,28	916,33	667,28	916,33	667,28	3,10	2,30
13	W21X48	W12X26	5,30	4,69	126,94	135,44	0,17	0,52	1,50	470,75	167,24	-92,78	1,74	-2,95	128,62	4237,20	1473,12	883,21	1019,63	1583,59	518,05	883,21	518,05	883,21	518,05	883,21	518,05	883,21	518,05	3,10	2,30
12	W21X50	W12X26	5,30	4,69	126,84	135,44	0,29	0,41	1,84	480,73	180,52	-437,94	-4,34	2,17	-117,17	4237,20	1473,12	4169,02	2535,65	1442,55	474,96	2535,65	474,96	2535,65	474,96	2535,65	474,96	2535,65	474,96	2,42	2,30
11	W21X50	W12X26	5,30	4,69	126,84	135,44	0,71	0,59	1,84	-314,91	-227,48	-443,84	-2,08	3,30	-150,84	4356,00	1473,12	1838,91	1389,23	1537,64	431,77	1389,23	431,77	1389,23	431,77	1389,23	431,77	1389,23	431,77	3,08	2,30
10	W21X50	W12X26	5,30	4,69	126,84	135,44	0,73	0,52	1,80	569,52	211,59	451,74	1,82	-3,04	137,39	4356,00	1473,12	4521,24	2627,00	1710,93	607,51	2627,00	607,51	2627,00	607,51	2627,00	607,51	2627,00	607,51	3,08	2,30
9	W21X50	W12X26	5,30	4,69	126,84	135,44	0,27	0,48	1,80	548,69	204,13	-168,55	-1,48	2,86	-179,45	4356,00	1473,12	1682,97	1425,63	1741,20	509,01	1425,63	509,01	1425,63	509,01	1425,63	509,01	1425,63	509,01	2,67	2,30
8	W21X55	W12X26	5,30	4,69	126,84	135,44	0,44	0,50	1,76	-552,51	-205,35	-232,42	-1,48	2,86	-128,32	4356,00	1473,12	2656,18	1695,37	1784,69	520,47	1695,37	520,47	1695,37	520,47	1695,37	520,47	1695,37	520,47	1,79	1,79
7	W21X55	W12X26	5,30	4,69	126,84	135,44	0,99	0,50	1,73	551,38	204,82	-6,86	1,65	2,60	-125,85	4356,00	1473,12	5914,17	3591,02	1723,67	506,45	3591,02	506,45	3591,02	506,45	3591,02	506,45	3591,02	506,45	2,69	2,30
6	W21X55	W12X26	5,30	4,69	126,84	135,44	0,48	0,49	1,69	-567,09	-210,47	-512,32	-0,52	2,78	-129,66	4989,60	1473,12	3241,94	2657,46	1665,83	499,05	2657,46	499,05	2657,46	499,05	2657,46	499,05	2657,46	499,05	2,74	2,30
5	W21X55	W12X26	5,30	4,69	126,84	135,44	0,85	0,52	1,65	550,77	204,22	724,78	0,17	-2,69	122,89	4989,60	1473,12	5544,88	3662,16	1730,07	493,13	3662,16	493,13	3662,16	493,13	3662,16	493,13	3662,16	493,13	2,27	2,27
4	W24X55	W12X26	5,30	4,69	124,04	135,44	0,15	0,48	1,65	-538,71	-199,53	-130,45	0,00	2,60	-113,69	4989,60	1473,12	997,96	1287,99	1600,56	456,08	997,96	456,08	997,96	456,08	997,96	456,08	997,96	456,08	2,27	2,27
3	W24X55	W12X26	5,30	4,69	125,44	135,44	0,56	0,51	1,61	537,82	199,01	385,52	0,28	-2,43	110,66	4989,60	1473,12	3594,50	2287,10	1673,46	444,16	2287,10	444,16	2287,10	444,16	2287,10	444,16	2287,10	444,16	2,42	2,30
2	W24X55	W12X26	5,30	4,69	124,04	135,44	0,17	0,52	1,58	534,97	197,36	140,95	0,78	-2,00	101,11	4989,60	1473,12	2799,86	1943,88	1581,59	420,14	1943,88	420,14	1943,88	420,14	1943,88	420,14	1943,88	420,14	2,42	2,30
1	W24X55	W12X26	5,30	4,69	124,04	135,44	0,83	0,48	1,54	-522,22	-192,50	-688,80	-1,13	1,65	-94,08	4989,60	1473,12	1075,17	1304,44	1646,99	406,38	1304,44	406,38	1304,44	406,38	1304,44	406,38	1304,44	406,38	2,80	2,30
Dasar	0	0	5,30	4,69	135,84	141,54	1,00	1,00	1,10	62,92	14,84	515,88	-2,26	-0,95	5,38	0,00	0,00	709,33	2146,45	7,40	24,71	709,33	2146,45	7,40	24,71	709,33	2146,45	7,40	2,25	2,25	

# LAMPIRAN B-3-2

## TABEL MOMEN RENCANA KOLOM Mu,k

### Kolom K4

Join Lantai	Profil Batok		Lokasi Mu,k	L' (m)		hn		α		Momen Kolom Aras X						Momen Kolom Aras Y						Mpb		Mu,k Aras X		Mu,k Aras Y		Mu,k desain		Aras X									
	B3	B4		B3	B4	In	Aras X	Aras Y	DMF	Mp,k	Mu,k	ME,k	MD,k	ML,k	ME,k	ML,k	ME,k	B3	B4	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	Aras X	Aras Y	Aras X	Aras Y	K-in	K-out	Aras X	Aras Y	K-in	K-out		
14	W18X35	W12X26	Bawah	5.3	4.619	128.49	135.39	1.00	1.00	1.10	-37.49	-21.61	-150.93	24.91	18.05	-57.28	2633.40	1473.12	4661.48	659.51	2251.97	268.04	659.51	268.04	659.51	268.04	659.51	268.04	659.51	268.04	3.10	2.30							
13	W21X48	W12X30	Atas	5.3	4.619	126.94	135.34	0.12	0.46	1.50	33.59	17.10	-117.43	-17.27	-12.84	42.18	4237.20	1706.76	1180.40	518.56	1643.07	195.87	518.56	195.87	518.56	195.87	518.56	195.87	518.56	195.87	3.10	2.30							
12	W21X50	W12X30	Bawah	5.3	4.619	126.84	135.34	0.88	0.54	1.50	-53.29	-24.21	-887.77	19.35	14.41	-48.12	4237.20	1706.76	8924.07	3627.15	1913.53	226.92	3627.15	226.92	3627.15	226.92	3627.15	226.92	3627.15	226.92	2.40	2.30							
11	W21X50	W12X30	Atas	5.3	4.619	126.84	135.34	0.36	0.49	1.84	53.98	24.82	465.98	-20.22	-14.23	46.09	4356.00	1706.76	4590.86	1941.09	2133.13	2225.52	227.40	3387.87	227.40	3387.87	227.40	3387.87	227.40	3387.87	227.40	3.07	2.30						
10	W21X50	W12X30	Bawah	5.3	4.619	126.84	135.34	0.66	0.51	1.84	-50.84	-28.12	-825.20	22.83	15.36	-48.08	4356.00	1706.76	8129.63	3387.87	2225.52	227.40	3387.87	227.40	3387.87	227.40	3387.87	227.40	3387.87	227.40	3.07	2.30							
9	W21X50	W12X30	Atas	5.3	4.619	126.84	135.34	0.34	0.49	1.80	60.06	27.51	842.73	-22.22	-15.01	47.99	4356.00	1706.76	8204.27	3456.75	2156.35	227.40	3387.87	227.40	3387.87	227.40	3387.87	227.40	3387.87	227.40	3.07	2.30							
8	W21X55	W12X30	Bawah	5.3	4.619	126.84	135.34	0.54	0.51	1.76	55.20	25.60	604.41	-20.74	-14.23	46.09	4356.00	1706.76	6614.24	2496.66	2118.42	216.35	2496.66	216.35	2496.66	216.35	2496.66	216.35	2496.66	216.35	2.68	2.30							
7	W21X55	W12X30	Atas	5.3	4.619	126.84	135.34	0.46	0.49	1.76	-51.47	-24.13	-510.59	19.87	13.71	-44.87	4356.00	1706.76	5587.53	2116.17	2062.56	210.19	2116.17	210.19	2116.17	210.19	2116.17	210.19	2116.17	210.19	2.22	2.30							
6	W21X55	W12X30	Bawah	5.3	4.619	126.84	135.34	0.86	0.49	1.73	48.60	23.00	196.41	-19.44	-13.54	44.52	4356.00	1706.76	1632.49	855.45	2097.17	208.19	855.45	208.19	855.45	208.19	855.45	208.19	855.45	208.19	2.74	2.30							
5	W21X55	W12X30	Atas	5.3	4.619	125.44	135.34	0.26	0.53	1.69	45.13	21.96	953.39	-17.27	-12.15	40.36	4989.60	1706.76	6383.62	3878.69	1965.72	188.23	3878.69	188.23	3878.69	188.23	3878.69	188.23	3878.69	188.23	2.78	2.30							
4	W24X55	W12X30	Bawah	5.3	4.619	124.04	135.34	0.74	0.47	1.65	44.70	21.87	1310.53	-16.84	-11.80	40.36	4989.60	1706.76	6999.02	4250.55	2037.59	194.68	4250.55	194.68	4250.55	194.68	4250.55	194.68	4250.55	194.68	2.78	2.30							
3	W24X55	W12X30	Atas	5.3	4.619	124.04	135.34	0.55	0.52	1.65	-40.44	-19.87	-427.70	15.19	10.76	-37.32	4989.60	1706.76	9865.87	5306.69	2033.78	187.54	5306.69	187.54	5306.69	187.54	5306.69	187.54	5306.69	187.54	2.44	2.30							
2	W24X55	W12X30	Bawah	5.3	4.619	124.04	135.34	0.45	0.48	1.61	37.67	18.75	764.88	-14.32	-10.33	35.76	4989.60	1706.76	3219.80	1769.27	1880.70	172.89	1769.27	172.89	1769.27	172.89	1769.27	172.89	1769.27	172.89	2.44	2.30							
1	W24X55	W12X30	Atas	5.3	4.619	135.84	141.49	0.26	0.53	1.58	29.42	15.10	427.09	-11.54	-8.77	31.50	4989.60	1706.76	5815.13	2599.44	1833.02	151.21	2599.44	151.21	2599.44	151.21	2599.44	151.21	2599.44	151.21	2.59	2.30							
Dasar	0	0	Atas	5.3	4.619	135.84	141.49	1.00	1.00	1.10	9.81	4.51	973.09	-5.29	-2.52	1.48	0.00	0.00	1338.00	3906.38	2.03	13.51	1338.00	2.03	1338.00	2.03	1338.00	2.03	1338.00	2.03	2.42	2.30							



TABEL MOMEN RENCANA KOLOM MU,k

Kolom K6

Table with 45 columns: Join Lantai, Profil Balok (B3, B4), Lokasi M,k (Bawah, Atas), L' (m) (7,00, 5,00, B3, B4), hn (Arah X, In, Arah Y, In), a (Arah X, Arah Y), DMF, Momen Kolom Arah X (MD,k, ML,k, ME,k, K-in, K-out), Momen Kolom Arah Y (ME,k, ML,k, MD,k, K-in, K-out), Mpb (B3, B4, K-in, K-out), M.k Arah X (1, 2), M.k Arah Y (1, 2), M.k pakai (Arah X, K-in, K-out), M.u,k desain (Arah X, K-in, K-out), and Arah X (Cb, Cb pakai).



TABEL GESER RENCANA KOLOM Vu,k

Kolom Lentai	Ln		Muli, Desain		Gaya Geser Portal Arah X		Gaya Geser Portal Arah Y		Vu,k Arah X		Vu,k Arah Y		Vu,k		Vu,k pakai			
	Arah X	Arah Y	Arah X	Arah Y	VD,k	VL,k	VE,k	VD,k	VL,k	VE,k	{1}	{2}	{1}	{2}	Arah X	Arah Y		
	In	In	K-In	K-In	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	
14	130,84	135,44	772,92	898,69	3,72	1,06	-2,35	-1,28	-0,40	2,31	11,81	14,41	13,27	11,68	11,81	11,68	11,81	11,68
13	129,84	135,44	1260,77	619,52	4,31	1,23	1,36	-1,72	-0,44	1,52	19,42	11,25	9,15	8,76	11,25	8,76	11,25	8,76
12	129,74	135,44	1012,33	732,49	4,49	1,28	1,78	-1,74	-0,46	1,85	15,61	13,15	10,82	10,24	13,15	10,24	13,15	10,24
11	129,74	135,44	648,35	669,53	4,33	1,23	0,18	-1,69	-0,44	1,69	9,99	6,52	9,89	9,08	6,52	9,08	6,52	9,08
10	129,74	135,44	1032,11	681,48	4,40	1,25	-0,95	-1,72	-0,44	1,72	15,91	9,69	10,06	9,43	9,69	9,43	9,69	9,43
9	128,34	135,44	1687,52	650,66	4,16	1,19	3,26	-1,61	-0,42	1,61	26,30	18,61	10,06	9,43	18,61	9,43	18,61	9,43
8	126,94	135,44	1848,50	731,69	4,53	1,30	3,67	-1,85	-0,46	1,76	29,12	20,78	10,80	10,59	20,78	10,59	20,78	10,59
7	126,94	135,44	913,73	611,76	4,33	1,23	0,37	-1,72	-0,44	1,50	14,40	7,31	9,03	8,38	7,31	8,38	7,31	8,38
6	126,94	135,44	706,13	589,97	4,36	1,23	0,22	-1,76	-0,44	1,39	11,13	6,72	8,71	7,94	6,72	7,94	6,72	7,94
5	126,99	135,44	1775,05	543,57	4,20	1,19	3,74	-1,69	-0,42	1,25	27,96	20,60	8,03	8,38	20,60	8,03	20,60	8,03
4	127,04	135,44	2179,50	517,66	4,38	1,23	4,71	-1,78	-0,44	1,08	34,31	24,70	7,64	8,08	24,70	7,64	24,70	7,64
3	127,04	135,44	1431,90	397,97	4,16	1,19	1,85	-1,67	-0,42	0,73	22,54	12,98	5,88	5,67	12,98	5,67	12,98	5,67
2	127,04	135,44	1327,71	325,15	4,62	1,32	2,24	-1,91	-0,46	0,46	20,90	15,18	4,80	5,05	15,18	4,80	15,18	4,80
1	137,34	141,54	1129,53	188,26	2,02	0,53	4,36	-0,92	-0,20	0,13	16,45	20,12	2,66	3,04	16,45	2,66	16,45	2,66
					2,02	0,53	4,36	-0,92	-0,20	0,13	16,45	20,12	2,66	3,04	16,45	2,66	16,45	2,66

# LAMPIRAN B-3-3

TABEL GESER RENCANA KOLOM Vu,k

Kolom Lantai	In		Muli,k Desain		Gaya Geeser Portal Arah X				Gaya Geeser Portal Arah Y				Vu,k Arah X		Vu,k Arah Y		Vu,k		Vu,k pakai			
	Arah X	Arah Y	Arah X	Arah Y	VD,k	VL,k	VE,k	VE,k	VD,k	VL,k	VE,k	VE,k	{1}	{2}	{1}	{2}	Arah X	Arah Y	Arah X	Arah Y		
	In	In	K-In	K-In	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	
14	130,84	135,39	348,57	494,59	0,11	0,04	-2,18	-2,42	-0,88	0,73	5,33	8,87	7,31	6,90	5,33	6,90	5,33	6,90	5,33	6,90	5,33	6,90
13	129,84	135,34	1395,97	476,45	0,09	0,02	3,08	-2,82	-1,01	0,57	21,50	12,44	7,04	7,10	12,44	7,10	12,44	7,04	12,44	7,04	12,44	7,04
12	129,74	135,34	1373,96	509,43	0,15	0,04	4,49	-2,95	-1,06	0,66	21,18	18,16	7,53	8,05	18,16	7,53	18,16	7,53	18,16	7,53	18,16	7,53
11	129,74	135,34	790,80	465,69	0,13	0,04	1,89	-2,79	-1,01	0,62	12,19	7,75	6,88	6,89	7,75	6,88	7,75	6,88	7,75	6,88	7,75	6,88
10	129,74	135,34	544,29	464,60	0,11	0,04	0,42	-2,82	-1,01	0,59	8,39	1,83	6,87	6,39	1,83	6,87	6,39	1,83	6,39	1,83	6,39	1,83
9	128,34	135,34	2443,81	447,32	0,13	0,04	7,17	-2,73	-0,97	0,55	38,08	28,87	6,61	8,11	28,87	6,61	8,11	28,87	6,61	8,11	28,87	6,61
8	126,94	135,34	2755,28	456,39	0,18	0,07	8,10	-2,84	-1,01	0,55	43,41	32,63	6,74	8,54	32,63	6,74	8,54	32,63	6,74	8,54	32,63	6,74
7	126,94	135,34	1373,17	424,71	0,13	0,04	3,17	-2,73	-0,97	0,48	21,64	12,85	6,28	6,64	12,85	6,28	6,64	12,85	6,28	6,64	12,85	6,28
6	126,94	135,34	1094,69	406,69	0,09	0,04	2,88	-2,73	-0,95	0,42	17,25	11,66	6,01	6,28	11,66	6,01	6,28	11,66	6,01	6,28	11,66	6,01
5	126,99	135,34	2625,87	379,08	0,07	0,02	8,03	-2,62	-0,90	0,35	41,36	32,21	5,60	7,41	32,21	5,60	7,41	32,21	5,60	7,41	32,21	5,60
4	127,04	135,34	3237,39	371,17	0,02	0,02	9,64	-2,73	-0,92	0,31	50,97	38,58	5,49	7,86	38,58	5,49	7,86	38,58	5,49	7,86	38,58	5,49
3	127,04	135,34	2074,06	329,54	0,00	0,00	5,13	-2,53	-0,86	0,22	32,65	20,50	4,87	5,88	20,50	4,87	5,88	20,50	4,87	5,88	20,50	4,87
2	127,04	135,34	1698,17	338,55	-0,13	-0,04	5,02	-2,84	-0,95	0,13	26,73	20,24	5,00	5,91	20,24	5,00	5,91	20,24	5,00	5,91	20,24	5,00
1	137,34	141,49	1728,12	217,32	-0,02	0,00	8,23	-1,30	-0,42	0,04	25,17	32,94	3,07	4,41	32,94	3,07	4,41	25,17	3,07	4,41	25,17	3,07
					-0,02	0,00	8,23	-1,30	-0,42	0,04	25,17	32,94	3,07	4,41	32,94	3,07	4,41	25,17	3,07	4,41	25,17	3,07

TABEL GESER RENCANA KOLOM Vu,k

Kolom Lantai	In		Muk Desain		Gaya Geser Portal Arah X			Gaya Geser Portal Arah Y			Vu,k Arah X		Vu,k Arah Y		Vu,k		Vu,k pakat			
	Arah X	Arah Y	Arah X	Arah Y	VD,k	VL,k	VE,k	VD,k	VL,k	VE,k	{1}	{2}	{1}	{2}	Arah X	Arah Y	Arah X	Arah Y		
	In	In	K-in	K-in	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	
14	128,49	135,44	916,33	667,28	6,56	2,20	-0,22	0,00	-0,04	2,00	14,26	9,85	9,85	8,10	9,85	8,10	9,85	8,10	9,85	8,10
13	126,94	135,44	2535,65	474,96	7,06	2,68	4,18	0,04	-0,02	1,52	39,95	26,54	7,01	7,39	26,54	7,01	26,54	7,01	26,54	7,01
12	126,84	135,44	2627,00	607,51	8,01	2,97	6,05	0,02	-0,04	1,96	41,42	35,29	8,97	9,70	35,29	8,97	35,29	8,97	35,29	8,97
11	126,84	135,44	1966,18	516,90	8,01	2,37	6,05	0,02	-0,04	1,96	41,42	35,29	8,97	9,70	35,29	8,97	35,29	8,97	35,29	8,97
10	126,84	135,44	1695,37	520,47	7,37	2,75	3,17	0,02	-0,04	1,72	31,00	22,89	7,63	7,86	22,89	7,63	22,89	7,63	22,89	7,63
9	126,84	135,44	3591,02	506,45	7,46	2,77	1,52	0,02	-0,04	1,74	26,73	16,41	7,69	7,46	16,41	7,46	16,41	7,46	16,41	7,46
8	126,84	135,44	3662,16	520,67	7,46	2,77	1,52	0,02	-0,04	1,74	26,73	16,41	7,69	7,46	16,41	7,46	16,41	7,46	16,41	7,46
7	126,84	135,44	2287,10	456,08	7,22	2,68	8,05	0,02	-0,04	1,69	56,62	42,21	7,48	9,24	42,21	7,48	42,21	7,48	42,21	7,48
6	126,84	135,44	1943,88	420,14	7,22	2,68	8,05	0,02	-0,04	1,69	56,62	42,21	7,48	9,24	42,21	7,48	42,21	7,48	42,21	7,48
5	125,44	135,44	3393,12	378,50	7,55	2,79	8,36	0,00	-0,04	1,72	57,75	43,89	7,69	9,39	43,89	7,69	43,89	7,69	43,89	7,69
4	124,04	135,44	3920,09	345,34	7,55	2,79	8,36	0,00	-0,04	1,72	57,75	43,89	7,69	9,39	43,89	7,69	43,89	7,69	43,89	7,69
3	124,04	135,44	2595,32	235,15	7,28	2,68	3,50	0,00	-0,04	1,52	36,06	24,07	6,73	7,14	24,07	6,73	24,07	6,73	24,07	6,73
2	124,04	135,44	2350,27	152,25	7,28	2,68	3,50	0,00	-0,04	1,52	36,06	24,07	6,73	7,14	24,07	6,73	24,07	6,73	24,07	6,73
1	135,84	141,54	1681,76	59,83	7,24	2,68	2,99	0,00	-0,02	1,39	30,65	22,00	6,20	6,45	22,00	6,20	22,00	6,20	22,00	6,20

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## TABEL GESER RENCANA KOLOM V<sub>U,k</sub>

Kolom Lantai	hh		M <sub>u,k</sub> Desain		Gaya Geser Portal Arah X				Gaya Geser Portal Arah Y				V <sub>u,k</sub> Arah X		V <sub>u,k</sub> Arah Y		V <sub>u,k</sub>		V <sub>u,k</sub> pakai			
	Arah X	Arah Y	Arah X	K-in	V <sub>D,k</sub>	V <sub>L,k</sub>	V <sub>E,k</sub>	V <sub>D,k</sub>	V <sub>L,k</sub>	V <sub>E,k</sub>	V <sub>D,k</sub>	V <sub>L,k</sub>	V <sub>E,k</sub>	(1)	(2)	(1)	(2)	Arah X	Arah Y	Arah X	Arah Y	
																						Kips
14	128,49	135,39	659,51	288,04	0,48	0,26	0,22	-0,29	-0,22	0,68	10,27	1,59	3,96	3,25	1,59	3,25	1,59	3,25	1,59	3,25	3,35	3,35
13	126,94	135,34	3827,15	226,92	0,73	0,33	9,15	-0,26	-0,20	0,64	57,15	37,64	3,35	5,71	3,35	5,71	37,64	3,35	37,64	3,35	37,64	3,35
12	126,84	135,34	3456,75	227,40	0,81	0,37	11,26	-0,31	-0,20	0,66	54,51	46,22	3,36	6,49	3,36	6,49	46,22	3,36	46,22	3,36	46,22	3,36
11	126,84	135,34	2496,66	220,92	0,81	0,37	11,26	-0,31	-0,20	0,66	54,51	46,22	3,36	6,49	3,36	6,49	46,22	3,36	46,22	3,36	46,22	3,36
10	126,84	135,34	2116,17	210,19	0,77	0,35	7,04	-0,29	-0,20	0,64	39,37	29,26	3,26	5,11	3,26	5,11	29,26	3,26	29,26	3,26	29,26	3,26
9	126,84	135,34	5027,87	197,52	0,68	0,31	4,77	-0,26	-0,18	0,59	33,37	20,07	3,11	4,21	3,11	4,21	20,07	3,11	20,07	3,11	20,07	3,11
8	126,84	135,34	5306,69	194,68	0,62	0,31	14,83	-0,24	-0,18	0,55	79,28	60,21	2,92	7,03	2,92	7,03	60,21	2,92	60,21	2,92	60,21	2,92
7	126,84	135,34	3114,09	172,89	0,62	0,31	14,83	-0,24	-0,18	0,55	79,28	60,21	2,92	7,03	2,92	7,03	60,21	2,92	60,21	2,92	60,21	2,92
6	126,84	135,34	2599,44	151,21	0,53	0,26	8,05	-0,20	-0,13	0,48	49,10	32,97	2,55	4,66	2,55	4,66	32,97	2,55	32,97	2,55	32,97	2,55
5	125,44	135,34	4863,43	126,57	0,42	0,22	7,19	-0,15	-0,13	0,44	40,99	29,39	2,23	4,17	2,23	4,17	29,39	2,23	29,39	2,23	29,39	2,23
4	124,04	135,34	5777,43	106,75	0,33	0,18	15,07	-0,13	-0,09	0,35	77,54	60,76	1,87	6,13	1,87	6,13	60,76	1,87	60,76	1,87	60,76	1,87
3	124,04	135,34	3652,18	78,27	0,26	0,15	17,64	-0,09	-0,09	0,31	93,16	70,97	1,58	6,87	1,58	6,87	70,97	1,58	70,97	1,58	70,97	1,58
2	124,04	135,34	2955,28	45,60	0,15	0,09	9,44	-0,07	-0,07	0,22	58,89	37,98	1,16	3,82	1,16	3,82	37,98	1,16	37,98	1,16	37,98	1,16
1	135,84	141,49	2426,43	19,24	-0,11	-0,02	8,87	0,02	-0,02	0,13	47,65	35,61	0,67	3,23	0,67	3,23	35,61	0,67	35,61	0,67	35,61	0,67
					0,00	0,02	10,65	-0,02	-0,02	0,04	35,73	42,60	0,27	3,41	0,27	3,41	42,60	0,27	42,60	0,27	42,60	0,27
					0,00	0,02	10,65	-0,02	-0,02	0,04	35,73	42,60	0,27	3,41	0,27	3,41	42,60	0,27	42,60	0,27	42,60	0,27

TABEL GESER RENCANA KOLOM Vu,k

Kolom Lantai	hn		Muk Desain		Gaya Geser Portal Arah X				Gaya Geser Portal Arah Y				Vu,k Arah X				Vu,k Arah Y				Vu,k		Vu,k pakai					
	Arah X	in	Arah Y	in	Arah X	K-in	Arah Y	K-in	VD,k	VL,k	Kips	VE,k	VD,k	VL,k	Kips	VE,k	{1}	{2}	{1}	{2}	Arah X	Kips	Arah Y	Kips	Arah X	Kips	Arah Y	Kips
14	130,84	135,39	140,25	247,17	0,00	0,00	-0,70	-0,90	-2,46	-0,90	0,00	0,00	2,14	2,82	3,65	3,62	2,14	2,82	3,65	3,62	2,14	3,62	2,14	3,62	2,14	3,62	2,14	3,62
13	129,84	135,34	1689,97	293,27	0,00	0,00	4,27	-0,99	-2,73	-0,99	0,00	0,00	26,03	17,07	4,33	5,05	17,07	4,33	5,05	17,07	4,33	5,05	17,07	4,33	5,05	17,07	4,33	
12	129,74	135,34	1717,75	304,06	0,00	0,00	5,79	-1,06	-2,90	-1,06	0,00	0,00	26,48	23,14	4,49	5,75	23,14	4,49	5,75	23,14	4,49	5,75	23,14	4,49	5,75	23,14	4,49	
11	129,74	135,34	1189,93	281,65	0,00	0,00	3,30	-0,99	-2,75	-0,99	0,00	0,00	18,04	13,20	4,16	4,79	13,20	4,16	4,79	13,20	4,16	4,79	13,20	4,16	4,79	13,20	4,16	
10	129,74	135,34	951,22	282,88	0,00	0,00	1,98	-0,99	-2,77	-0,99	0,00	0,00	14,66	7,92	4,18	4,42	7,92	4,18	4,42	7,92	4,18	4,42	7,92	4,18	4,42	7,92	4,18	
9	128,34	135,34	2746,38	274,69	0,00	0,00	8,54	-0,95	-2,66	-0,95	0,00	0,00	42,80	34,14	4,06	6,23	34,14	4,06	6,23	34,14	4,06	6,23	34,14	4,06	6,23	34,14	4,06	
8	128,94	135,34	3135,55	283,25	0,00	0,00	9,70	-0,97	-2,75	-0,97	0,00	0,00	49,40	38,81	4,19	6,69	38,81	4,19	6,69	38,81	4,19	6,69	38,81	4,19	6,69	38,81	4,19	
7	128,94	135,34	1820,85	271,84	0,00	0,00	4,93	-0,95	-2,66	-0,95	0,00	0,00	28,69	19,71	4,02	5,15	19,71	4,02	5,15	19,71	4,02	5,15	19,71	4,02	5,15	19,71	4,02	
6	126,94	135,34	1559,44	271,77	0,00	0,00	4,58	-0,92	-2,66	-0,92	0,00	0,00	24,57	18,30	4,02	5,03	18,30	4,02	5,03	18,30	4,02	5,03	18,30	4,02	5,03	18,30	4,02	
5	126,99	135,34	2947,39	264,12	0,00	0,00	9,28	-0,88	-2,57	-0,88	0,00	0,00	46,42	37,14	3,90	5,31	37,14	3,90	5,31	37,14	3,90	5,31	37,14	3,90	5,31	37,14	3,90	
4	127,04	135,34	3486,18	274,05	0,00	0,00	10,82	-0,92	-2,68	-0,92	0,00	0,00	54,88	43,30	4,05	6,93	43,30	4,05	6,93	43,30	4,05	6,93	43,30	4,05	6,93	43,30	4,05	
3	127,04	135,34	2267,30	256,39	0,00	0,00	6,07	-0,84	-2,51	-0,84	0,00	0,00	35,69	24,29	3,79	5,25	24,29	3,79	5,25	24,29	3,79	5,25	24,29	3,79	5,25	24,29	3,79	
2	127,04	135,34	1796,90	299,03	0,00	0,00	5,54	-0,95	-2,82	-0,95	0,00	0,00	28,29	22,18	4,42	5,52	22,18	4,42	5,52	22,18	4,42	5,52	22,18	4,42	5,52	22,18	4,42	
1	137,34	141,49	1759,75	198,68	0,00	0,00	8,01	-0,42	-1,30	-0,42	0,00	0,00	25,63	32,03	2,81	4,17	25,63	2,81	4,17	25,63	2,81	4,17	25,63	2,81	4,17	25,63	2,81	

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## TABEL GESER RENCANA KOLOM Vu,k

Kolom Lantai	Kolom K6		Mu,k Desain		Gaya Geser Portal Arah X				Gaya Geser Portal Arah Y				Vu,k Arah X				Vu,k Arah Y				Vu,k		Vu,k pakai									
	hn		Arah X		Arah Y		VL,k		VE,k		VD,k		VL,k		VE,k		{1}		{2}		{1}		{2}		Arah X		Arah Y		Arah X		Arah Y	
	In	Out	In	Out	In	Out	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	VE,k	Kips	
14	128,49	135,39	772,43	38,66	0,00	0,00	0,00	1,08	0,00	-0,29	-0,29	0,00	0,00	0,00	0,00	0,00	12,02	4,31	0,57	0,78	0,57	0,78	0,57	0,78	4,31	0,57	4,31	0,57	4,31	0,57	4,31	0,57
13	126,94	135,34	3418,48	26,71	0,00	0,00	0,00	9,11	0,00	-0,22	-0,18	0,00	0,00	0,00	0,00	0,00	53,86	36,43	0,39	3,08	0,39	3,08	0,39	3,08	36,43	0,39	36,43	0,39	36,43	0,39	36,43	0,39
12	126,84	135,34	3410,85	32,42	0,00	0,00	0,00	11,51	0,00	-0,26	-0,20	0,00	0,00	0,00	0,00	0,00	53,78	46,02	0,48	3,87	0,48	3,87	0,48	3,87	46,02	0,48	46,02	0,48	46,02	0,48	46,02	0,48
11	126,84	135,34	2503,02	28,88	0,00	0,00	0,00	7,48	0,00	-0,24	-0,18	0,00	0,00	0,00	0,00	0,00	39,47	29,92	0,43	2,62	0,43	2,62	0,43	2,62	29,92	0,43	29,92	0,43	29,92	0,43	29,92	0,43
10	126,84	135,34	2187,46	26,65	0,00	0,00	0,00	5,59	0,00	-0,22	-0,18	0,00	0,00	0,00	0,00	0,00	34,49	22,35	0,39	2,03	0,39	2,03	0,39	2,03	22,35	0,39	22,35	0,39	22,35	0,39	22,35	0,39
9	126,84	135,34	4802,96	22,08	0,00	0,00	0,00	14,41	0,00	-0,18	-0,15	0,00	0,00	0,00	0,00	0,00	75,73	57,64	0,33	4,61	0,33	4,61	0,33	4,61	57,64	0,33	57,64	0,33	57,64	0,33	57,64	0,33
8	126,84	135,34	5406,32	21,14	0,00	0,00	0,00	16,70	0,00	-0,18	-0,15	0,00	0,00	0,00	0,00	0,00	85,25	66,79	0,31	5,30	0,31	5,30	0,31	5,30	66,79	0,31	66,79	0,31	66,79	0,31	66,79	0,31
7	126,84	135,34	3170,96	17,94	0,00	0,00	0,00	8,40	0,00	-0,15	-0,13	0,00	0,00	0,00	0,00	0,00	50,00	33,62	0,27	2,77	0,27	2,77	0,27	2,77	33,62	0,27	33,62	0,27	33,62	0,27	33,62	0,27
6	126,84	135,34	2666,54	15,19	0,00	0,00	0,00	7,57	0,00	-0,11	-0,11	0,00	0,00	0,00	0,00	0,00	42,05	30,27	0,22	2,46	0,22	2,46	0,22	2,46	30,27	0,22	30,27	0,22	30,27	0,22	30,27	0,22
5	125,44	135,34	4910,23	11,09	0,00	0,00	0,00	15,33	0,00	-0,09	-0,09	0,00	0,00	0,00	0,00	0,00	78,29	61,34	0,16	4,75	0,16	4,75	0,16	4,75	61,34	0,16	61,34	0,16	61,34	0,16	61,34	0,16
4	124,04	135,34	5817,01	8,25	0,00	0,00	0,00	17,89	0,00	-0,07	-0,07	0,00	0,00	0,00	0,00	0,00	93,79	71,54	0,12	5,48	0,12	5,48	0,12	5,48	71,54	0,12	71,54	0,12	71,54	0,12	71,54	0,12
3	124,04	135,34	3681,98	5,03	0,00	0,00	0,00	9,59	0,00	-0,04	-0,04	0,00	0,00	0,00	0,00	0,00	59,37	38,37	0,07	2,95	0,07	2,95	0,07	2,95	38,37	0,07	38,37	0,07	38,37	0,07	38,37	0,07
2	124,04	135,34	2965,44	6,59	0,00	0,00	0,00	8,98	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	47,82	35,90	0,10	2,75	0,10	2,75	0,10	2,75	35,90	0,10	35,90	0,10	35,90	0,10	35,90	0,10
1	135,84	141,49	2405,82	2,79	0,00	0,00	0,00	10,56	0,00	-0,02	-0,02	0,00	0,00	0,00	0,00	0,00	35,42	42,24	0,04	3,21	0,04	3,21	0,04	3,21	42,24	0,04	42,24	0,04	42,24	0,04	42,24	0,04

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### TABEL GAYA AKSIAL RENCANA KOLOM Pu,k

#### Kolom K1

Kolom Lantai	Rv	Profil Balok		Aksial Kolom						Mp, b				P, k				Pu, k rencana		
		B1	B2	PD,k Kips	PL,k		PE,k	B1	B2		B1	B2	Lantai		Komulatif		(1)	(2)	Pu, k Kips	Pu, k Kips
					Kips	K-in			K-in	K-in			Kips	Kips	Kips	Kips				
14	0,75	W18X31	W12X26	-5,62	-1,96	2,82	2138,40	1473,12	19,02	19,02	19,02	19,02	28,24	20,43	20,43	20,43	21,75	21,75		
13	0,75	W18X35	W12X26	-7,92	-1,96	2,82	2138,40	1473,12	19,02	19,02	19,02	19,02	29,39	21,75	21,75	21,75	59,46	60,91		
12	0,75	W18X40	W12X26	-27,81	-6,78	5,68	2633,40	1473,12	21,48	40,50	76,81	76,81	76,81	59,46	60,91	60,91	153,35	153,35		
11	0,75	W18X40	W12X26	-29,02	-6,78	5,68	2633,40	1473,12	21,48	40,50	76,81	76,81	76,81	60,91	60,91	60,91	204,90	204,90		
10	0,75	W18X40	W12X26	-66,44	-16,87	-16,87	3104,64	1473,12	23,83	64,33	151,81	279,30	151,81	279,30	151,81	153,35	256,47	256,47		
9	0,75	W18X40	W12X26	-67,91	-16,87	-16,87	3104,64	1473,12	23,83	64,33	151,81	279,30	151,81	279,30	151,81	256,47	307,99	307,99		
8	0,75	W18X40	W12X26	-89,00	-21,71	-45,96	3104,64	1473,12	23,83	88,15	203,35	300,28	203,35	300,28	203,35	304,54	362,87	362,87		
7	0,75	W18X40	W12X26	-109,56	-26,58	-43,78	3104,64	1473,12	23,83	88,15	204,90	302,06	204,90	302,06	204,90	362,87	394,54	394,54		
6	0,75	W21X44	W12X26	-111,03	-26,58	-43,78	3104,64	1473,12	23,83	111,98	254,92	319,88	254,92	319,88	254,92	362,87	449,87	449,87		
5	0,75	W21X44	W12X26	-132,59	-31,39	-42,39	3104,64	1473,12	23,83	111,98	256,47	321,55	256,47	321,55	256,47	449,87	505,16	505,16		
4	0,75	W21X44	W12X26	-175,76	-42,99	-254,30	3777,84	1473,12	27,18	162,98	392,67	1248,60	392,67	1248,60	392,67	449,87	560,36	560,36		
3	0,75	W21X48	W12X26	-199,82	-47,83	-253,90	3777,84	1473,12	27,18	190,16	449,87	1278,84	449,87	1278,84	449,87	560,36	642,54	642,54		
2	0,75	W21X48	W12X26	-221,45	-52,67	-253,04	3777,84	1473,12	27,18	217,34	503,29	1302,11	503,29	1302,11	503,29	642,54	757,68	757,68		
1	0,75	W21X48	W12X26	-241,56	-57,46	-253,18	3777,84	1473,12	27,18	217,34	505,16	1304,25	505,16	1304,25	505,16	642,54	778,81	778,81		

#### Kolom K2

Kolom Lantai	Rv	Profil Balok		Aksial Kolom						Mp, b				P, k				Pu, k rencana		
		B1	B2	PD,k Kips	PL,k		PE,k	B1	B2		B1	B2	Lantai		Komulatif		(1)	(2)	Pu, k Kips	Pu, k Kips
					Kips	K-in			K-in	K-in			Kips	Kips	Kips	Kips				
14	0,75	W18X31	W12X26	-13,77	-4,05	-0,31	2138,40	1473,12	8,51	8,51	8,51	8,51	12,76	9,33	9,33	9,33	19,78	19,78		
13	0,75	W18X35	W12X30	-15,00	-4,05	-0,31	2138,40	1473,12	8,51	8,51	8,51	8,51	13,91	10,48	10,48	10,48	21,26	21,26		
12	0,75	W18X40	W12X30	-46,64	-12,01	1,08	2633,40	1706,76	9,85	18,36	79,95	66,29	66,29	66,29	66,29	88,24	88,24	88,24		
11	0,75	W18X40	W12X30	-48,27	-12,01	1,08	2633,40	1706,76	9,85	18,36	79,95	66,29	66,29	66,29	66,29	117,14	117,14	117,14		
10	0,75	W18X40	W12X30	-84,92	-21,96	0,48	3104,64	1706,76	9,85	28,22	140,44	81,85	81,85	114,82	114,82	193,28	193,28	193,28		
9	0,75	W18X40	W12X30	-86,86	-21,96	0,48	3104,64	1706,76	9,85	28,22	140,44	81,85	81,85	114,82	114,82	193,28	193,28	193,28		
8	0,75	W18X40	W12X30	-118,10	-29,72	-41,89	3104,64	1706,76	9,85	38,07	193,28	324,13	193,28	324,13	193,28	250,06	250,06	250,06		
7	0,75	W18X40	W12X30	-120,05	-29,72	-41,89	3104,64	1706,76	9,85	38,07	193,28	324,13	193,28	324,13	193,28	250,06	250,06	250,06		
6	0,75	W21X44	W12X30	-156,64	-39,64	-42,50	3104,64	1706,76	9,85	47,92	254,02	377,81	254,02	377,81	254,02	307,95	307,95	307,95		
5	0,75	W21X44	W12X30	-158,58	-39,64	-42,50	3104,64	1706,76	9,85	47,92	254,02	377,81	254,02	377,81	254,02	307,95	307,95	307,95		
4	0,75	W21X44	W12X30	-188,16	-47,15	-57,09	3104,64	1706,76	9,85	57,78	306,90	478,92	306,90	478,92	306,90	368,97	368,97	368,97		
3	0,75	W21X44	W12X30	-191,11	-47,15	-57,09	3104,64	1706,76	9,85	57,78	306,90	478,92	306,90	478,92	306,90	368,97	368,97	368,97		
2	0,75	W21X44	W12X30	-227,79	-57,05	-58,28	3777,84	1706,76	9,85	67,63	366,71	534,98	366,71	534,98	366,71	417,41	417,41	417,41		
1	0,75	W21X44	W12X30	-228,94	-57,05	-58,28	3777,84	1706,76	9,85	67,63	366,71	534,98	366,71	534,98	366,71	417,41	417,41	417,41		





# LAMPIRAN B-3-4

TABEL GAYA AKSIAL RENCANA KOLOM Pu,k

## Kolom K5

Kolom Lantai	Rv	Profil Balok		Atisial Kolom				Mp, b				P, k		Pu, k		Pu, k rencana	
		B1	B4	PD,k	PL,k	PE,k	B1	B4	lantai	kumulatif	(1)	(2)	Kips	Kips			
14	0,75	W16X31	W12X26	-6,71	-1,61	0,00	2138,40	1473,12	8,51	8,51	17,24	8,86	8,86	10,31	10,31	10,31	
	0,75	W18X35	W12X30	-43,91	-11,40	0,00	2633,40	1706,76	9,85	18,36	76,43	58,39	58,39	60,16	60,16	60,16	
13	0,75	W18X40	W12X30	-81,56	-21,21	0,00	3104,64	1706,76	9,85	26,22	137,89	110,61	110,61	110,61	110,61	110,61	
	0,75	W18X40	W12X30	-83,34	-21,21	0,00	3104,64	1706,76	9,85	28,22	137,89	110,61	110,61	110,61	110,61	110,61	
12	0,75	W18X40	W12X30	-119,53	-31,04	0,00	3104,64	1706,76	9,85	36,07	196,17	158,95	158,95	161,09	161,09	161,09	
	0,75	W18X40	W12X30	-121,31	-31,04	0,00	3104,64	1706,76	9,85	36,07	196,17	158,95	158,95	161,09	161,09	161,09	
11	0,75	W18X40	W12X30	-186,67	-34,54	0,00	3104,64	1706,76	9,85	47,92	229,79	183,67	183,67	185,81	185,81	185,81	
	0,75	W18X40	W12X30	-140,45	-34,54	0,00	3104,64	1706,76	9,85	47,92	231,66	185,81	185,81	185,81	185,81	185,81	
10	0,75	W18X40	W12X30	-178,33	-44,33	0,00	3104,64	1706,76	9,85	57,78	289,73	234,05	234,05	236,16	236,16	236,16	
	0,75	W18X40	W12X30	-176,57	-44,33	0,00	3104,64	1706,76	9,85	57,78	291,57	236,16	236,16	236,16	236,16	236,16	
9	0,75	W21X44	W12X30	-214,46	-54,08	0,00	3777,84	1706,76	9,85	67,63	346,59	284,39	284,39	286,71	286,71	286,71	
	0,75	W21X44	W12X30	-216,39	-54,08	0,00	3777,84	1706,76	9,85	67,63	351,63	286,71	286,71	286,71	286,71	286,71	
8	0,75	W21X44	W12X30	-252,52	-63,82	0,00	3777,84	1706,76	9,85	77,49	409,64	334,93	334,93	337,28	337,28	337,28	
	0,75	W21X44	W12X30	-254,47	-63,82	0,00	3777,84	1706,76	9,85	77,49	411,70	337,28	337,28	337,28	337,28	337,28	
7	0,75	W21X44	W12X30	-272,32	-67,06	0,00	3777,84	1706,76	9,85	87,34	443,68	360,31	360,31	362,86	362,86	362,86	
	0,75	W21X44	W12X30	-274,27	-67,06	0,00	3777,84	1706,76	9,85	87,34	445,74	362,86	362,86	362,86	362,86	362,86	
6	0,75	W21X44	W12X30	-310,35	-76,74	0,00	3777,84	1706,76	9,85	97,20	503,64	410,75	410,75	413,14	413,14	413,14	
	0,75	W21X44	W12X30	-312,31	-76,74	0,00	3777,84	1706,76	9,85	97,20	505,70	413,14	413,14	413,14	413,14	413,14	
5	0,75	W21X44	W12X30	-346,46	-86,42	0,00	4237,20	1706,76	9,85	107,05	563,67	461,36	461,36	463,94	463,94	463,94	
	0,75	W21X44	W12X30	-350,61	-86,42	0,00	4237,20	1706,76	9,85	107,05	565,94	463,94	463,94	463,94	463,94	463,94	
4	0,75	W21X48	W12X30	-386,76	-96,07	0,00	4237,20	1706,76	9,85	116,91	623,88	512,15	512,15	514,74	514,74	514,74	
	0,75	W21X48	W12X30	-388,92	-96,07	0,00	4237,20	1706,76	9,85	116,91	626,15	514,74	514,74	514,74	514,74	514,74	
3	0,75	W21X48	W12X30	-413,40	-101,13	0,00	4237,20	1706,76	9,85	126,76	667,03	546,65	546,65	549,24	549,24	549,24	
	0,75	W21X48	W12X30	-415,56	-101,13	0,00	4237,20	1706,76	9,85	126,76	669,29	549,24	549,24	549,24	549,24	549,24	
2	0,75	W21X48	W12X30	-451,59	-110,70	0,00	4237,20	1706,76	9,85	136,62	727,03	597,26	597,26	599,85	599,85	599,85	
	0,75	W21X48	W12X30	-453,75	-110,70	0,00	4237,20	1706,76	9,85	136,62	729,29	599,85	599,85	599,85	599,85	599,85	

## Kolom K6

Kolom Lantai	Rv	Profil Balok		Atisial Kolom				Mp, b				P, k		Pu, k		Pu, k rencana	
		B3	B4	PD,k	PL,k	PE,k	B3	B4	lantai	kumulatif	(1)	(2)	Kips	Kips			
14	0,75	W18X35	W12X26	-26,07	-7,48	0,00	2633,40	1473,12	0,00	0,00	35,23	35,23	35,23	35,23	35,23	35,23	35,23
	0,75	W18X35	W12X26	-27,86	-7,48	0,00	2633,40	1473,12	0,00	0,00	36,81	36,81	36,81	36,81	36,81	36,81	36,81
13	0,75	W21X48	W12X30	-86,03	-26,42	0,00	4237,20	1706,76	0,00	0,00	118,97	117,46	117,46	120,05	120,05	120,05	120,05
	0,75	W21X48	W12X30	-86,03	-26,42	0,00	4237,20	1706,76	0,00	0,00	118,97	117,46	117,46	120,05	120,05	120,05	120,05
12	0,75	W21X50	W12X30	-146,21	-45,34	0,00	4356,00	1706,76	0,00	0,00	203,23	203,53	203,53	203,64	203,64	203,64	203,64
	0,75	W21X50	W12X30	-150,81	-45,34	0,00	4356,00	1706,76	0,00	0,00	205,96	203,64	203,64	203,64	203,64	203,64	203,64
11	0,75	W21X50	W12X30	-210,01	-64,28	0,00	4356,00	1706,76	0,00	0,00	288,01	284,16	284,16	284,16	284,16	284,16	284,16
	0,75	W21X50	W12X30	-212,59	-64,28	0,00	4356,00	1706,76	0,00	0,00	290,71	287,25	287,25	287,25	287,25	287,25	287,25
10	0,75	W21X50	W12X30	-271,88	-83,25	0,00	4356,00	1706,76	0,00	0,00	372,88	367,88	367,88	370,96	370,96	370,96	370,96
	0,75	W21X50	W12X30	-274,45	-83,25	0,00	4356,00	1706,76	0,00	0,00	375,58	370,96	370,96	370,96	370,96	370,96	370,96
9	0,75	W21X55	W12X30	-333,85	-102,26	0,00	4356,00	1706,76	0,00	0,00	460,61	454,84	454,84	454,84	454,84	454,84	454,84
	0,75	W21X55	W12X30	-336,42	-102,26	0,00	4356,00	1706,76	0,00	0,00	463,27	454,84	454,84	454,84	454,84	454,84	454,84
8	0,75	W21X55	W12X30	-399,07	-121,33	0,00	4989,60	1706,76	0,00	0,00	543,27	535,94	535,94	536,94	536,94	536,94	536,94
	0,75	W21X55	W12X30	-401,64	-121,33	0,00	4989,60	1706,76	0,00	0,00	545,90	536,94	536,94	536,94	536,94	536,94	536,94
7	0,75	W21X55	W12X30	-468,88	-140,40	0,00	4989,60	1706,76	0,00	0,00	628,24	620,85	620,85	624,63	624,63	624,63	624,63
	0,75	W21X55	W12X30	-471,45	-140,40	0,00	4989,60	1706,76	0,00	0,00	630,87	624,63	624,63	624,63	624,63	624,63	624,63
6	0,75	W21X55	W12X30	-527,69	-159,50	0,00	4989,60	1706,76	0,00	0,00	715,25	705,77	705,77	709,57	709,57	709,57	709,57
	0,75	W21X55	W12X30	-530,26	-159,50	0,00	4989,60	1706,76	0,00	0,00	717,88	709,57	709,57	709,57	709,57	709,57	709,57
5	0,75	W21X55	W12X30	-584,59	-178,62	0,00	4989,60	1706,76	0,00	0,00	801,34	790,78	790,78	794,56	794,56	794,56	794,56
	0,75	W21X55	W12X30	-587,16	-178,62	0,00	4989,60	1706,76	0,00	0,00	803,97	794,56	794,56	794,56	794,56	794,56	794,56
4	0,75	W24X55	W12X30	-647,48	-197,78	0,00	5346,00	1706,76	0,00	0,00	887,53	875,87	875,87	880,04	880,04	880,04	880,04
	0,75	W24X55	W12X30	-650,05	-197,78	0,00	5346,00	1706,76	0,00	0,00	890,16	880,04	880,04	880,04	880,04	880,04	880,04
3	0,75	W24X55	W12X30	-710,75	-216,96	0,00	5346,00	1706,76	0,00	0,00	974,10	961,39	961,39	965,53	965,53	965,53	965,53
	0,75	W24X55	W12X30	-713,32	-216,96	0,00	5346,00	1706,76	0,00	0,00	976,73	965,53	965,53	965,53	965,53	965,53	965,53
2	0,75	W24X55	W12X30	-774,05	-236,19	0,00	5346,00	1706,76	0,00	0,00	1060,75	1046,95	1046,95	1051,12	1051,12	1051,12	1051,12
	0,75	W24X55	W12X30	-776,62	-236,19	0,00	5346,00	1706,76	0,00	0,00	1063,38	1051,12	1051,12	1051,12	1051,12	1051,12	1051,12
1	0,75	W24X55	W12X30	-837,43	-255,46	0,00	5346,00	1706,76	0,00	0,00	1147,54	1132,65	1132,65	1136,82	1136,82	1136,82	1136,82
	0,75	W24X55	W12X30	-840,00	-255,46	0,00	5346,00	1706,76	0,00	0,00	1150,17	1136,82	1136,82	1136,82	1136,82	1136,82	1136,82

# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM ( K ) arah X

Kolom K1

Faktor Kekakuan

Lantai	Profil	Ix		L			I / L		Join Balok	Profil	Ix	L			I / L		Join Lantai	G	GA	GB	K
		In4	999	m	in	in3	in3	in				m	in	in3							
14	W14X90	999	3.75	147.638	6.767	22	W16X31	375	7	275.591	1.361	22	4.97	7.72	4.97	0.94					
13	W14X99	1110	3.75	147.638	7.518	13	W18X35	510	7	275.591	1.851	13	7.72	7.59	7.72	0.95					
12	W14X120	1380	3.75	147.638	9.347	12	W18X40	612	7	275.591	2.221	12	7.59	8.42	7.59	0.952					
11	W14X120	1380	3.75	147.638	9.347	11	W18X40	612	7	275.591	2.221	11	8.42	8.42	8.42	0.96					
10	W14X120	1380	3.75	147.638	9.347	10	W18X40	612	7	275.591	2.221	10	8.42	8.42	8.42	0.96					
9	W14X120	1380	3.75	147.638	9.347	9	W18X40	612	7	275.591	2.221	9	8.42	8.42	8.42	0.96					
8	W14X145	1710	3.75	147.638	11.582	8	W21X44	843	7	275.591	3.059	8	6.84	7.57	6.84	0.95					
7	W14X145	1710	3.75	147.638	11.582	7	W21X44	843	7	275.591	3.059	7	7.57	7.57	7.57	0.957					
6	W14X145	1710	3.75	147.638	11.582	6	W21X44	843	7	275.591	3.059	6	7.57	7.57	7.57	0.957					
5	W14X145	1710	3.75	147.638	11.582	5	W21X44	843	7	275.591	3.059	5	7.57	7.03	7.57	0.954					
4	W14X159	1900	3.75	147.638	12.869	4	W21X48	959	7	275.591	3.480	4	7.03	7.40	7.03	0.953					
3	W14X159	1900	3.75	147.638	12.869	3	W21X48	959	7	275.591	3.480	3	7.40	7.40	7.40	0.953					
2	W14X159	1900	3.75	147.638	12.869	2	W21X48	959	7	275.591	3.480	2	7.40	7.40	7.40	0.953					
1	W14X159	1900	3.75	147.638	12.869	1	W21X48	959	7	275.591	3.480	1	7.40	10.00	7.40	0.953					
												0	10.00			0.966					

# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K1  
Faktor Kekakuan

Lantai	Profil	Ix		L		I/L		Join Balok	Profil	Ix	L		I/L		Join Lantai	G	GA	GB	K
		In4	m	In	m	In3	m				In3	m							
14	W14X90	362	3.75	147.638	3.75	2.452	147.638	22	B3	In4	5	196.850	1.036	22	2.37	4.99	2.37	0.89	
13	W14X99	402	3.75	147.638	3.75	2.723	147.638	13	W12X26	204	5	196.850	1.036	13	4.99	5.86	4.99	0.93	
12	W14X120	495	3.75	147.638	3.75	3.353	147.638	12	W12X26	204	5	196.850	1.036	12	5.86	6.47	5.86	0.948	
11	W14X120	495	3.75	147.638	3.75	3.353	147.638	11	W12X26	204	5	196.850	1.036	11	6.47	6.47	6.47	0.95	
10	W14X120	495	3.75	147.638	3.75	3.353	147.638	10	W12X26	204	5	196.850	1.036	10	6.47	6.47	6.47	0.95	
9	W14X120	495	3.75	147.638	3.75	3.353	147.638	9	W12X26	204	5	196.850	1.036	9	6.47	6.47	6.47	0.95	
8	W14X145	677	3.75	147.638	3.75	4.586	147.638	8	W12X26	204	5	196.850	1.036	8	7.66	7.66	7.66	0.951	
7	W14X145	677	3.75	147.638	3.75	4.586	147.638	7	W12X26	204	5	196.850	1.036	7	8.85	8.85	8.85	0.956	
6	W14X145	677	3.75	147.638	3.75	4.586	147.638	6	W12X26	204	5	196.850	1.036	6	8.85	8.85	8.85	0.958	
5	W14X145	677	3.75	147.638	3.75	4.586	147.638	5	W12X26	204	5	196.850	1.036	5	8.85	8.85	8.85	0.958	
4	W14X159	748	3.75	147.638	3.75	5.066	147.638	4	W12X26	204	5	196.850	1.036	4	9.31	9.31	8.85	0.96	
3	W14X159	748	3.75	147.638	3.75	5.066	147.638	3	W12X26	204	5	196.850	1.036	3	9.78	9.78	9.31	0.964	
2	W14X159	748	3.75	147.638	3.75	5.066	147.638	2	W12X26	204	5	196.850	1.036	2	9.78	9.78	9.78	0.967	
1	W14X159	748	3.75	147.638	3.75	5.066	147.638	1	W12X26	204	5	196.850	1.036	1	9.78	10.00	9.78	0.967	
								0						0	10.00		9.78	0.97	

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# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah X

Kolom K2  
Faktor Kekakuan

Lantai	Profil	ix	L		ix	Profil	ix	m	in	I/L		Join Balok	ix	m	in	I/L		Join Lantai	G	GA	GB	K
			ix	in						in3	in3											
14	W14X99	1110	3.75	147.638	1110	B1	3.75	147.638	7.518	1110	22	ix	7	275.591	1.361	275.591	22	2.76	4.83	2.76	0.9	
13	W14X132	1530	3.75	147.638	1530	W16X31	3.75	147.638	10.363	1530	13	ix	7	275.591	1.651	275.591	13	4.83	5.23	4.83	0.925	
12	W14X159	1900	3.75	147.638	1900	W18X35	3.75	147.638	12.869	1900	12	ix	7	275.591	2.221	275.591	12	5.23	5.80	5.23	0.94	
11	W14X159	1900	3.75	147.638	1900	W18X40	3.75	147.638	12.869	1900	11	ix	7	275.591	2.221	275.591	11	5.80	5.80	5.80	0.943	
10	W14X159	1900	3.75	147.638	1900	W18X40	3.75	147.638	12.869	1900	10	ix	7	275.591	2.221	275.591	10	5.80	5.80	5.80	0.943	
9	W14X159	1900	3.75	147.638	1900	W18X40	3.75	147.638	12.869	1900	9	ix	7	275.591	2.221	275.591	9	5.80	5.80	5.80	0.943	
8	W14X176	2140	3.75	147.638	2140	W21X44	3.75	147.638	14.495	2140	8	ix	7	275.591	3.059	275.591	8	4.47	4.74	4.47	0.926	
7	W14X176	2140	3.75	147.638	2140	W21X44	3.75	147.638	14.495	2140	7	ix	7	275.591	3.059	275.591	7	4.74	4.74	4.74	0.924	
6	W14X176	2140	3.75	147.638	2140	W21X44	3.75	147.638	14.495	2140	6	ix	7	275.591	3.059	275.591	6	4.74	4.74	4.74	0.924	
5	W14X176	2140	3.75	147.638	2140	W21X44	3.75	147.638	14.495	2140	5	ix	7	275.591	3.059	275.591	5	4.74	4.74	4.74	0.924	
4	W14X193	2400	3.75	147.638	2400	W21X48	3.75	147.638	16.256	2400	4	ix	7	275.591	3.480	275.591	4	4.42	4.67	4.42	0.923	
3	W14X193	2400	3.75	147.638	2400	W21X48	3.75	147.638	16.256	2400	3	ix	7	275.591	3.480	275.591	3	4.67	4.67	4.67	0.922	
2	W14X193	2400	3.75	147.638	2400	W21X48	3.75	147.638	16.256	2400	2	ix	7	275.591	3.480	275.591	2	4.67	4.67	4.67	0.923	
1	W14X193	2400	3.75	147.638	2400	W21X48	3.75	147.638	16.256	2400	1	ix	7	275.591	3.480	275.591	1	4.67	10.00	4.67	0.845	
											0						0					

# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K2  
Faktor Kekakuan

Lantai	Profil	Iy		L		I/I L		Join Balok	Profil	Ix	L		I/I L		Join Lantai	G	GA	GB	K
		In4	In3	m	In	In3	In				m	In							
14	W14X99	402	2.723	3.75	147.638	2.723	2.723	22	B4	In4	5	196.850	1.036	1.036	22	1.31	2.66	1.31	0.84
13	W14X132	548	3.712	3.75	147.638	3.712	3.712	13	W12X26	204	5	196.850	1.209	1.209	13	2.66	3.63	2.66	0.89
12	W14X159	748	5.066	3.75	147.638	5.066	5.066	12	W12X30	238	5	196.850	1.209	1.209	12	3.63	4.19	3.63	0.91
11	W14X159	748	5.066	3.75	147.638	5.066	5.066	11	W12X30	238	5	196.850	1.209	1.209	11	4.19	4.19	4.19	0.92
10	W14X159	748	5.066	3.75	147.638	5.066	5.066	10	W12X30	238	5	196.850	1.209	1.209	10	4.19	4.19	4.19	0.92
9	W14X159	748	5.066	3.75	147.638	5.066	5.066	9	W12X30	238	5	196.850	1.209	1.209	9	4.19	4.44	4.19	0.92
8	W14X176	838	5.676	3.75	147.638	5.676	5.676	8	W12X30	238	5	196.850	1.209	1.209	8	4.44	4.69	4.44	0.925
7	W14X176	838	5.676	3.75	147.638	5.676	5.676	7	W12X30	238	5	196.850	1.209	1.209	7	4.69	4.69	4.69	0.93
6	W14X176	838	5.676	3.75	147.638	5.676	5.676	6	W12X30	238	5	196.850	1.209	1.209	6	4.69	4.69	4.69	0.935
5	W14X176	838	5.676	3.75	147.638	5.676	5.676	5	W12X30	238	5	196.850	1.209	1.209	5	4.69	4.69	4.69	0.935
4	W14X193	931	6.306	3.75	147.638	6.306	6.306	4	W12X30	238	5	196.850	1.209	1.209	4	4.96	5.22	4.96	0.94
3	W14X193	931	6.306	3.75	147.638	6.306	6.306	3	W12X30	238	5	196.850	1.209	1.209	3	5.22	5.22	5.22	0.94
2	W14X193	931	6.306	3.75	147.638	6.306	6.306	2	W12X30	238	5	196.850	1.209	1.209	2	5.22	5.22	5.22	0.94
1	W14X193	931	6.306	3.75	147.638	6.306	6.306	1	W12X30	238	5	196.850	1.209	1.209	1	5.22	10.00	5.22	0.94
								0							0	10.00	5.22	0.95	



# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K3  
Faktor Kekakuan

Lantai	Profil	Iy		L		I/L		Join Balok	Profil	Ix	L		I/L		Join Lantai	G	GA	GB	K
		In4	In	m	In	In3	In				m	In	In3	In					
14	W14X109	447	147.638	3.75	147.638	3.028	3.028	22	B2	In4	5	196.850	1.036	22	2.92	6.16	2.92	0.91	
13	W14X120	495	147.638	3.75	147.638	3.353	3.353	13	W12X26	204	5	196.850	1.036	13	6.16	8.71	6.16	0.952	
12	W14X176	838	147.638	3.75	147.638	5.676	5.676	12	W12X26	204	5	196.850	1.036	12	8.71	10.95	8.71	0.97	
11	W14X176	838	147.638	3.75	147.638	5.676	5.676	11	W12X26	204	5	196.850	1.036	11	10.95	10.95	10.95	0.98	
10	W14X176	838	147.638	3.75	147.638	5.676	5.676	10	W12X26	204	5	196.850	1.036	10	10.95	10.95	10.95	0.98	
9	W14X176	838	147.638	3.75	147.638	5.676	5.676	9	W12X26	204	5	196.850	1.036	9	10.95	11.56	10.95	0.98	
8	W14X193	931	147.638	3.75	147.638	6.306	6.306	8	W12X26	204	5	196.850	1.036	8	11.56	12.17	11.56	0.985	
7	W14X193	931	147.638	3.75	147.638	6.306	6.306	7	W12X26	204	5	196.850	1.036	7	12.17	12.17	11.56	0.988	
6	W14X193	931	147.638	3.75	147.638	6.306	6.306	6	W12X26	204	5	196.850	1.036	6	12.17	12.17	12.17	0.989	
5	W14X193	931	147.638	3.75	147.638	6.306	6.306	5	W12X26	204	5	196.850	1.036	5	12.17	12.17	12.17	0.989	
4	W14X211	1030	147.638	3.75	147.638	6.977	6.977	4	W12X26	204	5	196.850	1.036	4	12.82	12.82	12.17	0.989	
3	W14X211	1030	147.638	3.75	147.638	6.977	6.977	3	W12X26	204	5	196.850	1.036	3	13.46	13.46	12.82	0.99	
2	W14X211	1030	147.638	3.75	147.638	6.977	6.977	2	W12X26	204	5	196.850	1.036	2	13.46	13.46	13.46	0.992	
1	W14X211	1030	147.638	3.75	147.638	6.977	6.977	1	W12X26	204	5	196.850	1.036	1	13.46	10.00	13.46	0.992	
								0						0	10.00			0.986	

# LAMPIRAN B-3-5

## FAKTOR PANJANG EFEKTIF KOLOM (K) arah X

Kolom K4  
Faktor Kekakuan

Lantai	Profil	Ix		L		I/L		Join Balok	Profil	Ix		L		I/L		Join Lantai	G	GA	GB	K
		In4	In3	m	In	In3	In4			m	In	In3								
14	W14X132	1530	10.363	3.75	147.638	10.363	22	B3	W18X35	510	7	275.591	1.851	22	2.80	4.08	2.80	0.9		
13	W14X211	2660	18.017	3.75	147.638	18.017	13	W21X48	959	7	275.591	3.480	13	4.08	5.38	4.08	0.92			
12	W14X233	3010	20.388	3.75	147.638	20.388	12	W21X50	984	7	275.591	3.571	12	5.38	5.71	5.38	0.93			
11	W14X233	3010	20.388	3.75	147.638	20.388	11	W21X50	984	7	275.591	3.571	11	5.71	5.71	5.71	0.935			
10	W14X233	3010	20.388	3.75	147.638	20.388	10	W21X50	984	7	275.591	3.571	10	5.71	5.71	5.71	0.935			
9	W14X233	3010	20.388	3.75	147.638	20.388	9	W21X50	984	7	275.591	3.571	9	5.71	5.25	5.71	0.93			
8	W14X257	3400	23.029	3.75	147.638	23.029	8	W21X55	1140	7	275.591	4.137	8	5.25	5.57	5.25	0.928			
7	W14X257	3400	23.029	3.75	147.638	23.029	7	W21X55	1140	7	275.591	4.137	7	5.57	5.57	5.57	0.929			
6	W14X257	3400	23.029	3.75	147.638	23.029	6	W21X55	1140	7	275.591	4.137	6	5.57	5.57	5.57	0.929			
5	W14X257	3400	23.029	3.75	147.638	23.029	5	W21X55	1140	7	275.591	4.137	5	5.57	4.97	5.57	0.924			
4	W14X263	3840	26.010	3.75	147.638	26.010	4	W24X55	1360	7	275.591	4.935	4	4.97	5.27	4.97	0.923			
3	W14X283	3840	26.010	3.75	147.638	26.010	3	W24X55	1360	7	275.591	4.935	3	5.27	5.27	5.27	0.927			
2	W14X283	3840	26.010	3.75	147.638	26.010	2	W24X55	1360	7	275.591	4.935	2	5.27	5.27	5.27	0.927			
1	W14X283	3840	26.010	3.75	147.638	26.010	1	W24X55	1360	7	275.591	4.935	1	5.27	10.00	5.27	0.927			
							0							0	10.00	5.27	0.95			



# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K4  
Faktor Kekakuan

Lantai	Profil	ly		L		I/L		Join Balok	Profil	ix	L		I/L		Join Lantai	G	GA	GB	K
		In4	In3	m	In	In3	In				m	In							
14	W14X132	548	3.75	147.638	3.712	22	W12X26	B4	In4	204	5	196.850	1.036	22	1.79	4.42	1.79	0.9	
13	W14X211	1030	3.75	147.638	6.977	13	W12X30	W12X30	238	238	5	196.850	1.209	13	4.42	6.11	4.42	0.93	
12	W14X233	1150	3.75	147.638	7.789	12	W12X30	W12X30	238	238	5	196.850	1.209	12	6.11	6.44	6.11	0.95	
11	W14X233	1150	3.75	147.638	7.789	11	W12X30	W12X30	238	238	5	196.850	1.209	11	6.44	6.44	6.44	0.956	
10	W14X233	1150	3.75	147.638	7.789	10	W12X30	W12X30	238	238	5	196.850	1.209	10	6.44	6.44	6.44	0.956	
9	W14X233	1150	3.75	147.638	7.789	9	W12X30	W12X30	238	238	5	196.850	1.209	9	6.44	6.44	6.44	0.956	
8	W14X257	1290	3.75	147.638	8.738	8	W12X30	W12X30	238	238	5	196.850	1.209	8	6.83	7.23	6.83	0.96	
7	W14X257	1290	3.75	147.638	8.738	7	W12X30	W12X30	238	238	5	196.850	1.209	7	7.23	7.23	7.23	0.951	
6	W14X257	1290	3.75	147.638	8.738	6	W12X30	W12X30	238	238	5	196.850	1.209	6	7.23	7.23	7.23	0.952	
5	W14X257	1290	3.75	147.638	8.738	5	W12X30	W12X30	238	238	5	196.850	1.209	5	7.23	7.23	7.23	0.952	
4	W14X283	1440	3.75	147.638	9.754	4	W12X30	W12X30	238	238	5	196.850	1.209	4	7.65	8.07	7.65	0.96	
3	W14X283	1440	3.75	147.638	9.754	3	W12X30	W12X30	238	238	5	196.850	1.209	3	8.07	8.07	8.07	0.96	
2	W14X283	1440	3.75	147.638	9.754	2	W12X30	W12X30	238	238	5	196.850	1.209	2	8.07	8.07	8.07	0.96	
1	W14X283	1440	3.75	147.638	9.754	1	W12X30	W12X30	238	238	5	196.850	1.209	1	8.07	10.00	8.07	0.96	
														0	10.00			0.965	

# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah X

Kolom K5  
Faktor Kekakuan

Lantai	Profil	Ix		L		I/L		Join Balok	Profil	Ix	L		I/L		Join Lantai	G	GA	GB	K
		in4	in3	m	in	in3	in				m	in							
14	W14X99	1110	147.638	3.75	147.638	7.518	22	W16X31	375	in4	7	275.591	1.361	22	2.76	4.56	2.76	0.905	
13	W14X120	1380	147.638	3.75	147.638	9.347	13	W18X35	510	in4	7	275.591	1.851	13	4.56	4.71	4.56	0.92	
12	W14X145	1710	147.638	3.75	147.638	11.582	12	W18X40	612	in4	7	275.591	2.221	12	4.71	5.22	4.71	0.93	
11	W14X145	1710	147.638	3.75	147.638	11.582	11	W18X40	612	in4	7	275.591	2.221	11	5.22	5.22	5.22	0.94	
10	W14X145	1710	147.638	3.75	147.638	11.582	10	W18X40	612	in4	7	275.591	2.221	10	5.22	5.22	5.22	0.94	
9	W14X145	1710	147.638	3.75	147.638	11.582	9	W18X40	612	in4	7	275.591	2.221	9	5.22	5.22	5.22	0.94	
8	W14X159	1900	147.638	3.75	147.638	12.869	8	W21X44	843	in4	7	275.591	3.059	8	4.00	4.00	4.00	0.925	
7	W14X159	1900	147.638	3.75	147.638	12.869	7	W21X44	843	in4	7	275.591	3.059	7	4.21	4.21	4.00	0.912	
6	W14X159	1900	147.638	3.75	147.638	12.869	6	W21X44	843	in4	7	275.591	3.059	6	4.21	4.21	4.21	0.925	
5	W14X159	1900	147.638	3.75	147.638	12.869	5	W21X44	843	in4	7	275.591	3.059	5	4.21	4.21	4.21	0.935	
4	W14X176	2140	147.638	3.75	147.638	14.495	4	W21X48	959	in4	7	275.591	3.480	4	3.93	3.93	4.21	0.92	
3	W14X176	2140	147.638	3.75	147.638	14.495	3	W21X48	959	in4	7	275.591	3.480	3	4.17	4.17	3.93	0.92	
2	W14X176	2140	147.638	3.75	147.638	14.495	2	W21X48	959	in4	7	275.591	3.480	2	4.17	4.17	4.17	0.915	
1	W14X176	2140	147.638	3.75	147.638	14.495	1	W21X48	959	in4	7	275.591	3.480	1	4.17	10.00	4.17	0.915	
							0							0	10.00		4.17	0.94	

# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K5  
Faktor Kekakuan

Lantai	Profil	Iy		L		I/L		Join Balok	Profil	Ix	L		I/L		Join Lantai	G	GA	GB	K
		In4	In3	m	In	In3	In				m	In							
14	W14X99	402	2.723	3.75	147.638	2.723	22	B4	204	5	196.850	1.036	22	1.31	2.51	1.31	0.84		
13	W14X120	495	3.353	3.75	147.638	3.353	13	W12X26	238	5	196.850	1.209	13	2.51	3.28	2.51	0.89		
12	W14X145	677	4.586	3.75	147.638	4.586	12	W12X30	238	5	196.850	1.209	12	3.28	3.79	3.28	0.91		
11	W14X145	677	4.586	3.75	147.638	4.586	11	W12X30	238	5	196.850	1.209	11	3.79	3.79	3.79	0.915		
10	W14X145	677	4.586	3.75	147.638	4.586	10	W12X30	238	5	196.850	1.209	10	3.79	3.79	3.79	0.915		
9	W14X145	677	4.586	3.75	147.638	4.586	9	W12X30	238	5	196.850	1.209	9	3.79	3.99	3.79	0.915		
8	W14X159	748	5.066	3.75	147.638	5.066	8	W12X30	238	5	196.850	1.209	8	3.99	4.19	3.99	0.92		
7	W14X159	748	5.066	3.75	147.638	5.066	7	W12X30	238	5	196.850	1.209	7	4.19	4.19	4.19	0.922		
6	W14X159	748	5.066	3.75	147.638	5.066	6	W12X30	238	5	196.850	1.209	6	4.19	4.19	4.19	0.922		
5	W14X176	838	5.676	3.75	147.638	5.676	5	W12X30	238	5	196.850	1.209	5	4.44	4.44	4.44	0.925		
4	W14X176	838	5.676	3.75	147.638	5.676	4	W12X30	238	5	196.850	1.209	4	4.44	4.69	4.44	0.926		
3	W14X176	838	5.676	3.75	147.638	5.676	3	W12X30	238	5	196.850	1.209	3	4.69	4.69	4.69	0.928		
2	W14X176	838	5.676	3.75	147.638	5.676	2	W12X30	238	5	196.850	1.209	2	4.69	4.69	4.69	0.928		
1	W14X176	838	5.676	3.75	147.638	5.676	C1	W12X30	238	5	196.850	1.209	1	4.69	10.00	4.69	0.945		
													0	10.00					

# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah X

Kolom K6  
Faktor Kekakuan

Lantai	Profil	Ix		L		I/L		Join Balok	Profil	Ix		L		I/L		Join Lantai	G	GA	GB	K
		In4	1530	m	In	In3	In3			In4	m	In	In3							
14	W14X132	1530	147.638	3.75	147.638	10.363	22	B3	510	275.591	1.851	22	2.80	3.57	2.80	0.89				
13	W14X176	2140	147.638	3.75	147.638	14.495	13	W18X35	959	275.591	3.480	13	3.57	4.55	3.57	0.915				
12	W14X211	2660	147.638	3.75	147.638	18.017	12	W21X48	984	275.591	3.571	12	4.55	5.05	4.55	0.93				
11	W14X211	2660	147.638	3.75	147.638	18.017	11	W21X50	984	275.591	3.571	11	5.05	5.05	5.05	0.94				
10	W14X211	2660	147.638	3.75	147.638	18.017	10	W21X50	984	275.591	3.571	10	5.05	5.05	5.05	0.94				
9	W14X211	2660	147.638	3.75	147.638	18.017	9	W21X50	984	275.591	3.571	9	5.05	5.05	5.05	0.94				
8	W14X257	3400	147.638	3.75	147.638	23.029	8	W21X55	1140	275.591	4.137	8	4.96	4.96	5.05	0.93				
7	W14X257	3400	147.638	3.75	147.638	23.029	7	W21X55	1140	275.591	4.137	7	5.57	5.57	4.96	0.935				
6	W14X257	3400	147.638	3.75	147.638	23.029	6	W21X55	1140	275.591	4.137	6	5.57	5.57	5.57	0.94				
5	W14X283	3840	147.638	3.75	147.638	26.010	5	W24X55	1360	275.591	4.935	5	5.57	5.57	5.57	0.94				
4	W14X283	3840	147.638	3.75	147.638	26.010	4	W24X55	1360	275.591	4.935	4	4.97	4.97	5.57	0.93				
3	W14X283	3840	147.638	3.75	147.638	26.010	3	W24X55	1360	275.591	4.935	3	5.27	5.27	4.97	0.925				
2	W14X283	3840	147.638	3.75	147.638	26.010	2	W24X55	1360	275.591	4.935	2	5.27	5.27	5.27	0.94				
1	W14X283	3840	147.638	3.75	147.638	26.010	1	W24X55	1360	275.591	4.935	1	5.27	5.27	5.27	0.94				
							0					0	10.00	10.00	5.27	0.95				

# LAMPIRAN B-3-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K6  
Faktor Kekakuan

Lantai	Profil	ly		L		I/L		Join Balok	Profil	ix	L		I/L		Join Lantai	G	GA	GB	K
		In4	In3	m	in	In3	In4				m	in							
14	W14X132	548	3.75	147.638	3.712	22	B4	22	W12X26	204	5	196.850	1.036	22	1.79	3.88	1.79	0.87	
13	W14X176	838	3.75	147.638	5.676	13	W12X30	13	W12X30	238	5	196.850	1.209	13	3.88	5.23	3.88	0.92	
12	W14X211	1030	3.75	147.638	6.977	12	W12X30	12	W12X30	238	5	196.850	1.209	12	5.23	5.77	5.23	0.94	
11	W14X211	1030	3.75	147.638	6.977	11	W12X30	11	W12X30	238	5	196.850	1.209	11	5.77	5.77	5.77	0.942	
10	W14X211	1030	3.75	147.638	6.977	10	W12X30	10	W12X30	238	5	196.850	1.209	10	5.77	5.77	5.77	0.942	
9	W14X211	1030	3.75	147.638	6.977	9	W12X30	9	W12X30	238	5	196.850	1.209	9	5.77	6.50	5.77	0.945	
8	W14X257	1290	3.75	147.638	8.738	8	W12X30	8	W12X30	238	5	196.850	1.209	8	6.50	7.23	6.50	0.95	
7	W14X257	1290	3.75	147.638	8.738	7	W12X30	7	W12X30	238	5	196.850	1.209	7	7.23	7.23	7.23	0.954	
6	W14X257	1290	3.75	147.638	8.738	6	W12X30	6	W12X30	238	5	196.850	1.209	6	7.23	7.23	7.23	0.954	
5	W14X283	1440	3.75	147.638	9.754	5	W12X30	5	W12X30	238	5	196.850	1.209	5	7.23	7.65	7.23	0.956	
4	W14X283	1440	3.75	147.638	9.754	4	W12X30	4	W12X30	238	5	196.850	1.209	4	7.65	8.07	7.65	0.96	
3	W14X283	1440	3.75	147.638	9.754	3	W12X30	3	W12X30	238	5	196.850	1.209	3	8.07	8.07	8.07	0.97	
2	W14X283	1440	3.75	147.638	9.754	2	W12X30	2	W12X30	238	5	196.850	1.209	2	8.07	8.07	8.07	0.97	
1	W14X283	1440	3.75	147.638	9.754	1	W12X30	1	W12X30	238	5	196.850	1.209	1	8.07	10.00	8.07	0.975	
														0	10.00				

# LAMPIRAN B-3-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K1 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mn (K-in)	Min paka (K-in)	fMin (K-in)	Mu,k x (K-in)	Mu,k y (K-in)	Cek Kapasitas	Rasio
			(m)	(in)														
14	W14X30	5652	3,75	147,638	184,800	2908,313	0,001742	650,510	Lb<=Lp	2,30	3710,572	5652	5086,8	772,92	898,69	aman	0,15	
13	W14X39	6228	3,75	147,638	185,840	3199,571	0,001230	701,648	Lb<=Lp	1,83	4064,788	6228	5605,2	1260,77	619,52	aman	0,22	
12	W14X120	7632	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	2,30	4948,965	7632	6668,8	1012,33	732,49	aman	0,15	
11	W14X120	7632	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	2,30	4948,965	7632	6668,8	1012,33	732,49	aman	0,15	
10	W14X120	7632	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	2,28	4948,965	7632	6668,8	1032,11	681,48	aman	0,09	
9	W14X120	7632	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	2,30	4948,965	7632	6668,8	1032,11	681,48	aman	0,15	
8	W14X145	9360	3,75	147,638	199,080	4411,578	0,000364	982,863	Lb<=Lp	2,30	6008,109	9360	9360	1687,52	650,66	aman	0,25	
7	W14X145	9360	3,75	147,638	199,080	4411,578	0,000364	982,863	Lb<=Lp	2,30	6008,109	9360	9360	1687,52	650,66	aman	0,25	
6	W14X145	9360	3,75	147,638	199,080	4411,578	0,000364	982,863	Lb<=Lp	2,30	6008,109	9360	9360	1687,52	650,66	aman	0,25	
5	W14X145	9360	3,75	147,638	199,080	4411,578	0,000364	982,863	Lb<=Lp	2,30	6008,109	9360	9360	1687,52	650,66	aman	0,25	
4	W14X159	10332	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,89	6586,666	10332	10332	1775,05	543,57	aman	0,21	
3	W14X159	10332	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6586,666	10332	10332	1775,05	543,57	aman	0,21	
2	W14X159	10332	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6586,666	10332	10332	1775,05	543,57	aman	0,21	
1	W14X159	10332	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6586,666	10332	10332	1775,05	543,57	aman	0,21	

### KOLOM K2 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mn (K-in)	Min paka (K-in)	fMin (K-in)	Mu,k x (K-in)	Mu,k y (K-in)	Cek Kapasitas	Rasio
			(m)	(in)														
14	W14X39	6228	3,75	147,638	185,840	3199,571	0,001230	701,648	Lb<=Lp	2,30	4064,788	6228	5605,2	348,57	494,59	aman	0,06	
13	W14X132	8424	3,75	147,638	187,910	4199,397	0,000445	888,103	Lb<=Lp	2,11	5412,246	8424	7581,6	1395,97	476,45	aman	0,18	
12	W14X159	10332	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6586,666	10332	10332	1373,96	509,43	aman	0,15	
11	W14X159	10332	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,29	6586,666	10332	10332	1373,96	509,43	aman	0,15	
10	W14X159	10332	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6586,666	10332	10332	1373,96	509,43	aman	0,15	
9	W14X159	10332	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6586,666	10332	10332	1373,96	509,43	aman	0,15	
8	W14X176	11520	3,75	147,638	200,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	6586,666	10332	10332	1373,96	509,43	aman	0,09	
7	W14X176	11520	3,75	147,638	200,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	6586,666	10332	10332	1373,96	509,43	aman	0,09	
6	W14X176	11520	3,75	147,638	200,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	6586,666	10332	10332	1373,96	509,43	aman	0,09	
5	W14X193	12780	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,20	7321,054	11520	10368	2765,28	447,32	aman	0,06	
4	W14X193	12780	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,20	7321,054	11520	10368	2765,28	447,32	aman	0,26	
3	W14X193	12780	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	2,30	8051,612	11520	10368	1373,17	424,71	aman	0,27	
2	W14X193	12780	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	2,30	8051,612	11520	10368	1373,17	424,71	aman	0,13	
1	W14X193	12780	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	2,30	8051,612	11520	10368	1373,17	424,71	aman	0,11	

# LAMPIRAN B-3-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K3 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mn (K-in)	Min paka (K-in)	fMn (K-in)	Mu,k x (K-in)	Mu,k y (K-in)	Cek Kapasitas	Rasio
			(m)	(in)														
14	W14X109	6912	3,75	147,638	186,875	3482,747	0,000873	762,797	Lb<=Lp	2,30	4509,092	6912	6912	6220,8	916,33	667,28	aman	0,15
13	W14X120	7632	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	2,30	4948,965	7632	7632	6968,8	2535,65	474,96	aman	0,37
12	W14X176	11520	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	2627,00	607,51	aman	0,25
11	W14X176	11520	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	1966,18	516,90	aman	0,19
10	W14X176	11520	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,79	7321,054	11520	11520	10368	1695,37	520,47	aman	0,16
9	W14X193	12780	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	2,30	7321,054	11520	11520	10368	3591,02	506,45	aman	0,35
8	W14X193	12780	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	2,30	8051,612	12780	12780	11502	3662,16	520,67	aman	0,32
7	W14X193	12780	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	2,27	8051,612	12780	12780	11502	2287,10	466,08	aman	0,20
6	W14X193	12780	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	2,30	8051,612	12780	12780	11502	1943,88	420,14	aman	0,17
5	W14X211	14040	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8051,612	12780	12780	11502	3398,12	378,50	aman	0,30
4	W14X211	14040	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8810,191	14040	14040	12636	3920,09	345,34	aman	0,31
3	W14X211	14040	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,24	8810,191	14040	14040	12636	2595,32	235,15	aman	0,21
2	W14X211	14040	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8810,191	14040	14040	12636	2350,27	152,25	aman	0,19
1	W14X211	14040	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,25	8810,191	14040	14040	12636	1681,76	59,83	aman	0,13

### KOLOM K4 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mn (K-in)	Min paka (K-in)	fMn (K-in)	Mu,k x (K-in)	Mu,k y (K-in)	Cek Kapasitas	Rasio
			(m)	(in)														
14	W14X132	8424	3,75	147,638	187,910	4199,397	0,000445	888,103	Lb<=Lp	2,30	5412,246	8424	8424	7581,6	659,51	288,04	aman	0,09
13	W14X211	14040	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8810,191	14040	14040	12636	3627,15	226,92	aman	0,29
12	W14X233	15696	3,75	147,638	204,670	6789,600	0,000074	1522,487	Lb<=Lp	2,30	9782,500	15696	15696	14126,4	3456,75	227,40	aman	0,24
11	W14X233	15696	3,75	147,638	204,670	6789,600	0,000074	1522,487	Lb<=Lp	2,30	9782,500	15696	15696	14126,4	2496,66	220,92	aman	0,18
10	W14X233	15696	3,75	147,638	204,670	6789,600	0,000074	1522,487	Lb<=Lp	2,22	9782,500	15696	15696	14126,4	2116,17	210,19	aman	0,15
9	W14X257	17532	3,75	147,638	206,540	7462,884	0,000053	1684,256	Lb<=Lp	2,30	9782,500	15696	15696	14126,4	5027,87	197,52	aman	0,36
8	W14X257	17532	3,75	147,638	206,540	7462,884	0,000053	1684,256	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	5306,69	194,68	aman	0,34
7	W14X257	17532	3,75	147,638	206,540	7462,884	0,000053	1684,256	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	3114,09	172,89	aman	0,20
6	W14X257	17532	3,75	147,638	206,540	7462,884	0,000053	1684,256	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	2599,44	151,21	aman	0,15
5	W14X283	19512	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	4863,43	126,57	aman	0,31
4	W14X283	19512	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	5777,43	106,75	aman	0,33
3	W14X283	19512	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	3652,18	78,27	aman	0,21
2	W14X283	19512	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	2955,28	45,60	aman	0,17
1	W14X283	19512	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	2426,43	19,24	aman	0,14

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## KOLOM K5 CEK TERHADAP LENTUR ARAH X DESAIN KOLOM PORTAL BAJA

Kolom Lantai	Profil	Mp (K-in)		Lb (in)	Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mn (K-in)	Min pakai (K-in)	fMin (K-in)	Mu,k x (K-in)	Mu,k y (K-in)	Cek Kapasitas	Rasio
		(m)	(in)															
14	W14X99	6228	147,638	3,75	185,840	3199,571	0,001230	701,648	Lb<=Lp	2,30	4064,788	6228	6228	5605,2	140,25	247,17	aman	0,03
13	W14X120	7632	147,638	3,75	187,235	3823,304	0,000624	815,360	Lb<=Lp	2,30	4948,965	7632	7632	6868,8	1689,97	293,27	aman	0,25
12	W14X145	9360	147,638	3,75	199,090	4411,578	0,000364	982,863	Lb<=Lp	2,30	6008,109	9360	9360	8424	1717,75	304,06	aman	0,20
11	W14X145	9360	147,638	3,75	199,090	4411,578	0,000364	982,863	Lb<=Lp	2,30	6008,109	9360	9360	8424	1717,75	281,65	aman	0,14
10	W14X145	9360	147,638	3,75	199,090	4411,578	0,000364	982,863	Lb<=Lp	2,02	6008,109	9360	9360	8424	951,22	282,88	aman	0,11
9	W14X159	10332	147,638	3,75	199,090	4411,578	0,000364	982,863	Lb<=Lp	2,30	6886,666	10332	10332	8424	3135,55	274,69	aman	0,33
8	W14X159	10332	147,638	3,75	199,090	4411,578	0,000364	982,863	Lb<=Lp	2,30	6886,666	10332	10332	8424	1820,85	283,25	aman	0,34
7	W14X159	10332	147,638	3,75	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6886,666	10332	10332	8424	1559,44	271,77	aman	0,20
6	W14X159	10332	147,638	3,75	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6886,666	10332	10332	8424	2947,39	264,12	aman	0,17
5	W14X159	10332	147,638	3,75	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	7321,054	11520	11520	10368	3486,18	274,05	aman	0,32
4	W14X176	11520	147,638	3,75	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	2267,30	256,39	aman	0,34
3	W14X176	11520	147,638	3,75	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	1796,90	299,03	aman	0,22
2	W14X176	11520	147,638	3,75	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	1796,90	299,03	aman	0,17
1	W14X176	11520	147,638	3,75	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	1799,75	198,68	aman	0,17

## KOLOM K6 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)		Lb (in)	Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mn (K-in)	Min pakai (K-in)	fMin (K-in)	Mu,k x (K-in)	Mu,k y (K-in)	Cek Kapasitas	Rasio
		(m)	(in)															
14	W14X132	8424	147,638	3,75	187,910	4199,307	0,000445	888,103	Lb<=Lp	2,30	5412,246	8424	8424	7581,6	772,43	38,66	aman	0,10
13	W14X176	11520	147,638	3,75	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	3418,48	26,71	aman	0,33
12	W14X211	14040	147,638	3,75	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8810,191	14040	14040	12636	3410,85	32,42	aman	0,27
11	W14X211	14040	147,638	3,75	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8810,191	14040	14040	12636	2503,02	28,88	aman	0,20
10	W14X211	14040	147,638	3,75	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8810,191	14040	14040	12636	2187,46	26,65	aman	0,17
9	W14X257	17532	147,638	3,75	206,540	7462,884	0,000053	1684,266	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	4802,96	22,08	aman	0,38
8	W14X257	17532	147,638	3,75	206,540	7462,884	0,000053	1684,266	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	5408,32	21,14	aman	0,34
7	W14X257	17532	147,638	3,75	206,540	7462,884	0,000053	1684,266	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	3170,96	17,94	aman	0,20
6	W14X283	19512	147,638	3,75	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	2666,54	15,19	aman	0,17
5	W14X283	19512	147,638	3,75	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	4910,23	11,09	aman	0,31
4	W14X283	19512	147,638	3,75	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	5817,01	8,25	aman	0,33
3	W14X283	19512	147,638	3,75	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	3681,98	5,03	aman	0,21
2	W14X283	19512	147,638	3,75	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	2965,44	6,59	aman	0,17
1	W14X283	19512	147,638	3,75	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,885	19512	19512	17560,8	2405,82	2,79	aman	0,14



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## DESAIN KOLOM PORTAL BAJA

### KOLOM K1 CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Min (K-in)	Mn pakai (K-in)	Rfn (K-in)	Mu,k (K-in)	Cek Kapasitas	Rasio
			(m)	(in)													
14	W14X90	2721,6	3,75	147,638	184,800	2908,313	0,001742	650,510	Lb<=Lp	1,00	3710,572	2721,6	2721,6	2449,44	898,69	aman	0,37
13	W14X99	3009,6	3,75	147,638	185,840	3199,571	0,001230	701,648	Lb<=Lp	1,00	4064,788	3009,6	3009,6	2708,64	619,52	aman	0,23
12	W14X120	3672	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	1,00	4948,965	3672	3672	3304,8	732,49	aman	0,22
11	W14X120	3672	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	1,00	4948,965	3672	3672	3304,8	669,53	aman	0,20
10	W14X120	3672	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	1,00	4948,965	3672	3672	3304,8	681,48	aman	0,20
9	W14X145	4788	3,75	147,638	199,090	4411,578	0,000364	982,863	Lb<=Lp	1,00	6008,109	4788	4788	4309,2	731,69	aman	0,21
8	W14X145	4788	3,75	147,638	199,090	4411,578	0,000364	982,863	Lb<=Lp	1,00	6008,109	4788	4788	4309,2	611,76	aman	0,17
7	W14X145	4788	3,75	147,638	199,090	4411,578	0,000364	982,863	Lb<=Lp	1,00	6008,109	4788	4788	4309,2	589,97	aman	0,14
6	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	543,57	aman	0,14
5	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	517,66	aman	0,13
4	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	397,97	aman	0,11
3	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	325,15	aman	0,08
2	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	188,26	aman	0,07
1	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	188,26	aman	0,04

### KOLOM K2 CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Min (K-in)	Mn pakai (K-in)	Rfn (K-in)	Mu,k (K-in)	Cek Kapasitas	Rasio
			(m)	(in)													
14	W14X99	3009,6	3,75	147,638	185,840	3199,571	0,001230	701,648	Lb<=Lp	1,00	4064,788	3009,6	3009,6	2708,64	494,59	aman	0,18
13	W14X132	4068	3,75	147,638	187,910	4199,397	0,000445	888,103	Lb<=Lp	1,00	5412,246	4068	4068	3661,2	476,45	aman	0,13
12	W14X155	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	509,43	aman	0,11
11	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	465,69	aman	0,10
10	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	464,60	aman	0,10
9	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	447,32	aman	0,10
8	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	456,39	aman	0,09
7	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	424,71	aman	0,09
6	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	406,69	aman	0,08
5	W14X193	6480	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	1,00	8051,612	6480	6480	5832	379,08	aman	0,08
4	W14X193	6480	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	1,00	8051,612	6480	6480	5832	371,17	aman	0,07
3	W14X193	6480	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	1,00	8051,612	6480	6480	5832	329,54	aman	0,06
2	W14X193	6480	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	1,00	8051,612	6480	6480	5832	338,55	aman	0,06
1	W14X193	6480	3,75	147,638	202,430	5744,827	0,000137	1279,325	Lb<=Lp	1,00	8051,612	6480	6480	5832	217,32	aman	0,04

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## DESAIN KOLOM PORTAL BAJA

### KOLOM K5 CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Min (K-in)	Min pakai (K-in)	fMin (K-in)	Mu,k (K-in)	Cek Kapasitas	Rasio
			(m)	(in)													
14	W14X99	3009,6	3,75	147,638	185,840	3199,571	0,001230	701,648	Lb<=Lp	1,00	4064,788	3009,6	3009,6	2708,64	247,17	aman	0,09
13	W14X120	3672	3,75	147,638	187,235	3823,304	0,000624	815,360	Lb<=Lp	1,00	4948,965	3672	3672	3304,8	293,27	aman	0,09
12	W14X145	4788	3,75	147,638	199,090	4411,578	0,000364	982,863	Lb<=Lp	1,00	6008,109	4788	4788	4309,2	304,06	aman	0,07
11	W14X145	4788	3,75	147,638	199,090	4411,578	0,000364	982,863	Lb<=Lp	1,00	6008,109	4788	4788	4309,2	281,65	aman	0,07
10	W14X145	4788	3,75	147,638	199,090	4411,578	0,000364	982,863	Lb<=Lp	1,00	6008,109	4788	4788	4309,2	282,88	aman	0,07
9	W14X145	4788	3,75	147,638	199,090	4411,578	0,000364	982,863	Lb<=Lp	1,00	6008,109	4788	4788	4309,2	274,69	aman	0,06
8	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	283,25	aman	0,06
7	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	271,77	aman	0,06
6	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	284,12	aman	0,06
5	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	274,05	aman	0,05
4	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	258,39	aman	0,05
3	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	299,03	aman	0,05
2	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	299,03	aman	0,05
1	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	198,68	aman	0,04

### KOLOM K6 CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Min (K-in)	Min pakai (K-in)	fMin (K-in)	Mu,k (K-in)	Cek Kapasitas	Rasio
			(m)	(in)													
14	W14X132	4068	3,75	147,638	187,910	4199,397	0,000445	888,103	Lb<=Lp	1,00	5412,246	4068	4068	3661,2	38,66	aman	0,01
13	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	26,71	aman	0,01
12	W14X211	7128	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	1,00	8810,191	7128	7128	6415,2	32,42	aman	0,01
11	W14X211	7128	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	1,00	8810,191	7128	7128	6415,2	28,88	aman	0,00
10	W14X211	7128	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	1,00	8810,191	7128	7128	6415,2	26,65	aman	0,00
9	W14X211	7128	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	1,00	8810,191	7128	7128	6415,2	22,08	aman	0,00
8	W14X257	8856	3,75	147,638	206,540	7462,984	0,000053	1684,256	Lb<=Lp	1,00	10780,489	8856	8856	7970,4	21,14	aman	0,00
7	W14X257	8856	3,75	147,638	206,540	7462,984	0,000053	1684,256	Lb<=Lp	1,00	10780,489	8856	8856	7970,4	17,94	aman	0,00
6	W14X257	8856	3,75	147,638	206,540	7462,984	0,000053	1684,256	Lb<=Lp	1,00	10780,489	8856	8856	7970,4	15,19	aman	0,00
5	W14X257	8856	3,75	147,638	206,540	7462,984	0,000053	1684,256	Lb<=Lp	1,00	10780,489	8856	8856	7970,4	11,09	aman	0,00
4	W14X283	9864	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	1,00	11956,885	9864	9864	8677,6	8,25	aman	0,00
3	W14X283	9864	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	1,00	11956,885	9864	9864	8677,6	5,03	aman	0,00
2	W14X283	9864	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	1,00	11956,885	9864	9864	8677,6	6,59	aman	0,00
1	W14X283	9864	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	1,00	11956,885	9864	9864	8677,6	2,79	aman	0,00

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## DESAIN KOLOM PORTAL BAJA

### KOLOM K1

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb (In)	Ac x	Ac y	Ac	Fcr (Kcal)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Ratio	Cek Rasio Mu & Pu	Yuk pakai		Cek Rasio db / fw	Φ/h		Cek Geser		Ratio	
												Arah X Kips	Arah Y Kips		Arah X Kips	Arah Y Kips	Arah X	Arah Y	Arah X	Arah Y
14	W14X60	147,638	0,421	0,398	0,421	33,422	752,835	21,747	0,03	0,53	aman	11,815	11,675	31,82	Ok	119,750	333,557	aman	0,10	28,57
13	W14X56	147,638	0,423	0,415	0,423	33,397	826,085	60,914	0,07	0,49	aman	11,246	8,760	29,28	Ok	133,883	368,971	aman	0,08	42,12
12	W14X120	147,638	0,421	0,419	0,421	33,424	1002,984	153,355	0,15	0,45	aman	13,152	10,243	24,58	Ok	156,309	447,703	aman	0,08	43,71
11	W14X120	147,638	0,425	0,420	0,425	33,382	1001,638	204,902	0,20	0,47	aman	6,521	9,082	24,58	Ok	166,309	447,703	aman	0,04	49,30
10	W14X120	147,638	0,425	0,442	0,442	33,169	995,228	256,471	0,26	0,57	aman	9,691	9,427	24,58	Ok	166,309	447,703	aman	0,06	47,49
9	W14X120	147,638	0,420	0,421	0,421	33,429	1003,050	307,995	0,31	0,70	aman	18,608	9,537	24,58	Ok	166,309	447,703	aman	0,11	46,94
8	W14X145	147,638	0,395	0,398	0,398	33,894	1222,906	391,538	0,32	0,67	aman	20,783	10,591	21,76	Ok	195,644	547,397	aman	0,11	51,69
7	W14X145	147,638	0,398	0,399	0,399	33,684	1222,867	449,874	0,37	0,59	aman	7,313	8,375	21,76	Ok	195,644	547,397	aman	0,04	65,36
6	W14X145	147,638	0,398	0,399	0,399	33,684	1222,867	505,163	0,41	0,61	aman	6,723	7,942	21,76	Ok	195,644	547,397	aman	0,03	69,92
5	W14X145	147,638	0,397	0,399	0,399	33,675	1222,228	560,359	0,46	0,76	aman	20,596	8,027	21,76	Ok	195,644	547,397	aman	0,11	68,20
4	W14X159	147,638	0,394	0,399	0,399	33,679	1336,887	642,536	0,48	0,75	aman	24,702	7,644	20,13	Ok	217,242	601,474	aman	0,11	76,68
3	W14X159	147,638	0,394	0,400	0,400	33,665	1336,332	700,133	0,52	0,74	aman	12,976	5,674	20,13	Ok	217,242	601,474	aman	0,06	106,01
2	W14X159	147,638	0,394	0,400	0,400	33,665	1336,332	757,685	0,57	0,76	aman	15,180	4,801	20,13	Ok	217,242	601,474	aman	0,07	125,27
1	W14X159	147,638	0,400	0,402	0,402	33,651	1336,175	815,006	0,61	0,75	aman	16,449	2,950	20,13	Ok	217,242	601,474	aman	0,08	226,10

### KOLOM K2

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb (In)	Ac x	Ac y	Ac	Fcr (Kcal)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Ratio	Cek Rasio Mu & Pu	Yuk pakai		Cek Rasio db / fw	Φ/h		Cek Geser		Ratio	
												Arah X Kips	Arah Y Kips		Arah X Kips	Arah Y Kips	Arah X	Arah Y	Arah X	Arah Y
14	W14X59	147,638	0,401	0,374	0,401	33,655	832,463	21,261	0,026	0,26	aman	5,328	6,901	29,28	Ok	133,883	368,971	aman	0,04	53,46
13	W14X132	147,638	0,408	0,392	0,408	33,580	1107,473	69,240	0,062	0,35	aman	12,437	7,041	22,79	Ok	194,320	490,588	aman	0,07	66,67
12	W14X159	147,638	0,389	0,377	0,389	33,790	1341,276	117,141	0,087	0,30	aman	18,159	7,528	20,13	Ok	217,242	601,474	aman	0,08	79,90
11	W14X159	147,638	0,390	0,381	0,390	33,776	1340,732	195,335	0,146	0,26	aman	7,748	6,882	20,13	Ok	217,242	601,474	aman	0,04	87,40
10	W14X159	147,638	0,390	0,381	0,390	33,776	1340,732	256,056	0,191	0,25	aman	18,26	6,387	20,13	Ok	217,242	601,474	aman	0,01	94,18
9	W14X159	147,638	0,383	0,383	0,383	33,853	1343,791	307,953	0,229	0,55	aman	28,868	6,610	20,13	Ok	217,242	601,474	aman	0,13	90,99
8	W14X176	147,638	0,381	0,383	0,383	33,856	1490,687	368,974	0,248	0,56	aman	32,628	6,745	18,31	Ok	245,255	666,370	aman	0,13	98,80
7	W14X176	147,638	0,381	0,385	0,385	33,833	1489,680	417,406	0,290	0,47	aman	12,852	6,276	18,31	Ok	245,255	666,370	aman	0,05	106,17
6	W14X176	147,638	0,381	0,385	0,385	33,833	1489,680	478,242	0,321	0,46	aman	11,656	6,010	16,31	Ok	245,255	666,370	aman	0,05	110,89
5	W14X176	147,638	0,380	0,387	0,387	33,811	1488,688	532,911	0,358	0,65	aman	32,210	5,602	18,31	Ok	245,255	666,370	aman	0,13	118,95
4	W14X193	147,638	0,377	0,381	0,381	33,883	1533,984	593,979	0,363	0,67	aman	38,531	5,465	17,42	Ok	268,175	732,459	aman	0,14	133,55
3	W14X193	147,638	0,378	0,385	0,385	33,838	1533,722	644,397	0,354	0,60	aman	20,504	4,870	17,42	Ok	298,175	732,459	aman	0,08	150,41
2	W14X193	147,638	0,378	0,385	0,385	33,838	1533,722	705,303	0,432	0,61	aman	20,244	5,003	17,42	Ok	268,175	732,459	aman	0,08	146,41
1	W14X193	147,638	0,346	0,386	0,386	33,794	1531,559	768,216	0,471	0,64	aman	25,166	3,072	17,42	Ok	268,175	732,459	aman	0,09	239,45

# LAMPIRAN B-3-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K3

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb		Ac x	Ac y	Ac	Fcr (ksi)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Rasio	Cek Rasio Mu/Pu	Vu,k pabel		db / tw	Cek Rasio db / tw	Φ/h		Cek Geser		Rasio	
		Arah X	Kips										Arah X	Kips			Arah X	Arah Y	Arah X	Arah Y		
14	W14X109	147,638	0,411	0,403	0,411	0,411	33,539	912,257	30,045	0,033	0,39	aman	8,947	8,086	27,24	Ok	145,946	406,815	aman	aman	0,07	50,25
13	W14X120	147,638	0,418	0,421	0,421	0,421	33,424	1002,894	96,542	0,098	0,56	aman	26,306	7,014	24,58	Ok	166,306	447,703	aman	aman	0,16	63,83
12	W14X176	147,638	0,392	0,400	0,400	0,400	33,674	1482,844	173,217	0,117	0,43	aman	35,295	8,971	18,31	Ok	245,255	666,370	aman	aman	0,14	74,28
11	W14X176	147,638	0,395	0,404	0,404	0,404	33,627	1480,593	244,502	0,165	0,37	aman	22,891	7,633	18,31	Ok	245,255	666,370	aman	aman	0,09	87,30
10	W14X176	147,638	0,395	0,404	0,404	0,404	33,627	1480,593	315,648	0,213	0,45	aman	16,408	7,456	18,31	Ok	245,255	666,370	aman	aman	0,07	86,38
9	W14X176	147,638	0,394	0,406	0,406	0,406	33,603	1479,561	396,724	0,261	0,65	aman	42,208	7,479	18,31	Ok	245,255	666,370	aman	aman	0,17	88,10
8	W14X193	147,638	0,390	0,404	0,404	0,404	33,620	1623,161	461,289	0,284	0,65	aman	43,892	7,669	17,42	Ok	268,175	732,499	aman	aman	0,16	95,27
7	W14X193	147,638	0,390	0,405	0,405	0,405	33,615	1622,936	535,716	0,330	0,58	aman	24,072	6,736	17,42	Ok	268,175	732,499	aman	aman	0,09	108,76
6	W14X193	147,638	0,390	0,405	0,405	0,405	33,615	1622,936	610,004	0,376	0,59	aman	21,996	6,204	17,42	Ok	268,175	732,499	aman	aman	0,08	118,07
5	W14X193	147,638	0,389	0,405	0,405	0,405	33,615	1622,936	684,130	0,422	0,74	aman	41,650	5,966	17,42	Ok	268,175	732,499	aman	aman	0,16	131,05
4	W14X211	147,638	0,386	0,402	0,402	0,402	33,641	1772,894	760,188	0,429	0,75	aman	47,414	5,100	16,02	Ok	299,104	798,595	aman	aman	0,16	156,60
3	W14X211	147,638	0,387	0,403	0,403	0,403	33,632	1772,498	836,085	0,472	0,89	aman	26,822	3,472	16,02	Ok	299,104	798,595	aman	aman	0,09	229,98
2	W14X211	147,638	0,387	0,403	0,403	0,403	33,632	1772,498	911,750	0,514	0,70	aman	26,061	2,248	16,02	Ok	299,104	798,595	aman	aman	0,09	355,21
1	W14X211	147,638	0,394	0,401	0,401	0,401	33,660	1773,863	997,000	0,556	0,68	aman	24,761	0,945	16,02	Ok	299,104	798,595	aman	aman	0,08	944,56

### KOLOM K4

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb		Ac x	Ac y	Ac	Fcr (ksi)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Rasio	Cek Rasio Mu/Pu	Vu,k pabel		db / tw	Cek Rasio db / tw	Φ/h		Cek Geser		Rasio	
		Arah X	Kips										Arah X	Kips			Arah X	Arah Y	Arah X	Arah Y		
14	W14X132	147,638	0,397	0,397	0,397	0,397	33,705	1111,590	36,983	0,033	0,18	aman	1,593	3,247	22,70	Ok	184,320	490,566	aman	aman	0,01	151,07
13	W14X211	147,638	0,374	0,378	0,378	0,378	33,910	1787,072	121,783	0,068	0,36	aman	37,644	3,353	16,02	Ok	299,104	798,595	aman	aman	0,13	238,14
12	W14X233	147,638	0,376	0,384	0,384	0,384	33,844	1970,586	206,214	0,105	0,33	aman	46,220	3,360	14,95	Ok	332,813	886,075	aman	aman	0,14	263,68
11	W14X233	147,638	0,378	0,387	0,387	0,387	33,818	1969,045	290,529	0,148	0,28	aman	29,260	3,265	14,95	Ok	332,813	886,075	aman	aman	0,09	271,40
10	W14X233	147,638	0,378	0,387	0,387	0,387	33,818	1969,045	374,959	0,190	0,27	aman	20,068	3,106	14,95	Ok	332,813	886,075	aman	aman	0,06	285,27
9	W14X233	147,638	0,376	0,388	0,388	0,388	33,800	1968,013	459,482	0,233	0,57	aman	60,205	2,919	14,95	Ok	332,813	886,075	aman	aman	0,18	303,57
8	W14X257	147,638	0,372	0,381	0,381	0,381	33,874	2176,722	544,398	0,250	0,57	aman	64,605	2,877	13,90	Ok	376,203	979,776	aman	aman	0,17	340,56
7	W14X257	147,638	0,373	0,382	0,382	0,382	33,869	2176,443	629,462	0,289	0,48	aman	32,974	2,555	13,90	Ok	376,203	979,776	aman	aman	0,09	383,49
6	W14X257	147,638	0,373	0,382	0,382	0,382	33,869	2176,443	714,783	0,328	0,49	aman	29,368	2,235	13,90	Ok	376,203	979,776	aman	aman	0,08	436,45
5	W14X257	147,638	0,371	0,385	0,385	0,385	33,834	2174,204	800,369	0,368	0,66	aman	60,764	1,870	13,90	Ok	376,203	979,776	aman	aman	0,16	523,80
4	W14X283	147,638	0,368	0,382	0,382	0,382	33,862	2397,575	886,509	0,370	0,67	aman	70,970	1,578	12,95	Ok	418,756	1079,795	aman	aman	0,17	584,47
3	W14X283	147,638	0,369	0,382	0,382	0,382	33,862	2397,575	972,926	0,406	0,50	aman	37,981	1,157	12,95	Ok	418,756	1079,795	aman	aman	0,09	933,58
2	W14X283	147,638	0,369	0,382	0,382	0,382	33,862	2397,575	1059,689	0,442	0,60	aman	35,607	0,674	12,95	Ok	418,756	1079,795	aman	aman	0,09	1602,40
1	W14X283	147,638	0,379	0,384	0,384	0,384	33,840	2396,042	1147,192	0,479	0,60	aman	35,725	0,272	12,95	Ok	418,756	1079,795	aman	aman	0,09	3970,04

# LAMPIRAN B-3-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K5

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb		Ac x	Ac y	Ac	Fcr (Ksi)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Rasio	Cek Rasio Mu/ΦPu		Vu, k/pakal		db / tw	Cek Rasio db / tw	ΦVn		Cek Geser		Rasio	
		(in)	(in)									Arah X	Kips	Arah Y	Kips			Arah X	Kips	Arah X	Kips	Arah Y	Kips
14	W14X132	147,638	147,638	0,302	0,383	0,382	33,754	1113,209	36,914	0,033	0,13	aman	4,312	0,571	22,79	Ok	184,330	490,568	aman	aman	0,02	859,07	
13	W14X176	147,638	147,638	0,377	0,379	0,379	33,900	1492,626	120,652	0,060	0,37	aman	36,432	0,395	18,31	Ok	245,255	666,370	aman	aman	0,15	1687,96	
12	W14X211	147,638	147,638	0,378	0,382	0,382	33,866	1794,763	203,643	0,114	0,33	aman	46,024	0,479	16,02	Ok	299,104	798,995	aman	aman	0,15	1666,63	
11	W14X211	147,638	147,638	0,382	0,383	0,383	33,868	1794,298	297,245	0,161	0,28	aman	29,920	0,427	16,02	Ok	299,104	798,995	aman	aman	0,10	1871,51	
10	W14X211	147,638	147,638	0,382	0,383	0,383	33,868	1793,500	451,837	0,208	0,37	aman	22,352	0,394	16,02	Ok	299,104	798,995	aman	aman	0,07	2027,53	
9	W14X257	147,638	147,638	0,378	0,384	0,384	33,844	1783,500	451,837	0,255	0,60	aman	57,940	0,326	16,02	Ok	299,104	798,995	aman	aman	0,19	2447,54	
8	W14X257	147,638	147,638	0,377	0,383	0,383	33,851	2175,985	624,628	0,287	0,47	aman	66,792	0,312	13,90	Ok	376,203	979,776	aman	aman	0,18	3135,95	
7	W14X257	147,638	147,638	0,377	0,383	0,383	33,851	2175,985	624,628	0,287	0,47	aman	66,792	0,312	13,90	Ok	376,203	979,776	aman	aman	0,09	3695,78	
6	W14X257	147,638	147,638	0,377	0,383	0,383	33,851	2175,985	624,628	0,287	0,47	aman	66,792	0,312	13,90	Ok	376,203	979,776	aman	aman	0,08	4365,24	
5	W14X257	147,638	147,638	0,369	0,382	0,382	33,862	2397,575	794,559	0,365	0,64	aman	61,336	0,164	13,90	Ok	376,203	979,776	aman	aman	0,16	5977,44	
4	W14X283	147,638	147,638	0,375	0,386	0,386	33,818	2394,502	865,532	0,403	0,59	aman	71,544	0,122	12,95	Ok	418,796	1079,795	aman	aman	0,17	8852,79	
3	W14X283	147,638	147,638	0,375	0,386	0,386	33,818	2394,502	865,532	0,403	0,59	aman	36,368	0,074	12,95	Ok	418,796	1079,795	aman	aman	0,09	14515,52	
2	W14X283	147,638	147,638	0,375	0,386	0,386	33,818	2394,502	1051,125	0,439	0,59	aman	35,904	0,097	12,95	Ok	418,796	1079,795	aman	aman	0,09	11092,23	
1	W14X283	147,638	147,638	0,379	0,388	0,388	33,796	2392,956	1136,819	0,475	0,60	aman	35,422	0,040	12,95	Ok	418,796	1079,795	aman	aman	0,08	27334,09	

### KOLOM K6

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb		Ac x	Ac y	Ac	Fcr (Ksi)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Rasio	Cek Rasio Mu/ΦPu		Vu, k/pakal		db / tw	Cek Rasio db / tw	ΦVn		Cek Geser		Rasio	
		(in)	(in)									Arah X	Kips	Arah Y	Kips			Arah X	Kips	Arah X	Kips	Arah Y	Kips
14	W14X132	147,638	147,638	0,302	0,383	0,382	33,754	1113,209	36,914	0,033	0,13	aman	4,312	0,571	22,79	Ok	184,330	490,568	aman	aman	0,02	859,07	
13	W14X176	147,638	147,638	0,377	0,379	0,379	33,900	1492,626	120,652	0,060	0,37	aman	36,432	0,395	18,31	Ok	245,255	666,370	aman	aman	0,15	1687,96	
12	W14X211	147,638	147,638	0,378	0,382	0,382	33,866	1794,763	203,643	0,114	0,33	aman	46,024	0,479	16,02	Ok	299,104	798,995	aman	aman	0,15	1666,63	
11	W14X211	147,638	147,638	0,382	0,383	0,383	33,868	1794,298	297,245	0,161	0,28	aman	29,920	0,427	16,02	Ok	299,104	798,995	aman	aman	0,10	1871,51	
10	W14X211	147,638	147,638	0,382	0,383	0,383	33,868	1793,500	451,837	0,208	0,37	aman	22,352	0,394	16,02	Ok	299,104	798,995	aman	aman	0,07	2027,53	
9	W14X257	147,638	147,638	0,378	0,384	0,384	33,844	1783,500	451,837	0,255	0,60	aman	57,940	0,326	16,02	Ok	299,104	798,995	aman	aman	0,19	2447,54	
8	W14X257	147,638	147,638	0,377	0,383	0,383	33,851	2175,985	624,628	0,287	0,47	aman	66,792	0,312	13,90	Ok	376,203	979,776	aman	aman	0,18	3135,95	
7	W14X257	147,638	147,638	0,377	0,383	0,383	33,851	2175,985	624,628	0,287	0,47	aman	66,792	0,312	13,90	Ok	376,203	979,776	aman	aman	0,09	3695,78	
6	W14X257	147,638	147,638	0,377	0,383	0,383	33,851	2175,985	624,628	0,287	0,47	aman	66,792	0,312	13,90	Ok	376,203	979,776	aman	aman	0,08	4365,24	
5	W14X257	147,638	147,638	0,369	0,382	0,382	33,862	2397,575	794,559	0,365	0,64	aman	61,336	0,164	13,90	Ok	376,203	979,776	aman	aman	0,16	5977,44	
4	W14X283	147,638	147,638	0,375	0,386	0,386	33,818	2394,502	865,532	0,403	0,59	aman	71,544	0,122	12,95	Ok	418,796	1079,795	aman	aman	0,17	8852,79	
3	W14X283	147,638	147,638	0,375	0,386	0,386	33,818	2394,502	865,532	0,403	0,59	aman	36,368	0,074	12,95	Ok	418,796	1079,795	aman	aman	0,09	14515,52	
2	W14X283	147,638	147,638	0,375	0,386	0,386	33,818	2394,502	1051,125	0,439	0,59	aman	35,904	0,097	12,95	Ok	418,796	1079,795	aman	aman	0,09	11092,23	
1	W14X283	147,638	147,638	0,379	0,388	0,388	33,796	2392,956	1136,819	0,475	0,60	aman	35,422	0,040	12,95	Ok	418,796	1079,795	aman	aman	0,08	27334,09	

# LAMPIRAN B-3-7

## CEK STRONG KOLOM WEAK BEAM

### Kolom K1

#### Cek Strong Kolom Weak Beam

Lantai	Profil Kolom	Profil Balok		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
		B1	B2				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X90	W16X31	W12X26	21,747	9,154	33,577	5523,159	2659,560	2445,77013	1473,12	2,26	Ok	1,81	Ok
13	W14X99	W18X35	W12X26	60,914	15,757	34,327	11389,027	5494,164	3174,27919	1473,12	3,59	Ok	3,73	Ok
12	W14X120	W18X40	W12X26	153,355	18,047	34,360	12576,869	6063,482	3724,72142	1473,12	3,38	Ok	4,12	Ok
11	W14X120	W18X40	W12X26	204,902	18,024	34,360	13112,431	6308,811	3723,95852	1473,12	3,52	Ok	4,28	Ok
10	W14X120	W18X40	W12X26	256,471	16,419	34,410	12493,148	6010,854	3669,62762	1473,12	3,40	Ok	4,08	Ok
9	W14X120	W18X40	W12X26	307,995	19,607	34,410	11874,004	5712,964	3779,33183	1473,12	3,14	Ok	3,88	Ok
8	W14X145	W21X44	W12X26	394,538	25,224	34,460	12739,944	6341,153	4647,07281	1473,12	2,74	Ok	4,30	Ok
7	W14X145	W21X44	W12X26	449,874	23,210	34,460	13578,382	6945,865	4577,6539	1473,12	2,97	Ok	4,72	Ok
6	W14X145	W21X44	W12X26	505,163	20,224	34,660	12904,791	6601,297	4478,79213	1473,12	2,88	Ok	4,48	Ok
5	W14X145	W21X44	W12X26	560,359	23,557	34,660	12232,045	6257,161	4594,33287	1473,12	2,66	Ok	4,25	Ok
4	W14X159	W21X48	W12X26	642,536	28,712	34,660	12331,203	6289,835	5232,36847	1473,12	2,36	Ok	4,27	Ok
3	W14X159	W21X48	W12X26	700,133	28,129	34,660	12412,481	6314,363	5212,14391	1473,12	2,38	Ok	4,29	Ok
2	W14X159	W21X48	W12X26	757,685	25,801	34,910	11704,817	5954,367	5137,90609	1473,12	2,28	Ok	4,04	Ok
1	W14X159	W21X48	W12X26	815,006	26,723	34,910	10998,857	5595,237	5170,111	1473,12	2,13	Ok	3,80	Ok

### Kolom K2

#### Cek Strong Kolom Weak Beam

Lantai	Profil Kolom	Profil Balok		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
		B1	B4				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X99	W16X31	W12X26	21,261	9,154	33,577	6101,604	2948,521	4891,54026	1473,12	1,25	Ok	2,00	Ok
13	W14X132	W18X35	W12X30	68,240	15,757	34,327	14114,056	6817,782	6348,55838	1706,76	2,22	Ok	3,99	Ok
12	W14X159	W18X40	W12X30	117,141	18,047	34,360	17624,548	8759,038	7449,44285	1706,76	2,37	Ok	5,13	Ok
11	W14X159	W18X40	W12X30	195,335	18,024	34,360	18743,643	9535,094	7447,91704	1706,76	2,52	Ok	5,59	Ok
10	W14X159	W18X40	W12X30	256,056	16,419	34,410	17889,928	9100,799	7339,25523	1706,76	2,44	Ok	5,33	Ok
9	W14X159	W18X40	W12X30	307,953	19,607	34,410	17197,823	8748,718	7558,66366	1706,76	2,28	Ok	5,13	Ok
8	W14X176	W21X44	W12X30	368,974	25,224	34,460	17680,066	9000,178	9294,14563	1706,76	1,90	Ok	5,27	Ok
7	W14X176	W21X44	W12X30	417,406	23,210	34,460	16182,055	8261,484	9155,30779	1706,76	1,99	Ok	5,43	Ok
6	W14X176	W21X44	W12X30	478,242	20,224	34,660	17507,039	8917,648	8957,58427	1706,76	1,95	Ok	5,22	Ok
5	W14X176	W21X44	W12X30	532,911	23,557	34,660	16793,492	8554,185	9188,66575	1706,76	1,83	Ok	5,01	Ok
4	W14X193	W21X48	W12X30	593,979	28,712	34,660	17295,519	8788,752	10464,7369	1706,76	1,65	Ok	5,15	Ok
3	W14X193	W21X48	W12X30	644,397	28,129	34,660	17820,153	9035,570	10424,2878	1706,76	1,71	Ok	5,29	Ok
2	W14X193	W21X48	W12X30	705,303	25,801	34,910	17124,376	8682,782	10275,8122	1706,76	1,67	Ok	5,09	Ok
1	W14X193	W21X48	W12X30	768,218	26,723	34,910	16350,493	8290,391	10340,222	1706,76	1,58	Ok	4,86	Ok

DESAIN BSF 14L/Perencanaan Kolom

CEK STRONG KOLOM WEAK BEAM

Kolom K3  
Cek Strong Kolom Weak Beam

Lantai	Profil Kolom		Profil Balok		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
	B3	B2	B3	B2				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah X
14	W14X109	W12X26	W18X35	W12X26	30,045	13,303	34,327	6731,728	3250,162	3090,061221	2946,24	2,18	Ok	1,10	Ok
13	W14X120	W12X26	W21X48	W12X26	98,542	35,185	36,010	13771,915	6637,422	5504,223827	2946,24	2,50	Ok	2,25	Ok
12	W14X176	W12X26	W21X50	W12X26	173,217	43,982	36,010	17490,118	8710,194	5939,809173	2946,24	2,94	Ok	2,96	Ok
11	W14X176	W12X26	W21X50	W12X26	244,502	43,948	36,010	20459,495	10421,555	5938,579432	2946,24	3,45	Ok	3,54	Ok
10	W14X176	W12X26	W21X50	W12X26	315,548	41,267	36,010	19579,617	9973,368	5842,018534	2946,24	3,35	Ok	3,39	Ok
9	W14X176	W12X26	W21X50	W12X26	386,724	46,284	36,010	18701,024	9525,834	6022,676181	2946,24	3,11	Ok	3,23	Ok
8	W14X193	W12X26	W21X55	W12X26	461,289	55,063	36,010	19027,912	9669,256	6972,435401	2946,24	2,73	Ok	3,28	Ok
7	W14X193	W12X26	W21X55	W12X26	535,716	50,856	36,010	19328,718	9800,477	6820,932194	2946,24	2,83	Ok	3,33	Ok
6	W14X193	W12X26	W21X55	W12X26	610,004	45,592	36,243	18399,252	9329,198	6642,011885	2946,24	2,77	Ok	3,17	Ok
5	W14X193	W12X26	W21X55	W12X26	684,130	49,146	36,243	17471,664	8858,872	6770,825915	2946,24	2,58	Ok	3,01	Ok
4	W14X211	W12X26	W24X55	W12X26	760,188	57,911	36,310	17762,358	9012,284	7448,742318	2946,24	2,38	Ok	3,06	Ok
3	W14X211	W12X26	W24X55	W12X26	836,085	53,583	36,310	18038,927	9158,224	7291,610505	2946,24	2,47	Ok	3,11	Ok
2	W14X211	W12X26	W24X55	W12X26	911,750	46,783	33,868	17085,552	8674,203	6930,461164	2946,24	2,47	Ok	2,94	Ok
1	W14X211	W12X26	W24X55	W12X26	987,000	44,191	36,643	16136,246	8192,248	6965,290853	2946,24	2,32	Ok	2,78	Ok

Kolom K4  
Cek Strong Kolom Weak Beam

Lantai	Profil Kolom		Profil Balok		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
	B3	B4	B3	B4				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah X
14	W14X132	W12X26	W18X35	W12X26	36,983	13,303	34,327	8200,958	3960,291	6180,122442	2946,24	1,33	Ok	1,34	Ok
13	W14X211	W12X30	W21X48	W12X30	121,783	35,185	36,010	21474,902	10699,371	11008,44765	3413,52	1,95	Ok	3,13	Ok
12	W14X233	W12X30	W21X50	W12X30	206,214	43,982	36,010	27657,402	14029,777	11879,61835	3413,52	2,33	Ok	4,11	Ok
11	W14X233	W12X30	W21X50	W12X30	290,529	43,948	36,010	28230,253	14309,371	11877,15886	3413,52	2,38	Ok	4,19	Ok
10	W14X233	W12X30	W21X50	W12X30	374,959	41,267	36,010	27156,194	13764,951	11684,03707	3413,52	2,32	Ok	4,03	Ok
9	W14X233	W12X30	W21X55	W12X30	459,482	46,284	36,010	26080,812	13219,861	12045,35236	3413,52	2,17	Ok	3,87	Ok
8	W14X257	W12X30	W21X55	W12X30	544,398	55,063	36,010	26796,513	13558,130	13944,8708	3413,52	1,92	Ok	3,97	Ok
7	W14X257	W12X30	W21X55	W12X30	629,452	50,856	36,010	27502,297	13892,331	13641,86439	3413,52	2,02	Ok	4,07	Ok
6	W14X257	W12X30	W21X55	W12X30	714,783	45,592	36,243	26404,707	13337,901	13284,02377	3413,52	1,99	Ok	3,91	Ok
5	W14X257	W12X30	W21X55	W12X30	800,369	49,146	36,243	25303,695	12781,743	13541,65183	3413,52	1,87	Ok	3,74	Ok
4	W14X283	W24X55	W24X55	W12X30	886,509	57,911	36,310	26120,025	13199,618	14897,48464	3413,52	1,75	Ok	3,87	Ok
3	W14X283	W24X55	W24X55	W12X30	972,926	53,583	36,310	26925,399	13611,733	14583,22101	3413,52	1,85	Ok	3,99	Ok
2	W14X283	W24X55	W24X55	W12X30	1059,689	46,783	33,868	25788,581	13042,087	13860,92233	3413,52	1,86	Ok	3,82	Ok
1	W14X283	W24X55	W24X55	W12X30	1147,192	44,191	36,643	24664,698	12468,870	13930,58171	3413,52	1,77	Ok	3,65	Ok

# LAMPIRAN B-3-7

## CEK STRONG KOLOM WEAK BEAM

### Kolom K5

#### Cek Strong Kolom Weak Beam

Lantai	Profil Kolom		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
	B1	B4				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X99	W12X26	10,307	13,303	33,577	6166,725	2979,990	5170,167372	1473,12	1,19	Ok	2,02	Ok
13	W14X120	W12X30	60,161	35,185	34,327	13437,417	6478,153	7682,390498	1706,76	1,75	Ok	3,80	Ok
12	W14X145	W12X30	110,607	43,982	34,360	19597,205	7941,649	9231,756315	1706,76	1,73	Ok	4,65	Ok
11	W14X145	W12X30	161,091	43,948	34,360	17065,634	8729,728	9229,409528	1706,76	1,85	Ok	5,11	Ok
10	W14X145	W12X30	185,808	41,267	34,410	16607,739	8495,497	9049,263357	1706,76	1,84	Ok	4,98	Ok
9	W14X145	W12X30	236,163	46,284	34,410	16150,622	8261,664	9394,524671	1706,76	1,72	Ok	4,84	Ok
8	W14X159	W12X30	286,708	55,063	34,460	16492,005	8412,062	11350,65424	1706,76	1,45	Ok	4,93	Ok
7	W14X159	W12X30	337,280	50,856	34,460	16829,212	8551,202	11060,6903	1706,76	1,52	Ok	5,02	Ok
6	W14X159	W12X30	362,657	45,592	34,660	16362	8324	10716	1707	2	Ok	5	Ok
5	W14X159	W12X30	413,142	49,146	34,660	15896,240	8086,589	10962,50203	1706,76	1,45	Ok	4,74	Ok
4	W14X176	W12X30	463,945	57,911	34,660	16446,920	8372,474	12488,7791	1706,76	1,32	Ok	4,91	Ok
3	W14X176	W12X30	514,736	53,583	34,660	16994,094	8656,367	12188,79623	1706,76	1,39	Ok	5,07	Ok
2	W14X176	W12X30	549,237	46,783	34,910	16467,195	8387,977	11740,78673	1706,76	1,40	Ok	4,91	Ok
1	W14X176	W12X30	599,852	44,191	34,910	15941,383	8120,142	11559,78779	1706,76	1,38	Ok	4,76	Ok

### Kolom K6

#### Cek Strong Kolom Weak Beam

Lantai	Profil Balok		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
	B3	B4				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X132	W12X26	36,914	13,303	34,327	8201,376	3960,493	6180,122442	2946,24	1,33	Ok	1,34	Ok
13	W14X176	W12X30	120,052	35,185	36,010	18979,743	9450,724	11008,44765	3413,52	1,72	Ok	2,77	Ok
12	W14X211	W12X30	203,643	43,982	36,010	23537,387	11967,887	11879,61835	3413,52	1,98	Ok	3,51	Ok
11	W14X211	W12X30	287,245	43,948	36,010	24992,155	12688,325	11877,15886	3413,52	2,10	Ok	3,72	Ok
10	W14X211	W12X30	370,964	41,267	36,010	23939,652	12153,977	11684,03707	3413,52	2,05	Ok	3,56	Ok
9	W14X211	W12X30	454,837	46,284	36,010	22885,447	11618,765	12045,35236	3413,52	1,90	Ok	3,40	Ok
8	W14X257	W12X30	539,746	55,063	36,010	25233,996	12775,141	13944,8708	3413,52	1,81	Ok	3,74	Ok
7	W14X257	W12X30	624,628	50,856	36,010	27563,336	13923,163	13641,86439	3413,52	2,02	Ok	4,08	Ok
6	W14X257	W12X30	709,575	45,592	36,243	26469,331	13370,545	13284,02377	3413,52	1,99	Ok	3,92	Ok
5	W14X257	W12X30	794,559	49,146	36,243	26374,675	12817,598	13541,65183	3413,52	1,87	Ok	3,75	Ok
4	W14X283	W12X30	880,040	57,911	36,310	26199,545	13239,803	14897,48464	3413,52	1,76	Ok	3,88	Ok
3	W14X283	W12X30	965,532	53,583	36,310	27015,602	13657,334	14583,22101	3413,52	1,85	Ok	4,00	Ok
2	W14X283	W12X30	1051,125	46,783	33,868	25902,418	13094,580	13860,92233	3413,52	1,87	Ok	3,84	Ok
1	W14X283	W12X30	1136,819	44,191	36,643	24787,918	12531,161	13930,58171	3413,52	1,78	Ok	3,67	Ok



PERHITUNGAN FAKTOR PENGALI MOMEN

Balok B1

Lantai	Lokasi (m)	Balok B1										Balok B2					
		1,2D+0,5L+E					Meman					Cb	Cb pakai	Vd	Vi	Ve	
		Kg-m	Kip-in	Kg-m	Kip-in	Kip-in	Kip-in	Mub	Kg-m	Vi	Ve						
14	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,162 1,841 3,5 5,16 6,82	-2153,429 1304,067 3178,997 3178,997 -85,405 -4890,888	-186,918 113,193 275,937 275,937 -5,677 -424,529	-3817,801 1047,298 3668,365 3668,365 584,672 -4781,211	-862,114 213,888 786,173 882,882 882,882 -1011,408	2,104 2,104 2,104 2,104 2,104 2,104	2,104 2,104 2,104 2,104 2,104 2,104	-383,54 -298,26 -146,81 313,87 42,5 580,62	-1415 -996,45 -653,51 767,95 1109,45 1528,93	1804,28 1804,28 1804,28 1804,28 1804,28 1804,28	14	14	14	14	14	14
13	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,191 1,845 3,5 5,16 6,82	-5118,78 3385,352 6886,894 6886,894 -257,436 -12429,086	-444,310 294,717 597,705 597,705 -22,345 -1078,943	-9816,978 2464,266 8820,882 8820,882 1549,91 -11552,171	-852,114 213,888 786,173 882,882 134,532 -1011,408	2,233 2,233 2,233 2,233 2,233 2,233	2,233 2,233 2,233 2,233 2,233 2,233	-3622,76 -2023,44 -482,45 626,52 2164,84 3764,88	-1415 -996,45 -653,51 767,95 1109,45 1528,93	1804,28 1804,28 1804,28 1804,28 1804,28 1804,28	13	13	13	13	13	13
12	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,199 1,85 3,5 5,16 6,82	-1681,305 5101,278 6830,646 6830,646 -2057,566 -15874,96	-144,201 442,791 593,595 593,595 -178,636 -1386,526	-9205,552 2762,045 8806,534 8806,534 1226,772 -1085,005	-799,042 239,746 764,407 764,407 106,464 -1085,005	2,250 2,250 2,250 2,250 2,250 2,250	2,250 2,250 2,250 2,250 2,250 2,250	-3542,84 -1944,47 -495,71 699,35 2236,86 3834,53	-1384,2 -953,72 -623,54 796,33 1139,56 1559,11	1804,28 1804,28 1804,28 1804,28 1804,28 1804,28	12	12	12	12	12	12
11	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,199 1,85 3,5 5,16 6,82	552,044 6204,687 6832,89 6832,89 -3174,347 -18201,351	47,917 538,598 593,104 593,104 -275,533 -1579,877	-9261,067 2740,281 8818,465 8818,465 110,452 -12190,181	-803,893 237,866 765,444 765,444 110,452 -1086,108	2,253 2,253 2,253 2,253 2,253 2,253	2,253 2,253 2,253 2,253 2,253 2,253	-3552,25 -1953,86 -415,12 699,94 2227,47 3825,13	-1384,2 -953,72 -623,54 796,33 1139,56 1559,11	1804,28 1804,28 1804,28 1804,28 1804,28 1804,28	11	11	11	11	11	11
10	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,199 1,85 3,5 5,16 6,82	2873,3 7244,574 6792,32 6792,32 -4297,239 -20405,612	232,042 628,828 569,573 569,573 -372,999 -1771,207	-8375,209 2681,892 8815,416 8815,416 1325,027 -12082,081	-813,788 232,771 765,178 765,178 115,012 -1046,725	2,261 2,261 2,261 2,261 2,261 2,261	2,261 2,261 2,261 2,261 2,261 2,261	-3562,56 -1964,19 -428,43 679,63 2217,16 3814,61	-1384,2 -953,72 -623,54 796,33 1133,34 1552,9	1804,28 1804,28 1804,28 1804,28 1804,28 1804,28	10	10	10	10	10	10
9	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,199 1,85 3,5 5,16 6,82	4346,216 8065,975 6762,861 6762,861 -5178,867 -22138,755	377,262 700,127 587,016 587,016 -449,525 -1921,844	-8520,882 2610,61 8816,068 8816,068 1401,527 -11931,79	-826,343 226,601 765,408 765,408 121,653 -1035,679	2,266 2,266 2,266 2,266 2,266 2,266	2,266 2,266 2,266 2,266 2,266 2,266	-3577,64 -1978,27 -444,51 664,55 2202,08 3756,73	-1384,2 -978,14 -637,56 783,91 1125,14 1544,69	1804,28 1804,28 1804,28 1804,28 1804,28 1804,28	9	9	9	9	9	9
8	Tepi Kiri 1/4 L 1/2 L 3/4 L lepi kanan	0,208 1,895 3,5 5,16 6,801	7344,713 9572,67 6776,951 6776,951 -6692,223 -25168,7	637,521 830,908 598,239 598,239 -590,895 -2184,843	9430,174 2687,01 8865,002 8865,002 1421,964 -11937,735	-818,539 233,232 769,482 769,482 123,426 -1036,195	2,266 2,266 2,266 2,266 2,266 2,266	2,266 2,266 2,266 2,266 2,266 2,266	-3559,05 -1971,25 -442,11 665,95 2203,83 3756,08	-1396,03 -973,52 -635,83 786,05 1127,4 1546,7	1804,28 1804,28 1804,28 1804,28 1804,28 1804,28	8	8	8	8	8	8

PERHITUNGAN FAKTOR PENGALI MOMEN

Balok B1

Lantai	Lokasi (m)	Momen										B1-BSF					
		1,2D+0,3L+E					1,2D+1,8L					Cb	Cb pakai	Vd	VI	Ve	
		Kg-m	Kip-in	Kg-m	Kip-in	Mub	Kg-m	Kip-in	Kg-m	Kip-in							
7	Tepi Kiri	0,208	6680,146	753,437	-9547,849	-828,753	2296,144	2,264	2,264	-1402,39	5056,28						
	1/4 L	1,866	10253,104	889,969	2621,103	227,512			-3578,84	-975,88	5056,28						
	1/2 L	3,5	6804,151	590,600	8850,724	768,243			-1981,08	-642,19	5056,28						
	1/2 L	3,5	6804,151	590,600	8850,724	768,243			656,16	776,69	5056,28						
	3/4 L	5,153	-7321,79	-635,531	1458,584	126,693			2194,03	1121,05	5056,28						
	lepi kanan	6,901	-26453,287	-2296,144	-11646,336	-1028,436			3786,29	1540,34	5056,28						
6	Tepi Kiri	0,208	9810,533	851,554	-9738,618	-845,912	2398,790	2,267	2,267	-3597,95	5455,03						
	1/4 L	1,866	10805,339	937,903	2526,442	219,295			-2006,19	-991,13	5455,03						
	1/2 L	3,5	6779,794	588,486	8851,911	768,346			-472,01	-653,43	5455,03						
	1/2 L	3,5	6779,794	588,486	8851,911	768,346			637,05	756,44	5455,03						
	3/4 L	5,153	-7925,858	-667,864	1557,148	136,160			2174,93	-109,8	5455,03						
	lepi kanan	6,901	-27635,488	-2398,760	-11654,676	-1011,626			3776,18	1529,1	5455,03						
5	Tepi Kiri	0,208	10508,984	912,006	-9951,227	-863,767	2459,701	2,267	2,267	-3616,52	5718,61						
	1/4 L	1,866	11152,132	968,005	2421,364	210,174			-292,77	-1033,69	5718,61						
	1/2 L	3,5	6777,873	598,319	8854,073	768,534			-493,96	-666	5718,61						
	1/2 L	3,5	6777,873	598,319	8854,073	768,534			675,48	755,36	5718,61						
	3/4 L	5,153	-8276,38	-718,563	1667,131	144,707			2153,35	-109,8	5718,61						
	lepi kanan	6,901	-28337,665	-2459,709	-11437,162	-992,746			3746,57	1529,1	5718,61						
4	Tepi Kiri	0,212	12683,862	1100,959	-10051,639	-872,492	2656,571	2,270	2,270	-3626,83	6430,19						
	1/4 L	1,868	12234,936	1061,992	2395,863	207,964			-2639,06	-1009,76	6430,19						
	1/2 L	3,5	6755,878	586,410	8891,395	771,773			-505,98	-672,84	6430,19						
	1/2 L	3,5	6755,878	586,410	8891,395	771,773			603,08	745,03	6430,19						
	3/4 L	5,151	-9417,997	-817,482	1765,215	153,221			2138,68	-989,6	6430,19						
	lepi kanan	6,797	-30605,862	-2656,571	-11290,512	-980,016			3733,13	1529,49	6430,19						
3	Tepi Kiri	0,212	12728,038	1104,784	-10286,772	-893,760	2658,357	2,269	2,269	-3651,42	6494,65						
	1/4 L	1,868	12262,926	1064,422	2285,366	196,634			-2954,67	-1023,39	6494,65						
	1/2 L	3,5	6767,725	587,435	8975,164	770,344			-526,57	-696,48	6494,65						
	1/2 L	3,5	6767,725	587,435	8975,164	770,344			580,49	735,4	6494,65						
	3/4 L	5,151	-9422,36	-817,863	1863,901	161,787			2116,29	1275,97	6494,65						
	lepi kanan	6,797	-30626,232	-2658,357	-11077,222	-961,503			3710,54	1465,86	6494,65						
2	Tepi Kiri	0,212	12384,616	1075,853	-10596,803	-919,195	2633,368	2,272	2,272	-3678,76	6467,12						
	1/4 L	1,868	12084,829	1048,963	2111,844	183,368			-2092,02	-1039,68	6467,12						
	1/2 L	3,5	6744,535	585,425	8890,775	768,115			-555,92	-732,77	6467,12						
	1/2 L	3,5	6744,535	585,425	8890,775	768,115			553,15	735,4	6467,12						
	3/4 L	5,151	-9289,625	-806,357	1986,397	172,600			2086,96	-125,67	6467,12						
	lepi kanan	6,797	-30338,352	-2633,368	-10812,214	-938,500			3683,2	-475,57	6467,12						
1	Tepi Kiri	0,212	10965,345	951,792	-11026,44	-957,095	2485,757	2,258	2,258	-3734,73	6116,67						
	1/4 L	1,868	11438,025	992,821	1934,28	167,886			-2137,96	-1069,23	6116,67						
	1/2 L	3,5	6878,086	597,018	8941,584	776,129			-611,88	-732,32	6116,67						
	1/2 L	3,5	6878,086	597,018	8941,584	776,129			497,18	696,55	6116,67						
	3/4 L	5,151	-8371,693	-726,663	2329,979	202,242			2032,98	-1030,12	6116,67						
	lepi kanan	6,797	-28637,753	-2485,757	-10212,56	-886,450			3627,23	1456,02	6116,67						

**PERHITUNGAN FAKTOR PENGALI MOMEN  
Balok B2**

Lantai	B2-BSF				B2-BSF				Vd	VI
	Lokasi (m)		Momen		Cb	Cb pakai	Mub	Kg-m		
			1.2D+1.6L	1.2D+1.6L						
	Kg-m	Kip-in	Kg-m	Kg-m						
14	Tepi kiri	0,187	-1305,375	-113,307	2,061	2,061	120,650	-221,84	-278,45	
	1/4 L	1,343	341,034	28,802				-150,17	-189,96	
	1/2 L	2,5	883,37	85,357				7,09	4,18	
	3/4 L	3,657	288,734	25,930				164,35	184,33	
	Tepi kanan	4,813	-1365,975	-120,650				236,02	286,82	
13	Tepi kiri	0,202	-3635,973	-332,962	2,099	2,099	332,962	-2319,92	-706,02	
	1/4 L	1,361	886,2	76,922				-1261,77	-482,98	
	1/2 L	2,5	2648,978	228,931				-1	-0,18	
	3/4 L	3,649	887,936	77,073				1255,76	482,62	
	Tepi kanan	4,798	-3632,501	-332,863				2317,92	705,66	
12	Tepi kiri	0,203	-3828,327	-332,299	2,095	2,095	332,299	-2317,32	-706,17	
	1/4 L	1,352	889,109	77,175				-1255,53	-482,98	
	1/2 L	2,5	2649,574	229,582				7,56	-0,4	
	3/4 L	3,648	860,238	77,273				1255,59	482,19	
	Tepi kanan	4,797	-3826,569	-332,103				2318,47	705,98	
11	Tepi kiri	0,203	-3830,894	-332,521	2,097	2,097	332,521	-2317,87	-706,24	
	1/4 L	1,352	887,322	77,020				-1260,25	-483,05	
	1/2 L	2,5	2648,659	229,904				0,02	-0,47	
	3/4 L	3,648	889,984	77,251				1260,13	482,12	
	Tepi kanan	4,797	-3825,542	-332,057				2317,91	705,31	
10	Tepi kiri	0,203	-3830,297	-332,470	2,097	2,097	332,470	-2317,72	-706,19	
	1/4 L	1,352	887,581	77,043				-1255,93	-482,89	
	1/2 L	2,5	2648,609	229,899				0,18	-0,41	
	3/4 L	3,648	888,605	77,219				1260,29	482,18	
	Tepi kanan	4,797	-3826,229	-332,117				2318,07	705,37	
9	Tepi kiri	0,203	-3830,605	-332,497	2,097	2,097	332,497	-2317,78	-706,14	
	1/4 L	1,352	887,233	77,012				-1260	-482,95	
	1/2 L	2,5	2648,202	228,884				0,11	-0,37	
	3/4 L	3,648	889,188	77,180				1260,22	482,22	
	Tepi kanan	4,797	-3826,736	-332,161				2318	705,41	
8	Tepi kiri	0,204	-3825,18	-332,026	2,095	2,095	332,026	-2316,78	-706,1	
	1/4 L	1,352	888,372	77,111				-1259,37	-482,76	
	1/2 L	2,5	2647,58	229,810				0,29	-0,39	
	3/4 L	3,648	890,801	77,304				1259,54	481,99	
	Tepi kanan	4,796	-3820,721	-331,639				2316,55	705,32	

PERHITUNGAN FAKTOR PENGALI MOMEN  
Balok B2

Lantai	B2-BSF										B2-BSF	
	Lokasi (m)		Momen						Cb	Cb pakai	Vd	Vi
			1,20x1,6L			Mub						
		Kg-m	Kip-in	Kg-m	Kip-in	Mub			Kg-m	Kg-m		
7	Tepi kiri	0,204	-3826,511	-332,089	-332,089	332,088	2,096	2,096	-2316,81	-705,1		
	1/4 L	1,352	887,714	77,054					-1259,4	-482,76		
	1/2 L	2,5	2646,995	229,759					0,06	-0,39		
	3/4 L	3,646	880,069	77,260					1259,51	481,98		
	Tupik kanan	4,736	-3821,151	-331,677					2316,92	705,32		
6	Tepi kiri	0,204	-3826,015	-332,098	-332,098	332,098	2,096	2,096	-2316,83	-705,04		
	1/4 L	1,352	887,435	77,029					-1259,42	-482,7		
	1/2 L	2,5	2646,542	229,720					0,03	-0,33		
	3/4 L	3,646	889,461	77,205					1259,49	482,04		
	Tupik kanan	4,736	-3821,553	-331,746					2316,9	705,38		
5	Tepi kiri	0,224	-3826,392	-332,131	-332,131	332,131	2,097	2,097	-2316,88	-705,99		
	1/4 L	1,352	886,982	76,988					-1259,47	-482,64		
	1/2 L	2,5	2646,972	229,670					-0,02	-0,27		
	3/4 L	3,646	886,763	77,147					1259,43	482,1		
	Tupik kanan	4,736	-3822,725	-331,813					2316,85	705,44		
4	Tepi kiri	0,276	-3826,563	-331,625	-331,625	331,625	2,095	2,095	-2315,87	-705,88		
	1/4 L	1,353	886,331	77,105					-1258,83	-482,4		
	1/2 L	2,5	2646,347	229,616					-0,03	-0,25		
	3/4 L	3,647	880,02	77,254					1258,76	481,91		
	Tupik kanan	4,734	-3817,126	-331,327					2315,8	705,4		
3	Tepi kiri	0,226	-3821,556	-331,711	-331,711	331,711	2,096	2,096	-2315,98	-705,88		
	1/4 L	1,353	887,475	77,028					-1258,94	-482,39		
	1/2 L	2,5	2644,598	229,550					-0,14	-0,24		
	3/4 L	3,647	889,378	77,198					1258,66	481,92		
	Tupik kanan	4,734	-3817,05	-331,372					2315,7	705,41		
2	Tepi kiri	0,226	-3820,615	-331,630	-331,630	331,630	2,095	2,095	-2315,83	-705,76		
	1/4 L	1,353	887,813	77,062					-1258,79	-482,27		
	1/2 L	2,5	2644,426	229,536					0,01	-0,12		
	3/4 L	3,647	888,666	77,136					1258,8	482,04		
	Tupik kanan	4,734	-3816,91	-331,481					2315,84	705,53		
1	Tepi kiri	0,226	-3820,111	-332,106	-332,106	332,106	2,099	2,099	-2316,65	-705,97		
	1/4 L	1,353	883,97	76,729					-1259,61	-482,48		
	1/2 L	2,5	2642,233	229,346					-0,82	-0,32		
	3/4 L	3,647	888,74	77,089					1257,98	481,83		
	Tupik kanan	4,734	-3817,524	-331,385					2315,02	705,32		

PERHITUNGAN FAKTOR PENGALI MOMEN

Balok B3

Lantai	Lokasi (m)	Momen						B3-BSF			
		1,2D+0,5L+E		1,2D+1,8L		Mub	Cb	Cb pakal	Vd	Vi	Ve
		Kg-m	Kip-in	Kg-m	Kip-in						
14	Tepi Kiri	0,188	-5389,723	-468,696	-8197,793	-711,568	738,157	1,958	-905,9	-1149,36	402,46
	1/4 L	1,845	1977,721	171,666	1717,91	149,115			-634,51	-814,32	402,46
	1/2 L	3,5	6328,21	549,289	7884,557	684,390			-412,63	-540,4	402,46
	3/4 L	5,159	582,228	51,405	1559,244	135,342			508,74	597,1	402,46
	lepi kanan	6,816	-8161,825	-708,446	-8504,108	-738,157			731,64	872,28	402,46
13	Tepi Kiri	0,203	-8808,32	-764,662	-16977,607	-1473,656	1677,883	2,173	-4808,32	-2865,51	1381,53
	1/4 L	1,852	5145,23	446,506	3886,881	337,381			-2883,41	-2023,88	1381,53
	1/2 L	3,5	11771,679	1021,782	15639,27	1,57,438			-1086,11	-1344,58	1381,53
	3/4 L	5,148	-115,833	-10,054	2900,135	251,732			1133,02	1496,77	1381,53
	lepi kanan	6,797	-19330,445	-1677,883	-18851,056	-1644,955			2831,32	2178,48	1381,53
12	Tepi Kiri	0,222	-4603,843	-389,814	-16219,066	-1407,815	2633,547	2,187	-4723,11	-2616,09	2481,14
	1/4 L	1,865	7228,4	627,425	4206,089	365,049			-2746,09	-1592,41	2481,14
	1/2 L	3,5	11752,203	1020,091	15523,053	1347,401			-1016,14	-1297,79	2481,14
	3/4 L	5,149	-2205,226	-191,761	2437,785	211,630			1291,99	1545,95	2481,14
	lepi kanan	6,732	-23427,957	-2033,547	-19855,314	-1708,195			4526,88	3592,37	2481,14
11	Tepi Kiri	0,222	-1617,89	-140,433	-16277,751	-1412,809	2283,656	2,197	-4732,01	-2822,17	3408,44
	1/4 L	1,865	8716,58	756,773	4184,501	363,215			-2864,99	-1971,89	3408,44
	1/2 L	3,5	11752,97	1020,158	15538,404	1348,733			-1025,04	-1363,27	3408,44
	3/4 L	5,149	-3710,595	-322,080	2490,39	216,166			1183,08	1540,48	3408,44
	lepi kanan	6,792	-26425,101	-2293,699	-19565,512	-1700,899			2992,73	2220,57	3408,44
10	Tepi Kiri	0,222	1344,434	116,697	-16368,084	-1422,486	2557,041	2,207	-4738,39	-2829,5	4345,52
	1/4 L	1,865	10181,847	883,784	4127,383	358,257			-2811,37	-1979,72	4345,52
	1/2 L	3,5	11723,657	1017,605	15534,274	1348,375			-1031,42	-1310,6	4345,52
	3/4 L	5,149	-5246,438	455,304	2538,7	228,446			1196,7	1533,5	4345,52
	lepi kanan	6,792	-28459,001	-2557,041	-19483,088	-1692,000			2886,35	2213,74	4345,52
9	Tepi Kiri	0,222	3734,603	324,164	-16529,695	-1434,778	2766,806	2,213	-4749,04	-2839,72	5111,04
	1/4 L	1,865	11370,317	986,944	4059,808	362,391			-2822,02	-1989,44	5111,04
	1/2 L	3,5	11715,438	1016,900	15540,42	1346,908			-1042,07	-1322,82	5111,04
	3/4 L	5,149	-6460,366	-560,760	2620,198	227,433			1176,06	1522,53	5111,04
	lepi kanan	6,792	-31875,631	-2766,806	-19338,554	-1676,596			2976,7	2203,02	5111,04
8	Tepi Kiri	0,227	8224,046	713,647	-16302,355	-1415,044	3156,345	2,222	-4738,92	-2835,31	6460,31
	1/4 L	1,867	13683,807	1179,074	4181,272	363,455			-2817,24	-1978,27	6460,31
	1/2 L	3,5	11681,058	1013,916	15586,008	1352,865			-1036,31	-1311,98	6460,31
	3/4 L	5,148	-8737,753	-758,437	2625,773	227,917			1181,82	1531,77	6460,31
	lepi kanan	6,788	-36363,422	-3156,345	-19348,783	-1679,474			1187,69	1531,78	6460,31

PERHITUNGAN FAKTOR PENGALI MOMEN

Balok B3

Lantai	Lokasi (m)	Momen										B3-BSF				
		1,2D+0,5L+E					1,2D+1,8L					Cb	Cb pakal	Vd	Vi	Ve
		Kg-m	Kip-in	Kg-m	Kip-in	Mub	Kg-m	Kip-in	Kg-m	Kip-in						
7	Tepi Kiri	0,227	8979,393	857,531	-16484,463	-1430,851	3304,906	2,226	2,226	4897,47	3051,77	6460,31	7007,94			
	1/4 L	1,867	14397,433	1249,697	4081,229	364,251			-4748,66	-2841,17	7007,94					
	1/2 L	3,5	11656,876	1011,817	15556,677	1350,233			-2821,96	-1986,13	7007,94					
	3/4 L	5,146	-9607,567	-833,937	2671,861	231,918			-1046,05	-1322,84	7007,94					
	lepi kanan	6,788	-38074,955	-3304,906	-19226,63	-1688,871			1172,08	1520,52	7007,94					
	Tepi Kiri	0,227	11480,688	996,515	-16766,887	-1455,366	3446,994	2,229	2,229	2869,48	2199,69	7007,94				
6	1/4 L	1,867	15169,092	1318,413	3841,772	342,146			4897,73	3040,91	7007,94	7007,94				
	1/2 L	3,5	11642,759	1010,591	15558,523	1350,480			-4764,42	-2860,88	7567,01					
	1/2 L	3,5	11642,759	1010,591	15558,523	1350,480			-2842,74	-2008,84	7567,01					
	3/4 L	5,146	-10434,981	-905,756	2818,338	244,632			-1056,81	-1342,55	7567,01					
	lepi kanan	6,788	-39711,907	-3446,994	-18937,187	-1643,748			1151,32	1501,2	7567,01					
	Tepi Kiri	0,227	12408,86	1077,591	-17023,106	-1482,814	3529,415	2,230	2,230	1197,19	1501,21		7567,01			
5	1/4 L	1,867	15847,921	1366,740	3785,397	328,572			2946,72	2179,58	7567,01	7567,01				
	1/2 L	3,5	11634,307	1009,658	15561,249	1350,716			4636,57	3021,2	7567,01					
	1/2 L	3,5	11634,307	1009,658	15561,249	1350,716			-4752,87	-2882,56	7926,41					
	3/4 L	5,146	-10815,076	-947,479	2981,651	258,907			-2861,18	-2030,91	7926,41					
	lepi kanan	6,788	-40661,464	-3529,415	-18614,03	-1615,058			1055,25	-1364,63	7926,41					
	Tepi Kiri	0,227	15479,546	1343,625	-17168,611	-1490,235	3791,994	2,231	2,231	1127,67	1475,72		7926,41			
4	1/4 L	1,874	17187,520	1491,677	3771,538	327,369			1133,75	1476,14	7926,41	7926,41				
	1/2 L	3,5	11662,388	1012,295	15612,052	1355,127			2925,28	2157,91	7926,41					
	1/2 L	3,5	11662,388	1012,295	15612,052	1355,127			4843,52	2999,13	7926,41					
	3/4 L	5,146	-12432,477	-1079,139	3141,132	272,650			-4802,04	-2896,05	8919,63					
	lepi kanan	6,783	-43686,567	-3791,994	-18327,756	-1590,849			2875,17	-2040,02	8919,63					
	Tepi Kiri	0,237	15640,986	1357,637	-17459,828	-1515,513	3799,633	2,229	2,229	-1106,16	-1378,61		8919,63			
3	1/4 L	1,874	17296,603	1500,477	3613,798	313,678			1109,96	1464,84	8919,63	8919,63				
	1/2 L	3,5	11699,489	1015,516	15598,974	1352,949			1117,8	1464,86	8919,63					
	1/2 L	3,5	11699,489	1015,516	15598,974	1352,949			2905,98	2142,57	8919,63					
	3/4 L	5,146	-12453,125	-1081,365	3050,351	282,730			4821,28	2984,3	8919,63					
	lepi kanan	6,783	-43774,577	-3799,633	-18085,058	-1589,783			-4816,63	-2916,07	9017,3					
	Tepi Kiri	0,237	15331,505	1330,775	-17805,935	-1545,555	3778,452	2,254	2,254	-2851,56	-2060,03		9017,3			
2	1/4 L	1,874	17115,498	1465,625	3426,003	297,637			-1124,96	-1399,92	9017,3	9017,3				
	1/2 L	3,5	11665,903	1012,600	15592,489	1350,824			1093,17	1444,83	9017,3					
	1/2 L	3,5	11665,903	1012,600	15592,489	1350,824			1101,01	1444,85	9017,3					
	3/4 L	5,146	-11532,764	-1001,044	3398,181	294,094			2888,78	2122,56	9017,3					
	lepi kanan	6,783	-40300,549	-3778,452	-17765,916	-1543,918			4874,49	2654,29	9017,3					
	Tepi Kiri	0,237	12880,315	1118,879	-18384,651	-1555,788	3538,726	2,218	2,218	-4632,13	-2639,69		9005,12			
1	1/4 L	1,874	15975,053	1386,635	3207,711	278,429			2912,26	-2083,65	9005,12	9005,12				
	1/2 L	3,5	11818,123	1025,813	15696,403	1362,448			-1140,25	-1422,74	9005,12					
	1/2 L	3,5	11818,123	1025,813	15696,403	1362,448			1072,88	1421,01	9005,12					
	3/4 L	5,146	-10891,436	-945,377	3881,738	336,935			1086,72	1421,04	9005,12					
	lepi kanan	6,783	-40768,768	-3538,729	-16934,534	-1469,952			2868,49	2058,75	9005,12					
	Tepi Kiri	0,237	15479,546	1343,625	-17168,611	-1490,235	3791,994	2,231	2,231	1127,67	1475,72		7926,41			

**PERHITUNGAN FAKTOR PENGALI MOMEN  
Balok B4**

Lantai	Lokasi (m)	Momen						B4-BSF	
		1,2D+1,4L			Mub	Cb	Cb pakai	Vd	Vl
		Kg-m	Kip-In	Kg-m					
14	Tepi kiri	0,197	-2608,286	-226,400	229,676	2,075	2,075	-455,29	-861,48
	1/4 L	1,348	602,863	52,331				-311,15	-383,53
	1/2 L	2,5	1878,384	163,044				2,28	3,39
	3/4 L	3,652	584,025	50,693				315,67	390,32
	Tepi kanan	4,803	-2646,032	-229,676				458,81	568,27
	Tepi kiri	0,202	-6135,716	-532,580	532,649	2,091	2,091	-2871,21	-1411,58
13	1/4 L	1,351	1399,786	121,502				-1639,08	-965,49
	1/2 L	2,5	4287,775	372,178				-1,73	0,1
	3/4 L	3,649	1399,384	121,467				1635,62	965,7
	Tepi kanan	4,798	-6136,504	-532,649				2867,74	1411,79
	Tepi kiri	0,208	-6083,228	-528,024	528,447	2,078	2,078	-2663,01	-1411,09
	1/4 L	1,354	1417,454	123,035				-1632,16	-963,51
11	1/2 L	2,5	4288,857	372,273				1,07	-0,05
	3/4 L	3,646	1415,017	122,623				1634,3	963,35
	Tepi kanan	4,792	-6086,161	-528,447				2865,15	1410,57
	Tepi kiri	0,208	-6087,509	-528,404	528,404	2,078	2,078	-2663,35	-1411,51
	1/4 L	1,354	1414,571	122,785				-1632,54	-963,93
	1/2 L	2,5	4287,472	372,153				0,52	-0,43
10	3/4 L	3,646	1415,13	122,833				1633,52	962,92
	Tepi kanan	4,792	-6086,451	-528,307				2864,77	1410,55
	Tepi kiri	0,208	-6086,639	-528,320	528,382	2,078	2,078	-2663,33	-1411,30
	1/4 L	1,354	1415,142	122,834				-1632,48	-963,79
	1/2 L	2,5	4287,644	372,167				0,75	-0,34
	3/4 L	3,646	1414,903	122,814				1633,99	963,11
9	Tepi kanan	4,792	-6087,116	-528,362				2864,64	1410,69
	Tepi kiri	0,208	-6087,173	-528,367	528,374	2,078	2,078	-2663,44	-1411,35
	1/4 L	1,354	1414,706	122,796				-1632,59	-963,78
	1/2 L	2,5	4287,307	372,138				0,64	-0,32
	3/4 L	3,646	1414,665	122,793				1633,67	963,13
	Tepi kanan	4,792	-6087,255	-528,374				2864,72	1410,71
8	Tepi kiri	0,21	-6076,495	-527,440	527,584	2,076	2,076	-2662,22	-1411,5
	1/4 L	1,355	1418,233	123,103				-1631,63	-963,28
	1/2 L	2,5	4287,332	372,140				0,78	-0,25
	3/4 L	3,645	1417,405	123,031				1633,19	962,76
	Tepi kanan	4,79	-6078,152	-527,584				2863,78	1410,64

PERHITUNGAN FAKTOR PENGALI MOMEN  
Balok B4

Lantai	Lokasi (m)	Momen						B4BSF	
		1,2D+1,4L			Mub	Cb	Cb pakai	Vd	Vi
		Kg-m	Kip-In	Kg-m					
7	Tepi kiri	0,21	-807,461	-527,526	527,588	2,076	2,076	-2862,31	-1411,17
	1/4 L	1,355	1417,472	123,037				-1631,72	-963,3
	1/2 L	2,5	4286,866	372,095				0,69	-0,27
	3/4 L	3,645	1417,113	123,005				1633,09	962,75
6	Tepi kanan	4,79	-6078,208	-527,688	527,617	2,077	2,077	2863,69	1410,62
	Tepi kiri	0,21	-6078,542	-527,617	527,617	2,077	2,077	-2862,5	-1411,15
	1/4 L	1,355	1416,658	122,966				-1631,91	-963,28
	1/2 L	2,5	4286,229	372,045				0,5	-0,26
5	3/4 L	3,645	1416,774	122,976				1632,91	962,76
	Tepi kanan	4,79	-6078,31	-527,597	527,708	2,077	2,077	2863,5	1410,64
	Tepi kiri	0,21	-6079,59	-527,708	527,708	2,077	2,077	-2862,69	-1411,13
	1/4 L	1,355	1415,831	122,884				-1632,1	-963,25
4	1/2 L	2,5	4285,623	371,992				0,31	-0,23
	3/4 L	3,645	1416,389	122,943				1632,72	962,75
	Tepi kanan	4,79	-6078,475	-527,612	526,112	2,073	2,073	2863,31	1410,67
	Tepi kiri	0,212	-6061,196	-526,112	526,112	2,073	2,073	-2860,84	-1410,9
3	1/4 L	1,355	1421,028	123,345				-1630,56	-962,43
	1/2 L	2,5	4284,926	371,932				0,2	-0,27
	3/4 L	3,644	1422,22	123,449				1630,35	961,89
	Tepi kanan	4,788	-6058,813	-525,905	526,204	2,073	2,073	2861,03	1410,36
2	Tepi kiri	0,212	-6062,256	-526,204	526,204	2,073	2,073	-2860,77	-1410,91
	1/4 L	1,356	1420,184	123,273				-1630,69	-962,44
	1/2 L	2,5	4284,316	371,879				0,07	-0,28
	3/4 L	3,644	1421,835	123,415				1630,83	961,88
1	Tepi kanan	4,788	-6058,973	-525,919	526,086	2,073	2,073	2860,91	1410,35
	Tepi kiri	0,212	-6065,903	-526,086	526,086	2,073	2,073	-2860,69	-1410,75
	1/4 L	1,356	1420,945	123,338				-1630,61	-962,28
	1/2 L	2,5	4284,466	371,892				0,15	-0,12
1	3/4 L	3,644	1421,383	123,376				1630,31	962,04
	Tepi kanan	4,788	-6060,027	-526,010	526,742	2,076	2,076	2860,96	1410,51
	Tepi kiri	0,212	-6068,455	-526,742	526,742	2,076	2,076	-2861,64	-1411,13
	1/4 L	1,356	1415,85	122,896				-1631,56	-962,67
1	1/2 L	2,5	4281,828	371,663				-0,8	-0,51
	3/4 L	3,644	1421,203	123,380				1629,96	961,66
	Tepi kanan	4,788	-6057,75	-526,813	2860,04	1410,12			



# LAMPIRAN C-1-2

## PERHITUNGAN MOMEN RENCANA BALOK (Mu,b)

**Balok B1**

Lantai	Profil	Mp		L	Lb	Lp	X1	X2	Lr	Keterangan (Bentang)	Cb	Mr	Mn	Min pakai	Mln	Mu,b	Rasio		Kontrol Δ	
		(K-in)	(K-in)														in	max	in	max
14	W18X31	1944,00	275,59	137,80	56,27	1740,38	0,02	169,56	Lp<=L<=Lr	2,10	1226,41	3011,90	1944,00	1749,60	424,53	0,24	0,30	1,15	aman	aman
13	W18X40	2822,40	275,59	137,80	63,62	1809,16	0,02	187,37	Lp<=L<=Lr	2,23	1777,88	4904,22	2822,40	2640,16	1078,84	0,42	0,42	0,77	aman	aman
12	W21X44	3434,40	275,59	137,80	83,10	1554,36	0,03	183,73	Lp<=L<=Lr	2,25	2117,68	5891,56	3434,40	3090,96	1386,63	0,45	0,31	0,77	aman	aman
11	W21X44	3434,40	275,59	137,80	83,10	1554,36	0,03	183,73	Lp<=L<=Lr	2,25	2117,68	5901,40	3434,40	3090,96	1579,88	0,51	0,31	0,77	aman	aman
10	W21X44	3434,40	275,59	137,80	83,10	1554,36	0,03	183,73	Lp<=L<=Lr	2,26	2117,68	5921,91	3434,40	3090,96	1771,21	0,57	0,31	0,77	aman	aman
9	W21X44	3434,40	275,59	137,80	83,10	1554,36	0,03	183,73	Lp<=L<=Lr	2,27	2117,68	5934,38	3434,40	3090,96	1921,64	0,62	0,31	0,77	aman	aman
8	W21X50	3960,00	275,59	137,80	65,08	1731,30	0,02	192,55	Lp<=L<=Lr	2,27	2460,00	7035,08	3960,00	3564,00	2184,64	0,61	0,26	0,77	aman	aman
7	W21X50	3960,00	275,59	137,80	65,08	1731,30	0,02	192,55	Lp<=L<=Lr	2,26	2460,00	7027,14	3960,00	3564,00	2296,14	0,64	0,26	0,77	aman	aman
6	W21X50	3960,00	275,59	137,80	65,08	1731,30	0,02	192,55	Lp<=L<=Lr	2,27	2460,00	7036,41	3960,00	3564,00	2398,76	0,67	0,26	0,77	aman	aman
5	W21X50	3960,00	275,59	137,80	65,08	1731,30	0,02	192,55	Lp<=L<=Lr	2,27	2460,00	7037,61	3960,00	3564,00	2459,71	0,69	0,26	0,77	aman	aman
4	W21X55	4536,00	275,59	137,80	86,43	1636,14	0,02	247,48	Lp<=L<=Lr	2,27	2850,00	9077,95	4536,00	4082,40	2656,57	0,65	0,23	0,77	aman	aman
3	W21X55	4536,00	275,59	137,80	86,43	1636,14	0,02	247,48	Lp<=L<=Lr	2,27	2850,00	9073,50	4536,00	4082,40	2659,36	0,65	0,23	0,77	aman	aman
2	W21X55	4536,00	275,59	137,80	86,43	1636,14	0,02	247,48	Lp<=L<=Lr	2,27	2850,00	9082,12	4536,00	4082,40	2633,37	0,65	0,23	0,77	aman	aman
1	W21X55	4536,00	275,59	137,80	86,43	1636,14	0,02	247,48	Lp<=L<=Lr	2,26	2850,00	9027,93	4536,00	4082,40	2465,76	0,61	0,23	0,77	aman	aman

**Balok B2**

Lantai	Profil	Mp		L	Lb	Lp	X1	X2	Lr	Keterangan (Bentang)	Cb	Mr	Mn	Min pakai	Mln	Mu,b	Rasio		Kontrol Δ	
		(K-in)	(K-in)														in	max	in	max
14	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,06	869,51	1910,60	1339,20	1205,28	120,85	0,10	0,07	0,82	aman	aman
13	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1946,09	1339,20	1205,28	332,96	0,28	0,20	0,55	aman	aman
12	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1942,86	1339,20	1205,28	332,30	0,28	0,20	0,55	aman	aman
11	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1944,41	1339,20	1205,28	332,52	0,28	0,20	0,55	aman	aman
10	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1944,19	1339,20	1205,28	332,47	0,28	0,20	0,55	aman	aman
9	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1944,51	1339,20	1205,28	332,50	0,28	0,20	0,55	aman	aman
8	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1942,83	1339,20	1205,28	332,03	0,28	0,20	0,55	aman	aman
7	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1943,41	1339,20	1205,28	332,09	0,28	0,20	0,55	aman	aman
6	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1943,67	1339,20	1205,28	332,10	0,28	0,20	0,55	aman	aman
5	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1944,10	1339,20	1205,28	332,13	0,28	0,20	0,55	aman	aman
4	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,09	869,51	1942,25	1339,20	1205,28	331,62	0,28	0,20	0,55	aman	aman
3	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1943,02	1339,20	1205,28	331,71	0,28	0,20	0,55	aman	aman
2	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1942,70	1339,20	1205,28	331,63	0,28	0,20	0,55	aman	aman
1	W12X26	1339,20	196,85	196,85	75,19	1812,65	0,01	213,88	Lp<=L<=Lr	2,10	869,51	1946,06	1339,20	1205,28	332,11	0,28	0,20	0,55	aman	aman

# LAMPIRAN C-1-2

## PERHITUNGAN MOMEN RENCANA BALOK (Mu,b)

Balok B3

Lantai	Profil	Mp		L		Lb		Lp	X1	X2	Lr	Keterangan		Cb	Mr	Mn	Mn pakai	fMn	Mu,b	Rasio		Kontrol Δ	
		(K-in)	(m)	In	(m)	In	(in)					Kai	Ksi							(K-in)	(K-in)	in	max
14	W18X35	2394,00	7,00	275,59	3,50	137,80	60,94	1585,22	0,03	175,17	Lp<L<=LR	2,10	1498,30	3769,72	2394,00	2154,60	738,16	0,34	0,44	1,15	aman	aman	
13	W21X50	3960,00	7,00	275,59	3,50	137,80	65,08	1731,30	0,02	192,55	Lp<L<=LR	2,23	2460,00	6931,72	3960,00	4082,40	1677,98	0,47	0,46	0,77	aman	aman	
12	W21X55	4536,00	7,00	275,59	3,50	137,80	86,43	1636,14	0,02	247,48	Lp<L<=LR	2,25	2850,00	8994,00	4536,00	4082,40	2033,55	0,50	0,40	0,77	aman	aman	
11	W21X55	4536,00	7,00	275,59	3,50	137,80	86,43	1636,14	0,02	247,48	Lp<L<=LR	2,25	2850,00	9009,01	4536,00	4082,40	2283,70	0,56	0,40	0,77	aman	aman	
10	W21X55	4536,00	7,00	275,59	3,50	137,80	86,43	1636,14	0,02	247,48	Lp<L<=LR	2,26	2850,00	9040,31	4536,00	4082,40	2557,04	0,63	0,40	0,77	aman	aman	
9	W24X55	4860,00	7,00	275,59	3,50	137,80	66,81	1560,88	0,03	195,49	Lp<L<=LR	2,27	2996,61	9059,36	4536,00	4082,40	2766,60	0,68	0,40	0,77	aman	aman	
8	W24X55	4860,00	7,00	275,59	3,50	137,80	66,81	1560,88	0,03	195,49	Lp<L<=LR	2,27	2996,61	8674,51	4860,00	4374,00	3156,35	0,72	0,33	0,77	aman	aman	
7	W24X55	4860,00	7,00	275,59	3,50	137,80	66,81	1560,88	0,03	195,49	Lp<L<=LR	2,26	2996,61	8674,51	4860,00	4374,00	3304,91	0,76	0,33	0,77	aman	aman	
6	W24X55	4860,00	7,00	275,59	3,50	137,80	66,81	1560,88	0,03	195,49	Lp<L<=LR	2,27	2996,61	8685,96	4860,00	4374,00	3446,99	0,79	0,33	0,77	aman	aman	
5	W24X55	4860,00	7,00	275,59	3,50	137,80	66,81	1560,88	0,03	195,49	Lp<L<=LR	2,27	2996,61	8687,44	4860,00	4374,00	3529,42	0,81	0,33	0,77	aman	aman	
4	W24X62	5544,00	7,00	275,59	3,50	137,80	68,65	1729,93	0,02	204,56	Lp<L<=LR	2,27	3422,79	10137,32	5544,00	4989,60	3791,99	0,76	0,29	0,77	aman	aman	
3	W24X62	5544,00	7,00	275,59	3,50	137,80	68,65	1729,93	0,02	204,56	Lp<L<=LR	2,27	3422,79	10132,35	5544,00	4989,60	3799,63	0,76	0,29	0,77	aman	aman	
2	W24X62	5544,00	7,00	275,59	3,50	137,80	68,65	1729,93	0,02	204,56	Lp<L<=LR	2,27	3422,79	10141,98	5544,00	4989,60	3778,45	0,76	0,29	0,77	aman	aman	
1	W24X62	5544,00	7,00	275,59	3,50	137,80	68,65	1729,93	0,02	204,56	Lp<L<=LR	2,26	3422,79	10081,46	5544,00	4989,60	3538,73	0,71	0,29	0,77	aman	aman	

Balok B4

Lantai	Profil	Mp		L		Lb		Lp	X1	X2	Lr	Keterangan		Cb	Mr	Mn	Mn pakai	fMn	Mu,b	Rasio		Kontrol Δ	
		(K-in)	(m)	In	(m)	In	(in)					Kai	Ksi							(K-in)	(K-in)	in	max
14	W12X26	1339,20	5,00	196,85	5,00	196,85	75,19	1812,65	0,01	213,88	Lp<L<=LR	2,08	869,51	1924,19	1339,20	1205,28	229,68	0,19	0,14	0,82	aman	aman	
13	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,09	1006,18	2329,84	1551,60	1396,44	532,65	0,38	0,28	0,55	aman	aman	
12	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2315,48	1551,60	1396,44	528,45	0,38	0,28	0,55	aman	aman	
11	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2316,27	1551,60	1396,44	528,40	0,38	0,28	0,55	aman	aman	
10	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2316,01	1551,60	1396,44	528,36	0,38	0,28	0,55	aman	aman	
9	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2316,20	1551,60	1396,44	528,37	0,38	0,28	0,55	aman	aman	
8	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2313,50	1551,60	1396,44	527,58	0,38	0,28	0,55	aman	aman	
7	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2313,79	1551,60	1396,44	527,59	0,38	0,28	0,55	aman	aman	
6	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2314,17	1551,60	1396,44	527,62	0,38	0,28	0,55	aman	aman	
5	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2314,71	1551,60	1396,44	527,71	0,38	0,28	0,55	aman	aman	
4	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,07	1006,18	2309,80	1551,60	1396,44	526,11	0,38	0,28	0,55	aman	aman	
3	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,07	1006,18	2310,35	1551,60	1396,44	526,20	0,38	0,28	0,55	aman	aman	
2	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,07	1006,18	2309,87	1551,60	1396,44	526,09	0,38	0,28	0,55	aman	aman	
1	W12X30	1551,60	5,00	196,85	5,00	196,85	75,99	2072,40	0,01	226,79	Lp<L<=LR	2,08	1006,18	2313,19	1551,60	1396,44	526,74	0,38	0,28	0,55	aman	aman	

# LAMPIRAN C-1-3

## PERHITUNGAN GAYA GESER RENCANA BALOK (Vu)

### Balok B1

Lantai	Profil	L' (in)	Geser Balok (Kips)			Mpb (K-in)	Geser Rencana (Kips)		Vu pakai (Kg)	Vu pakai (Kips)
			VD	VL	VE,KI		Pers (1)	Pers (2)		
14	W18X31	261,3385827	1,24	1,36	0,66	2138,4	18,53	5,61	2498,76	5,61
13	W18X40	260,4724409	8,30	3,37	1,96	3104,64	35,48	21,84	9294,82	21,84
12	W21X44	260	8,45	3,45	3,98	3777,84	40,93	32,55	13245,13	32,55
11	W21X44	260	8,43	3,44	5,50	3777,84	40,90	40,42	16124,09	40,42
10	W21X44	260	8,41	3,42	7,00	3777,84	40,86	48,20	18535,17	40,86
9	W21X44	260	8,38	3,41	8,22	3777,84	40,81	54,47	18512,97	40,81
8	W21X50	259,5669291	8,38	3,41	10,22	4356	45,32	64,91	20555,77	45,32
7	W21X50	259,5669291	8,35	3,40	11,15	4356	45,28	69,71	20540,84	45,28
6	W21X50	259,5669291	8,31	3,37	12,03	4356	45,22	74,20	20512,29	45,22
5	W21X55	259,2519685	8,26	3,34	12,61	4356	45,15	77,15	20480,12	45,15
4	W21X55	259,2519685	8,23	3,33	14,18	4989,6	50,03	86,26	22683,54	50,03
3	W21X55	259,2519685	8,18	3,30	14,32	4989,6	49,96	86,92	22659,61	49,96
2	W21X55	259,2519685	8,12	3,26	14,26	4989,6	49,87	85,51	22618,96	49,87
1	W21X55	259,2519685	8,00	3,20	13,48	4989,6	49,68	81,32	22536,72	49,68

### Balok B2

Lantai	Profil	L' (in)	Geser Balok (Kips)		Mpb (K-in)	Geser Rencana (Kips)		Vu pakai (Kips)
			VD	VL		Pers (1)	Pers (2)	
14	W12X26	182,1259843	0,49	0,61	1473,12	17,07	1,16	1,158
13	W12X26	180,9448819	5,11	1,56	1473,12	23,20	7,00	7,006
12	W12X26	180,8661417	5,11	1,56	1473,12	23,20	7,00	7,000
11	W12X26	180,8661417	5,11	1,56	1473,12	23,20	7,00	7,002
10	W12X26	180,8661417	5,11	1,56	1473,12	23,20	7,00	7,001
9	W12X26	180,8661417	5,11	1,56	1473,12	23,20	7,00	7,001
8	W12X26	180,7874016	5,11	1,56	1473,12	23,20	7,00	6,999
7	W12X26	180,7874016	5,11	1,56	1473,12	23,20	7,00	6,999
6	W12X26	180,7874016	5,11	1,56	1473,12	23,20	7,00	6,999
5	W12X26	180,7874016	5,11	1,56	1473,12	23,20	7,00	6,999
4	W12X26	180,6299213	5,11	1,56	1473,12	23,22	6,98	6,996
3	W12X26	180,6299213	5,11	1,56	1473,12	23,22	7,00	6,996
2	W12X26	180,6299213	5,11	1,56	1473,12	23,21	6,99	6,996
1	W12X26	180,6299213	5,11	1,56	1473,12	23,22	7,00	6,998

### Balok B3

Lantai	Profil	L' (in)	Geser Balok (Kips)			Mpb (K-in)	Geser Rencana (Kips)		Vu pakai (Kg)	Vu pakai (Kips)
			VD	VL	VE,KI		Pers (1)	Pers (2)		
14	W18X35	260,9448819	2,21	2,36	0,89	2633,4	24,16	8,59	4009,08	8,59
13	W21X50	259,6062992	10,71	6,66	3,05	4356	49,73	32,01	14072,57	32,01
12	W21X55	258,6614173	10,85	6,76	5,47	4989,6	54,98	44,84	18807,40	44,84
11	W21X55	258,6614173	10,83	6,75	7,51	4989,6	54,95	55,44	22866,96	54,95
10	W21X55	258,6614173	10,81	6,73	9,58	4989,6	54,92	66,16	24912,40	54,92
9	W21X55	258,6614173	10,79	6,71	11,27	4989,6	54,88	74,90	24894,50	54,88
8	W24X55	258,3070966	6,57	4,87	14,24	5346	51,71	84,38	23454,87	51,71
7	W24X55	258,3070966	2,60	3,35	15,45	5346	46,18	85,13	20948,53	46,18
6	W24X55	258,3070966	2,54	3,31	16,68	5346	46,09	91,45	20906,72	46,09
5	W24X55	258,3070966	-2,40	-3,01	17,47	5346	37,00	86,48	16783,92	37,00
4	W24X62	257,7165354	-6,34	-4,50	19,66	6098,4	37,47	92,40	16995,74	37,47
3	W24X62	257,7165354	-10,62	-6,43	19,88	6098,4	31,36	87,41	14225,32	31,36
2	W24X62	257,7165354	10,59	6,54	19,88	6098,4	63,30	119,35	28713,49	63,30
1	W24X62	257,7165354	6,32	4,63	19,85	6098,4	57,23	113,14	25897,52	57,23

### Balok B4

Lantai	Profil	L' (in)	Geser Balok (Kips)		Mpb (K-in)	Geser Rencana (Kips)		Vu pakai (Kips)
			VD	VL		Pers (1)	Pers (2)	
14	W12X26	181,3385827	1,00	1,24	1473,12	18,07	2,35	2,354
13	W12X30	180,9448819	6,33	3,11	1706,76	28,02	9,91	9,916
12	W12X30	180,4724409	6,31	3,11	1706,76	28,04	9,89	9,896
11	W12X30	180,4724409	6,31	3,11	1706,76	28,04	9,90	9,897
10	W12X30	180,4724409	6,31	3,11	1706,76	28,04	9,90	9,897
9	W12X30	180,4724409	6,31	3,11	1706,76	28,04	9,90	9,897
8	W12X30	180,3149606	6,31	3,11	1706,76	28,06	9,89	9,894
7	W12X30	180,3149606	6,31	3,11	1706,76	28,06	9,89	9,894
6	W12X30	180,3149606	6,31	3,11	1706,76	28,06	9,89	9,895
5	W12X30	180,3149606	6,31	3,11	1706,76	28,06	9,89	9,895
4	W12X30	180,1574803	6,31	3,11	1706,76	28,07	9,89	9,890
3	W12X30	180,1574803	6,31	3,11	1706,76	28,07	9,89	9,890
2	W12X30	180,1574803	6,31	3,11	1706,76	28,07	9,89	9,889
1	W12X30	180,1574803	6,31	3,11	1706,76	28,07	9,89	9,893

# TABEL PERENCANAAN GESER PADA BALOK

B1 (BALOK TEPI)											B3 (BALOK TENGAH)										
Lantai	Profil	Vu Rencana (Kips)	h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)	Cek Geser	Rasio	Lantai	Profil	Vu Rencana (Kips)	h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)	Cek Geser	Rasio		
14	W18X31	5,606	15,105	0,275	54,93	94,45	85,00	aman	0,07	14	W18X35	8,595	16,815	0,3	56,05	114,70	103,23	aman	0,08		
13	W18X40	21,844	17,005	0,315	53,98	121,79	109,61	aman	0,20	13	W21X50	32,014	19,76	0,38	52,00	170,73	153,65	aman	0,21		
12	W21X44	32,551	19,665	0,35	56,19	156,49	140,84	aman	0,23	12	W21X55	44,842	19,76	0,375	52,69	168,48	151,63	aman	0,30		
11	W21X44	40,418	19,665	0,35	56,19	156,49	140,84	aman	0,29	11	W21X55	54,947	19,76	0,375	52,69	168,48	151,63	aman	0,36		
10	W21X44	40,863	19,665	0,35	56,19	156,49	140,84	aman	0,29	10	W21X55	54,922	19,76	0,375	52,69	168,48	151,63	aman	0,36		
9	W21X44	40,814	19,665	0,35	56,19	156,49	140,84	aman	0,29	9	W21X55	54,883	19,76	0,375	52,69	168,48	151,63	aman	0,36		
8	W21X50	45,318	19,76	0,38	52,00	170,73	153,65	aman	0,29	8	W24X55	51,709	22,42	0,395	56,76	201,36	181,22	aman	0,29		
7	W21X50	45,285	19,76	0,38	52,00	170,73	153,65	aman	0,29	7	W24X55	46,184	22,42	0,395	56,76	201,36	181,22	aman	0,25		
6	W21X50	45,222	19,76	0,38	52,00	170,73	153,65	aman	0,29	6	W24X55	46,091	22,42	0,395	56,76	201,36	181,22	aman	0,25		
5	W21X50	45,151	19,76	0,38	52,00	170,73	153,65	aman	0,29	5	W24X55	37,002	22,42	0,395	56,76	201,36	181,22	aman	0,20		
4	W21X55	50,031	19,76	0,375	52,69	168,48	151,63	aman	0,33	4	W24X62	37,469	22,515	0,43	52,36	220,13	198,11	aman	0,19		
3	W21X55	49,956	19,76	0,375	52,69	168,48	151,63	aman	0,33	3	W24X62	31,361	22,515	0,43	52,36	220,13	198,11	aman	0,16		
2	W21X55	49,866	19,76	0,375	52,69	168,48	151,63	aman	0,33	2	W24X62	63,302	22,515	0,43	52,36	220,13	198,11	aman	0,32		
1	W21X55	49,685	19,76	0,375	52,69	168,48	151,63	aman	0,33	1	W24X62	57,227	22,515	0,43	52,36	220,13	198,11	aman	0,29		

B2 (BALOK TEPI)											B4 (BALOK TENGAH)										
Lantai	Profil	Vu Rencana (Kips)	h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)	Cek Geser	Rasio	Lantai	Profil	Vu Rencana (Kips)	h (in)	tw (in)	htw	Vn (Kips)	ΦVn (Kips)	Cek Geser	Rasio		
14	W12X26	1,158	11,59	0,23	50,39	60,61	54,55	aman	0,02	14	W12X26	2,354	11,59	0,23	50,39	60,61	54,55	aman	0,04		
13	W12X26	7,006	11,59	0,23	50,39	60,61	54,55	aman	0,13	13	W12X30	9,916	11,685	0,26	44,94	69,08	62,17	aman	0,16		
12	W12X26	7,000	11,59	0,23	50,39	60,61	54,55	aman	0,13	12	W12X30	9,896	11,685	0,26	44,94	69,08	62,17	aman	0,16		
11	W12X26	7,002	11,59	0,23	50,39	60,61	54,55	aman	0,13	11	W12X30	9,897	11,685	0,26	44,94	69,08	62,17	aman	0,16		
10	W12X26	7,001	11,59	0,23	50,39	60,61	54,55	aman	0,13	10	W12X30	9,897	11,685	0,26	44,94	69,08	62,17	aman	0,16		
9	W12X26	7,001	11,59	0,23	50,39	60,61	54,55	aman	0,13	9	W12X30	9,897	11,685	0,26	44,94	69,08	62,17	aman	0,16		
8	W12X26	6,999	11,59	0,23	50,39	60,61	54,55	aman	0,13	8	W12X30	9,894	11,685	0,26	44,94	69,08	62,17	aman	0,16		
7	W12X26	6,999	11,59	0,23	50,39	60,61	54,55	aman	0,13	7	W12X30	9,894	11,685	0,26	44,94	69,08	62,17	aman	0,16		
6	W12X26	6,999	11,59	0,23	50,39	60,61	54,55	aman	0,13	6	W12X30	9,895	11,685	0,26	44,94	69,08	62,17	aman	0,16		
5	W12X26	6,999	11,59	0,23	50,39	60,61	54,55	aman	0,13	5	W12X30	9,895	11,685	0,26	44,94	69,08	62,17	aman	0,16		
4	W12X26	6,996	11,59	0,23	50,39	60,61	54,55	aman	0,13	4	W12X30	9,890	11,685	0,26	44,94	69,08	62,17	aman	0,16		
3	W12X26	6,996	11,59	0,23	50,39	60,61	54,55	aman	0,13	3	W12X30	9,890	11,685	0,26	44,94	69,08	62,17	aman	0,16		
2	W12X26	6,996	11,59	0,23	50,39	60,61	54,55	aman	0,13	2	W12X30	9,889	11,685	0,26	44,94	69,08	62,17	aman	0,16		
1	W12X26	6,998	11,59	0,23	50,39	60,61	54,55	aman	0,13	1	W12X30	9,893	11,685	0,26	44,94	69,08	62,17	aman	0,16		

# LAMPIRAN C-2-1

## KOEFISIEN DISTRIBUSI MOMEN KOLOM

Kolom K1

Kolom Lantai	Lokasi	Momen (T-m)	Join Lantai	Lokasi	Momen (T-m)	$\alpha$
14	Atas	-0,697	13	Bawah	-0,697	1,00
	Bawah	-1,085		Atas	-1,085	0,67
13	Atas	0,532	12	Bawah	0,532	0,33
	Bawah	-3,901		Atas	-3,901	0,74
12	Atas	1,373	11	Bawah	1,373	0,26
	Bawah	-5,908		Atas	-5,908	0,67
11	Atas	2,899	10	Bawah	2,899	0,33
	Bawah	-7,493		Atas	-7,493	0,61
10	Atas	4,703	9	Bawah	4,703	0,39
	Bawah	-8,392		Atas	-8,392	0,55
9	Atas	6,992	8	Bawah	6,992	0,45
	Bawah	-8,549		Atas	-8,549	0,54
8	Atas	7,188	7	Bawah	7,188	0,46
	Bawah	-9,474		Atas	-9,474	0,53
7	Atas	8,3	6	Bawah	8,3	0,47
	Bawah	-10,716		Atas	-10,716	0,53
6	Atas	9,578	5	Bawah	9,578	0,47
	Bawah	-11,018		Atas	-11,018	0,49
5	Atas	11,965	4	Bawah	11,965	0,51
	Bawah	-10,666		Atas	-10,666	0,49
4	Atas	11,248	3	Bawah	11,248	0,51
	Bawah	-11,205		Atas	-11,205	0,48
3	Atas	12,218	2	Bawah	12,218	0,52
	Bawah	-11,743		Atas	-11,743	0,46
2	Atas	13,562	1	Bawah	13,562	0,54
	Bawah	-10,688		Atas	-10,688	0,35
1	Atas	19,939	Dasar	Bawah	19,939	0,55
	Bawah	-8,028		Atas	-8,028	1

Kolom K2

Kolom Lantai	Lokasi	Momen (T-m)	Join Lantai	Lokasi	Momen (T-m)	$\alpha$
14	Atas	0,702	13	Bawah	0,702	1,00
	Bawah	-2,434		Atas	-2,434	0,45
13	Atas	3,012	12	Bawah	3,012	0,55
	Bawah	-6,002		Atas	-6,002	0,53
12	Atas	5,379	11	Bawah	5,379	0,47
	Bawah	-10,226		Atas	-10,226	0,56
11	Atas	7,964	10	Bawah	7,964	0,44
	Bawah	-12,806		Atas	-12,806	0,54
10	Atas	10,916	9	Bawah	10,916	0,46
	Bawah	-14,632		Atas	-14,632	0,52
9	Atas	13,594	8	Bawah	13,594	0,48
	Bawah	-15,391		Atas	-15,391	0,50
8	Atas	15,671	7	Bawah	15,671	0,50
	Bawah	-19,095		Atas	-19,095	0,52
7	Atas	17,294	6	Bawah	17,294	0,48
	Bawah	-20,055		Atas	-20,055	0,51
6	Atas	19,232	5	Bawah	19,232	0,49
	Bawah	-21,026		Atas	-21,026	0,49
5	Atas	22,202	4	Bawah	22,202	0,51
	Bawah	-20,807		Atas	-20,807	0,48
4	Atas	22,327	3	Bawah	22,327	0,52
	Bawah	-22,587		Atas	-22,587	0,49
3	Atas	23,592	2	Bawah	23,592	0,51
	Bawah	-22,838		Atas	-22,838	0,49
2	Atas	23,966	1	Bawah	23,966	0,51
	Bawah	-21,141		Atas	-21,141	0,37
1	Atas	36,488	Dasar	Bawah	36,488	0,63
	Bawah	-18,331		Atas	-18,331	1

Kolom K3

Kolom Lantai	Lokasi	Momen (T-m)	Join Lantai	Lokasi	Momen (T-m)	$\alpha$
14	Atas	-0,71	13	Bawah	-0,71	1,00
	Bawah	-1,449		Atas	-1,449	0,68
13	Atas	0,677	12	Bawah	0,677	0,32
	Bawah	-5,695		Atas	-5,695	0,77
12	Atas	1,687	11	Bawah	1,687	0,23
	Bawah	-8,095		Atas	-8,095	0,68
11	Atas	3,799	10	Bawah	3,799	0,32
	Bawah	-10,341		Atas	-10,341	0,62
10	Atas	6,284	9	Bawah	6,284	0,38
	Bawah	-11,535		Atas	-11,535	0,55
9	Atas	9,59	8	Bawah	9,59	0,45
	Bawah	-11,742		Atas	-11,742	0,54
8	Atas	9,854	7	Bawah	9,854	0,46
	Bawah	-13,238		Atas	-13,238	0,54
7	Atas	11,399	6	Bawah	11,399	0,46
	Bawah	-14,882		Atas	-14,882	0,53
6	Atas	13,222	5	Bawah	13,222	0,47
	Bawah	-15,311		Atas	-15,311	0,49
5	Atas	16,05	4	Bawah	16,05	0,51
	Bawah	-14,756		Atas	-14,756	0,48
4	Atas	15,55	3	Bawah	15,55	0,51
	Bawah	-15,421		Atas	-15,421	0,48
3	Atas	16,748	2	Bawah	16,748	0,52
	Bawah	-16,206		Atas	-16,206	0,45
2	Atas	19,909	1	Bawah	19,909	0,55
	Bawah	-14,98		Atas	-14,98	0,40
1	Atas	22,548	Dasar	Bawah	22,548	0,60
	Bawah	-9,562		Atas	-9,562	1

# LAMPIRAN C-2-1

## KOEFISIEN DISTRIBUSI MOMEN KOLOM

Kolom K4						Kolom K5						Kolom K6								
Kolom Lantai	Lokasi	Momen (T-m)	Join Lantai	Lokasi	Momen (T-m)	α	Kolom Lantai	Lokasi	Momen (T-m)	Join Lantai	Lokasi	Momen (T-m)	α	Kolom Lantai	Lokasi	Momen (T-m)	Join Lantai	Lokasi	Momen (T-m)	α
14	Atas	1,128		Bawah	0,749	1,00	14	Atas	0,749		Bawah	0,749	1,00	14	Atas	1,785		Bawah	1,785	1,00
	Bawah	-3,331	13	Atas	-2,766	0,50		Bawah	-2,766	13	Atas	-2,766	0,44		Bawah	-3,866	13	Atas	-3,866	0,48
13	Atas	3,349		Bawah	3,492	0,50	13	Atas	3,492		Bawah	3,492	0,56	13	Atas	4,174		Bawah	4,174	0,52
	Bawah	-9,207	12	Atas	-6,646	0,60		Bawah	-6,646	12	Atas	-6,646	0,54		Bawah	-9,325	12	Atas	-9,325	0,56
12	Atas	6,02		Bawah	5,754	0,40	12	Atas	5,754		Bawah	5,754	0,46	12	Atas	7,233		Bawah	7,233	0,44
	Bawah	-15,098	11	Atas	-10,561	0,60		Bawah	-10,561	11	Atas	-10,561	0,56		Bawah	-15,297	11	Atas	-15,297	0,58
11	Atas	9,869		Bawah	8,321	0,40	11	Atas	8,321		Bawah	8,321	0,44	11	Atas	10,855		Bawah	10,855	0,42
	Bawah	-18,872	10	Atas	-12,99	0,57		Bawah	-12,99	10	Atas	-12,99	0,54		Bawah	-18,668	10	Atas	-18,668	0,55
10	Atas	14,076		Bawah	11,224	0,43	10	Atas	11,224		Bawah	11,224	0,46	10	Atas	15,028		Bawah	15,028	0,45
	Bawah	-21,437	9	Atas	-14,958	0,52		Bawah	-14,958	9	Atas	-14,958	0,48		Bawah	-21,327	9	Atas	-21,327	0,52
9	Atas	18,94		Bawah	13,89	0,48	9	Atas	13,89		Bawah	13,89	0,48	9	Atas	19,499		Bawah	19,499	0,48
	Bawah	-22,47	8	Atas	-15,686	0,51		Bawah	-15,686	8	Atas	-15,686	0,49		Bawah	-22,243	8	Atas	-22,243	0,50
8	Atas	21,253		Bawah	16,023	0,49	8	Atas	16,023		Bawah	16,023	0,51	8	Atas	22,005		Bawah	22,005	0,50
	Bawah	-26,037	7	Atas	-19,461	0,52		Bawah	-19,461	7	Atas	-19,461	0,53		Bawah	-27,439	7	Atas	-27,439	0,53
7	Atas	23,948		Bawah	17,985	0,48	7	Atas	17,985		Bawah	17,985	0,47	7	Atas	24,302		Bawah	24,302	0,47
	Bawah	-28,539	6	Atas	-20,375	0,52		Bawah	-20,375	6	Atas	-20,375	0,51		Bawah	-28,905	6	Atas	-28,905	0,51
6	Atas	26,857		Bawah	19,469	0,48	6	Atas	19,469		Bawah	19,469	0,49	6	Atas	27,271		Bawah	27,271	0,49
	Bawah	-29,658	5	Atas	-21,282	0,48		Bawah	-21,282	5	Atas	-21,282	0,49		Bawah	-30,132	5	Atas	-30,132	0,49
5	Atas	30,581		Bawah	22,373	0,51	5	Atas	22,373		Bawah	22,373	0,51	5	Atas	30,92		Bawah	30,92	0,51
	Bawah	-28,974	4	Atas	-21,008	0,48		Bawah	-21,008	4	Atas	-21,008	0,48		Bawah	-29,333	4	Atas	-29,333	0,48
4	Atas	31,403		Bawah	22,461	0,52	4	Atas	22,461		Bawah	22,461	0,52	4	Atas	31,732		Bawah	31,732	0,48
	Bawah	-32,1	3	Atas	-22,741	0,49		Bawah	-22,741	3	Atas	-22,741	0,49		Bawah	-32,467	3	Atas	-32,467	0,49
3	Atas	33,001		Bawah	23,584	0,51	3	Atas	23,584		Bawah	23,584	0,51	3	Atas	33,172		Bawah	33,172	0,51
	Bawah	-31,938	2	Atas	-22,91	0,47		Bawah	-22,91	2	Atas	-22,91	0,49		Bawah	-32,188	2	Atas	-32,188	0,47
2	Atas	36,655		Bawah	24,061	0,53	2	Atas	24,061		Bawah	24,061	0,51	2	Atas	36,791		Bawah	36,791	0,53
	Bawah	-29,921	1	Atas	-21,152	0,41		Bawah	-21,152	1	Atas	-21,152	0,37		Bawah	-30,046	1	Atas	-30,046	0,41
1	Atas	43,467		Bawah	35,705	0,59	1	Atas	35,705		Bawah	35,705	0,63	1	Atas	43,047		Bawah	43,047	0,59
	Bawah	-21,711	Dasar	Atas	-18,1	1		Bawah	-18,1	Dasar	Atas	-18,1	1		Bawah	-21,626	Dasar	Atas	-21,626	1

# LAMPIRAN C-2-2

## TABEL MOMEN RENCANA KOLOM MU,k

### Kolom K1

Join Lantai	Profil Balok		Lokasi M, k	Ln (m)			hn		Momen Kolom Ararah X				Momen Kolom Ararah Y				Mpb		M.k Ararah X				M.k Ararah Y				M.k desain		Arah X				
	B1	B2		B1	B2	5	Ararah X		Ararah Y	MD,k	ME,k	ML,k	MD,k	ME,k	ML,k	B1	B2	(1)	(2)	K-in	K-out	(1)	(2)	K-in	K-out	Ararah X	Ararah Y	K-in	K-out	Ararah X	Ararah Y	K-in	K-out
							In	Out																									
14	W16X31	W12X26	Bawah	5,36	4,75	130,74	135,44	1,00	1,00	1,10	-283,02	-82,36	94,17	96,34	30,72	2138,40	1473,12	1904,19	757,48	1096,24	130,97	1096,24	1096,24	1096,24	757,48	1096,24	757,48	1096,24	3,10	2,30			
13	W18X40	W12X28	Atas	5,36	4,75	128,34	135,44	0,67	0,50	1,50	265,84	76,98	-60,49	-97,99	-27,43	3104,64	1473,12	2483,16	599,47	747,44	131,30	747,44	747,44	747,44	599,47	747,44	599,47	747,44	2,44	2,30			
12	W21X44	W12X26	Atas	5,36	4,75	126,94	135,44	0,74	0,50	1,87	373,28	108,14	46,17	-148,58	-37,75	3777,84	1473,12	3659,38	686,70	830,22	197,18	830,22	830,22	830,22	686,70	830,22	686,70	830,22	2,71	2,30			
11	W21X44	W12X26	Atas	5,36	4,75	126,94	135,44	0,67	0,50	1,65	367,90	106,66	119,16	-140,77	-36,37	3777,84	1473,12	3288,74	971,47	822,70	187,11	822,70	822,70	822,70	971,47	822,70	971,47	822,70	2,98	2,30			
10	W21X44	W12X26	Atas	5,36	4,75	126,94	135,44	0,61	0,50	1,84	385,56	105,97	251,80	-141,73	-36,37	3777,84	1473,12	2984,45	1468,07	815,17	188,26	1468,07	1468,07	1468,07	815,17	1468,07	815,17	1468,07	2,91	2,30			
9	W21X44	W12X26	Atas	5,36	4,75	126,89	135,44	0,55	0,50	1,82	363,65	105,36	408,17	-141,73	-36,28	3777,84	1473,12	2624,36	2121,75	807,64	188,21	2121,75	807,64	807,64	2121,75	807,64	2121,75	807,64	2,71	2,30			
8	W21X50	W12X28	Atas	5,36	4,75	126,84	135,44	0,54	0,50	1,61	349,88	101,11	608,84	-135,91	-34,63	4356,00	1473,12	2984,20	2897,51	800,12	180,41	800,12	800,12	800,12	2897,51	800,12	2897,51	800,12	2,88	2,30			
7	W21X50	W12X26	Atas	5,36	4,75	126,84	135,44	0,53	0,50	1,59	363,56	104,93	623,85	-140,77	-35,67	4356,00	1473,12	2900,53	2984,13	792,59	186,76	792,59	792,59	792,59	2900,53	792,59	2900,53	792,59	2,93	2,30			
6	W21X50	W12X26	Atas	5,36	4,75	126,84	135,44	0,53	0,50	1,56	355,06	102,24	720,36	-137,91	-34,72	4356,00	1473,12	2846,11	3358,62	785,07	182,85	785,07	785,07	785,07	3358,62	785,07	3358,62	785,07	3,08	2,30			
5	W21X50	W12X26	Atas	5,36	4,75	126,84	135,44	0,49	0,50	1,56	352,97	101,37	831,27	-138,26	-34,54	4356,00	1473,12	2602,19	3789,35	183,18	183,18	2602,19	2602,19	2602,19	3789,35	2602,19	3789,35	2602,19	2,98	2,30			
4	W21X55	W12X26	Atas	5,36	4,75	126,84	135,44	0,49	0,50	1,56	344,47	98,77	926,70	-134,87	-33,50	4356,00	1473,12	2736,11	4166,56	178,60	178,60	2736,11	2736,11	2736,11	4166,56	2736,11	4166,56	2736,11	2,63	2,30			
3	W21X55	W12X26	Atas	5,36	4,75	126,84	135,44	0,51	0,50	1,55	333,36	95,30	1006,46	-131,14	-32,46	4899,60	1473,12	2947,39	4469,53	173,60	173,60	2947,39	2947,39	2947,39	4469,53	2947,39	4469,53	2947,39	2,72	2,30			
2	W21X55	W12X26	Atas	5,36	4,75	126,84	135,44	0,48	0,50	1,53	347,88	99,11	976,21	-137,30	-33,67	4899,60	1473,12	2863,54	4371,63	181,60	181,60	2863,54	2863,54	2863,54	4371,63	2863,54	4371,63	2863,54	2,91	2,30			
1	W21X55	W12X26	Atas	5,36	4,75	137,24	141,54	0,54	0,50	1,52	324,51	91,91	1060,40	-127,23	-30,81	4899,60	1473,12	2753,05	4676,97	188,09	188,09	2753,05	2753,05	2753,05	4676,97	2753,05	4676,97	2753,05	2,63	2,30			
Dasar	0	0	Atas	5,36	4,75	137,24	141,54	1,00	1,00	1,10	52,07	7,72	1730,51	-34,89	-6,34	0,00	0,00	2379,45	6888,37	0,00	45,04	2379,45	2379,45	2379,45	6888,37	2379,45	6888,37	2379,45	2,72	2,30			

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TABEL MOMEN RENCANA KOLOM Mu,k

## Kolom K2

Join Lentat	Profil Balok		Lokasi M, k		Ln (m)		In		DMF	Momen Kolom Arah X		Momen Kolom Arah Y		Ippb		Mik Arah X		Mik Arah Y		Mik Pakal		Mik deaath		Arah X			
	B1	B2	Bawah	Aatas	B1	B2	In	Arah X		Arash Y	MD,k	ML,k	ME,k	MD,k	ML,k	B1	B2	(1)	(2)	(1)	(2)	Arah X	K-in	Arah Y	K-in	Ch	Ch
14	W16X31	W12X26	Bawah	Aatas	5,36	4,61	130,74	135,39	1,00	1,10	-31,88	-10,94	156,83	54,59	2138,40	1473,12	3808,38	888,47	1129,15	215,49	888,47	888,47	1129,15	888,47	1129,15	3,10	2,30
13	W18X40	W12X30	Bawah	Aatas	5,36	4,61	128,34	135,34	0,45	0,50	25,78	8,94	60,93	-54,07	3104,64	1706,76	3307,94	279,11	891,65	213,15	891,65	891,65	279,11	891,65	279,11	3,10	2,30
12	W21X44	W12X30	Bawah	Aatas	5,36	4,61	126,94	135,34	0,53	0,50	1,87	37,93	12,84	-887,51	3104,64	1706,76	4093,47	2131,72	891,65	305,52	2131,72	891,65	2131,72	990,40	2,37	2,30	
11	W21X44	W12X30	Bawah	Aatas	5,36	4,61	126,94	135,34	0,47	0,50	1,67	-51,81	-17,53	-887,51	3104,64	1706,76	4093,47	2131,72	891,65	305,52	2131,72	891,65	2131,72	990,40	2,40	2,30	
10	W21X44	W12X30	Bawah	Aatas	5,36	4,61	126,94	135,34	0,56	0,50	1,65	48,26	15,71	486,84	-69,43	3777,84	1706,76	5512,14	1930,74	282,22	3821,00	990,40	3821,00	990,40	2,40	2,30	
9	W21X44	W12X30	Bawah	Aatas	5,36	4,61	126,94	135,34	0,44	0,50	1,65	-42,09	-14,32	-1094,07	194,67	3777,84	1706,76	4292,85	4433,97	282,22	3821,00	990,40	3821,00	990,40	2,40	2,30	
8	W21X50	W12X30	Bawah	Aatas	5,36	4,61	126,84	135,34	0,52	0,50	1,62	38,19	13,11	947,40	-69,08	3777,84	1706,76	4508,63	5134,77	271,74	4508,63	972,45	4508,63	972,45	2,86	2,30	
7	W21X50	W12X30	Bawah	Aatas	5,36	4,61	126,84	135,34	0,48	0,50	1,62	-36,10	-12,50	-1335,78	192,85	3777,84	1706,76	4633,98	5392,71	284,70	4633,98	963,47	4633,98	963,47	3,05	2,30	
6	W21X50	W12X30	Bawah	Aatas	5,36	4,61	126,84	135,34	0,50	0,50	1,61	35,06	12,24	1179,82	-184,08	4356,00	1706,76	5443,79	4767,49	285,58	4767,49	954,49	4767,49	954,49	3,08	2,30	
5	W21X50	W12X30	Bawah	Aatas	5,36	4,61	126,84	135,34	0,52	0,50	1,59	37,32	13,02	1360,09	-201,27	4356,00	1706,76	5542,83	5685,55	289,17	5542,83	954,49	5542,83	954,49	3,08	2,30	
4	W21X55	W12X30	Bawah	Aatas	5,36	4,61	126,84	135,34	0,48	0,50	1,59	-33,41	-11,83	-1740,57	193,54	4356,00	1706,76	5710,96	5481,64	276,02	5710,96	945,51	5710,96	945,51	3,00	2,30	
3	W21X55	W12X30	Bawah	Aatas	5,36	4,61	126,84	135,34	0,51	0,50	1,58	31,77	11,11	1500,95	-165,02	4356,00	1706,76	5502,88	6047,46	287,30	5502,88	936,54	5502,88	936,54	3,00	2,30	
2	W21X55	W12X30	Bawah	Aatas	5,36	4,61	126,84	135,34	0,49	0,50	1,58	-28,73	-10,15	-1824,85	168,49	4356,00	1706,76	5502,88	6047,46	289,16	5502,88	936,54	5502,88	936,54	3,00	2,30	
1	W21X55	W12X30	Bawah	Aatas	5,36	4,61	126,84	135,34	0,49	0,50	1,56	26,04	9,20	1689,15	-196,58	4356,00	1706,76	5193,08	6712,43	282,22	5193,08	927,56	5193,08	927,56	3,00	2,30	
Desain	0	0	Aatas	Aatas	5,36	4,61	137,24	141,49	0,52	0,50	1,55	22,13	7,90	1926,91	-166,51	4899,60	1706,76	6288,99	7870,79	282,22	6288,99	918,58	6288,99	918,58	3,00	2,30	



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TABEL MOMEN RENCANA KOLOM MU,k

## Kolom K3

Join Lantai	Profil Balok		Lokasi M.k	Ln (m)		In		c		DMF		Momen Kolom Aras X		Momen Kolom Aras Y		Mpb		M.k Aras X		M.k Aras Y		M.k paket		Muk desain		Aras X		
	B1	B2		Aras X	B1	B2	Aras X	Aras Y	Aras X	Aras Y	M.D.k	M.L.k	M.E.k	M.D.k	M.L.k	B1	B2	{1}	{2}	{1}	{2}	Aras X	Aras Y	Aras X	Aras Y	Aras X	Aras Y	Aras X
14	W18X35	W12X26	Bawah	5,30	4,75	128,39	135,44	1,00	1,00	1,10	-489,39	-154,75	15,19	7,46	2633,40	1473,12	2328,89	1179,68	2192,49	2192,49	1179,68	2192,49	1179,68	2192,49	1179,68	2192,49	3,10	2,30
13	W21X50	W12X26	Bawah	5,30	4,75	126,84	135,44	0,88	0,50	1,50	408,35	141,84	-8,63	-5,03	4356,00	1473,12	3537,11	807,32	1494,88	1494,88	807,32	1494,88	1494,88	1494,88	1494,88	1494,88	2,93	2,30
12	W21X55	W12X26	Bawah	5,30	4,75	126,84	135,44	0,77	0,50	1,67	559,38	208,69	10,85	6,16	4356,00	1473,12	1652,61	2899,16	1494,88	1494,88	1652,61	1494,88	1652,61	1494,88	1652,61	1652,61	2,50	2,30
11	W21X55	W12X26	Bawah	5,30	4,75	126,84	135,44	0,68	0,50	1,65	551,46	-202,65	-11,54	-5,90	4889,60	1473,12	5084,01	1010,76	1660,44	1660,44	1010,76	1660,44	1660,44	1660,44	1660,44	1660,44	2,83	2,30
10	W21X55	W12X26	Bawah	5,30	4,75	126,84	135,44	0,32	0,50	1,65	551,46	-202,65	-11,54	-5,90	4889,60	1473,12	5084,01	1010,76	1660,44	1660,44	1010,76	1660,44	1660,44	1660,44	1660,44	1660,44	2,83	2,30
9	W21X55	W12X26	Bawah	5,30	4,75	125,44	135,44	0,38	0,50	1,64	551,12	203,96	-11,20	5,73	4989,60	1473,12	2089,91	4356,47	1645,39	1645,39	4356,47	1645,39	1645,39	1645,39	1645,39	1645,39	3,09	2,30
8	W24X55	W12X26	Bawah	5,30	4,75	124,04	135,44	0,55	0,50	1,62	551,81	203,78	9,72	5,03	4989,60	1473,12	2882,18	2082,18	2882,18	2082,18	2882,18	2082,18	2882,18	2082,18	2882,18	2082,18	2,83	2,30
7	W24X55	W12X26	Bawah	5,30	4,75	124,04	135,44	0,46	0,50	1,61	527,34	195,19	9,46	4,86	5346,00	1473,12	3042,35	5384,82	1600,24	1600,24	5384,82	1600,24	1600,24	1600,24	1600,24	1600,24	2,87	2,30
6	W24X55	W12X26	Bawah	5,30	4,75	124,04	135,44	0,53	0,50	1,58	538,97	188,92	8,16	4,25	5346,00	1473,12	3055,93	5913,25	1585,19	1585,19	5913,25	1585,19	1585,19	1585,19	1585,19	1585,19	2,91	2,30
5	W24X55	W12X26	Bawah	5,30	4,75	123,89	135,44	0,47	0,50	1,58	538,01	-198,40	6,86	-3,73	5346,00	1473,12	3077,87	6060,18	1570,13	1570,13	6060,18	1570,13	1570,13	1570,13	1570,13	1570,13	3,06	2,30
4	W24X62	W12X26	Bawah	5,30	4,75	123,94	135,44	0,49	0,50	1,56	537,06	197,88	-6,42	3,04	5346,00	1473,12	3162,11	5333,56	1555,08	1555,08	5333,56	1555,08	1555,08	1555,08	1555,08	1555,08	2,98	2,30
3	W24X62	W12X26	Bawah	5,30	4,75	123,94	135,44	0,51	0,50	1,55	506,33	185,90	-4,95	-2,78	6098,40	1473,12	3561,16	6272,47	1540,03	1540,03	6272,47	1540,03	1540,03	1540,03	1540,03	1540,03	2,98	2,30
2	W24X62	W12X26	Bawah	5,30	4,75	123,94	135,44	0,52	0,50	1,53	530,20	183,88	3,34	2,52	6098,40	1473,12	3752,78	6108,17	1540,03	1540,03	6108,17	1540,03	1540,03	1540,03	1540,03	1540,03	2,86	2,30
1	W24X62	W12X26	Bawah	5,30	4,75	135,79	141,54	0,45	0,50	1,52	497,22	180,78	2,78	1,74	6098,40	1473,12	3770,81	6331,65	1524,98	1524,98	6331,65	1524,98	1524,98	1524,98	1524,98	1524,98	2,76	2,30
Dasar	0	0	Atas	5,30	4,75	135,79	141,54	0,55	0,50	1,50	586,70	-214,86	1,74	-0,09	6098,40	1473,12	3104,85	7725,53	1562,21	1562,21	7725,53	1562,21	1562,21	1562,21	1562,21	1562,21	2,63	2,30
			Atas	5,30	4,75	135,79	141,54	1,00	1,00	1,10	58,84	11,63	-3,12	-1,22	0,00	0,00	2880,79	7904,19	0,00	4,36	2880,79	7904,19	0,00	4,36	2880,79	7904,19	4,36	2,30

# LAMPIRAN C-2-2

TABEL MOMEN RENCANA KOLOM Mu,k

**Kolom K4**

Join Lantai	Profil Balok		Lokasi M, k	Ln (m)	hn		α		DMF	Momen Kolom Arah X				Momen Kolom Arah Y				Mpb			M.k Arah X				M.k Arah Y				M.k paket		Mu,k desah		Arah X				
	B1	B2			B1	B2	In	Out		Arah X	Arah Y	M.D.k	M.L.k	M.E.k	M.D.k	M.L.k	M.K	B1	B2	K-in	K-out	K-in	K-out	(1)	(2)	K-in	K-out	(1)	(2)	K-in	K-out	Arah X	Arah Y	K-in	K-out	Cb	Cb
14	W18X35	W12X26	Bawah 5,30	4,61	128,39	135,38	1,00	1,00	1,10	-25,26	-15,38	-289,10	4,95	8,51	2633,40	1473,12	4657,78	1194,38	2258,29	10,19	1194,38	2258,29	10,19	1194,38	2258,29	10,19	1194,38	2258,29	10,19	1194,38	2258,29	3,10	2,30				
13	W21X50	W12X30	Atas 5,30	4,61	126,84	135,34	0,50	0,50	1,50	27,69	13,89	97,90	-3,30	-6,08	4356,00	1706,76	5175,74	431,76	1783,29	7,00	431,76	1783,29	7,00	431,76	1783,29	7,00	431,76	1783,29	7,00	431,76	1783,29						
12	W21X55	W12X30	Atas 5,30	4,61	126,84	135,34	0,60	0,50	1,67	42,70	19,53	290,66	-4,86	-5,99	4989,50	1706,76	7984,99	1223,64	1980,80	8,83	1223,64	1980,80	8,83	1223,64	1980,80	8,83	1223,64	1980,80	8,83	1223,64	1980,80						
11	W21X55	W12X30	Bawah 5,30	4,61	126,84	135,34	0,40	0,50	1,67	-58,58	-27,43	-1310,36	8,33	8,51	4989,50	1706,76	5220,99	525,43	1980,80	14,25	5220,99	1980,80	14,25	5220,99	1980,80	14,25	5220,99	1980,80	14,25	5220,99	1980,80						
10	W21X55	W12X30	Atas 5,30	4,61	126,84	135,34	0,57	0,50	1,64	46,17	21,78	858,53	-6,77	-7,12	4989,50	1706,76	7427,00	3492,42	1944,89	11,88	3492,42	1944,89	11,88	3492,42	1944,89	11,88	3492,42	1944,89	11,88	3492,42	1944,89						
9	W21X55	W12X30	Bawah 5,30	4,61	125,44	135,34	0,52	0,50	1,62	40,88	19,61	1221,66	-6,42	-6,77	4989,50	1706,76	5539,55	7505,12	1944,89	11,49	5539,55	1944,89	11,49	5539,55	1944,89	11,49	5539,55	1944,89	11,49	5539,55	1944,89						
8	W24X55	W12X30	Atas 5,30	4,61	124,04	135,34	0,48	0,50	1,62	-39,23	-19,09	-1950,17	6,42	6,51	4989,50	1706,76	6122,69	7857,31	1926,94	10,96	6122,69	1926,94	10,96	6122,69	1926,94	10,96	6122,69	1926,94	10,96	6122,69	1926,94						
7	W24X55	W12X30	Bawah 5,30	4,61	124,04	135,34	0,49	0,50	1,61	-42,35	-21,00	-2259,75	7,12	6,51	5346,00	1706,76	6853,18	6979,94	1906,96	11,08	6853,18	1906,96	11,08	6853,18	1906,96	11,08	6853,18	1906,96	11,08	6853,18	1906,96						
6	W24X55	W12X30	Atas 5,30	4,61	124,04	135,34	0,48	0,50	1,59	39,06	19,35	1844,55	-6,68	-6,25	5346,00	1706,76	6482,01	7434,74	1891,03	11,14	6482,01	1891,03	11,14	6482,01	1891,03	11,14	6482,01	1891,03	11,14	6482,01	1891,03						
5	W24X55	W12X30	Bawah 5,30	4,61	123,99	135,34	0,52	0,50	1,58	32,46	16,40	2069,77	-5,21	-5,29	5346,00	1706,76	6740,81	8326,22	1873,07	9,69	6740,81	1873,07	9,69	6740,81	1873,07	9,69	6740,81	1873,07	9,69	6740,81	1873,07						
4	W24X62	W12X30	Atas 5,30	4,61	123,94	135,34	0,48	0,50	1,56	-28,38	-14,67	-2574,02	4,25	4,77	5346,00	1706,76	6343,53	10337,46	1855,12	4,98	6343,53	10337,46	4,98	6343,53	10337,46	4,98	6343,53	10337,46	4,98	6343,53	10337,46						
3	W24X62	W12X30	Bawah 5,30	4,61	123,94	135,34	0,49	0,50	1,53	13,54	8,25	2725,47	-0,87	-2,52	6098,40	1706,76	7608,18	11170,04	1837,16	4,15	7608,18	11170,04	4,15	7608,18	11170,04	4,15	7608,18	11170,04	4,15	7608,18	11170,04						
2	W24X62	W12X30	Atas 5,30	4,61	123,84	135,34	0,47	0,50	1,52	7,81	5,21	2864,16	-0,87	2,00	6098,40	1706,76	7942,69	11102,18	1819,20	2,30	7942,69	11102,18	2,30	7942,69	11102,18	2,30	7942,69	11102,18	2,30	7942,69	11102,18						
1	W24X62	W12X30	Bawah 5,30	4,61	135,79	141,49	0,41	0,50	1,50	-11,72	-2,95	-3181,29	4,69	0,61	6098,40	1706,76	7664,10	10389,20	1801,25	2,28	7664,10	10389,20	2,28	7664,10	10389,20	2,28	7664,10	10389,20	2,28	7664,10	10389,20						
Dasar	0	0	Atas 5,30	4,61	135,79	141,49	1,00	1,00	1,10	8,77	4,09	3772,50	-5,73	-2,52	0,00	0,00	5187,19	15102,56	0,00	6,13	5187,19	15102,56	0,00	6,13	5187,19	15102,56	0,00	6,13	5187,19	15102,56							

# LAMPIRAN C-2-2

TABEL MOMEN RENCANA KOLOM MU,k

**Kolom K5**

Join Lembar	Profil Balok		Lokasi M, k	Ln (m)		hn		g		DMF	Momen Kolom Arah X			Momen Kolom Arah Y			Mpb		M.k Arah X			M.k Arah Y			M.k desah		Arah X			
	B1	B2		B1	B2	In	Ar	Ar	Ar		Ar	MD,k	ME,k	MD,k	ML,k	B1	B2	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	Ar	Ar	Cb
14	W18X31	W12X26	Bawah	5,36	4,61	130,74	135,39	1,00	1,10	0,00	0,00	158,30	55,29	2138,40	1473,12	3808,38	960,24	1129,15	217,61	960,24	1129,15	960,24	1129,15	960,24	1129,15	960,24	1129,15	3,10	2,30	
13	W18X40	W12X30	Atas	5,36	4,61	128,34	135,34	0,44	0,50	0,00	0,00	-150,56	-52,59	3104,84	1706,76	3271,38	260,02	891,65	206,99	260,02	891,65	206,99	260,02	891,65	206,99	260,02	891,65	2,38	2,30	
12	W21X44	W12X30	Atas	5,36	4,61	126,84	135,34	0,54	0,50	0,00	0,00	-197,01	-88,82	3777,84	1706,76	5303,23	1212,28	990,40	270,83	1212,28	990,40	270,83	1212,28	990,40	270,83	1212,28	990,40	2,41	2,30	
11	W21X44	W12X30	Bawah	5,36	4,61	126,94	135,34	0,46	0,50	0,00	0,00	199,18	69,61	3777,84	1706,76	4591,45	3666,38	990,40	273,82	3666,38	990,40	273,82	3666,38	990,40	273,82	3666,38	990,40	2,41	2,30	
10	W21X44	W12X30	Atas	5,36	4,61	126,84	135,34	0,44	0,50	0,00	0,00	-199,40	-69,26	3777,84	1706,76	5484,08	1997,56	981,42	272,71	1997,56	981,42	272,71	1997,56	981,42	272,71	1997,56	981,42	2,59	2,30	
9	W21X44	W12X30	Bawah	5,36	4,61	126,89	135,34	0,57	0,50	0,00	0,00	197,19	68,74	3777,84	1706,76	4503,38	5192,82	972,45	271,72	4503,38	972,45	271,72	4503,38	972,45	271,72	4503,38	972,45	2,88	2,30	
8	W21X50	W12X30	Atas	5,36	4,61	126,84	135,34	0,48	0,50	0,00	0,00	-192,59	-83,39	3777,84	1706,76	4632,80	5445,55	963,47	264,43	4632,80	963,47	264,43	4632,80	963,47	264,43	4632,80	963,47	3,04	2,30	
7	W21X50	W12X30	Bawah	5,36	4,61	126,84	135,34	0,51	0,50	0,00	0,00	209,77	72,21	4356,00	1706,76	5551,69	6756,06	954,49	287,83	5551,69	954,49	287,83	5551,69	954,49	287,83	5551,69	954,49	3,10	2,30	
6	W21X50	W12X30	Atas	5,36	4,61	126,84	135,34	0,47	0,50	0,00	0,00	-192,93	-86,05	4356,00	1706,76	5166,08	7073,39	945,51	264,54	5166,08	945,51	264,54	5166,08	945,51	264,54	5166,08	945,51	3,00	2,30	
5	W21X50	W12X30	Bawah	5,36	4,61	126,84	135,34	0,49	0,50	0,00	0,00	195,89	66,65	4356,00	1706,76	5204,89	6158,88	927,56	286,39	5204,89	927,56	286,39	5204,89	927,56	286,39	5204,89	927,56	3,08	2,30	
4	W21X55	W12X30	Atas	5,36	4,61	126,84	135,34	0,52	0,50	0,00	0,00	-188,08	-82,75	4989,60	1706,76	5853,18	7767,01	918,58	254,87	5853,18	918,58	254,87	5853,18	918,58	254,87	5853,18	918,58	2,99	2,30	
3	W21X55	W12X30	Bawah	5,36	4,61	126,84	135,34	0,49	0,50	0,00	0,00	185,97	65,53	4989,60	1706,76	5986,02	7797,95	909,60	267,83	5986,02	909,60	267,83	5986,02	909,60	267,83	5986,02	909,60	3,00	2,30	
2	W21X55	W12X30	Atas	5,36	4,61	126,84	135,34	0,49	0,50	0,00	0,00	-182,09	-80,23	4989,60	1706,76	5791,74	8190,89	900,62	248,62	5791,74	900,62	248,62	5791,74	900,62	248,62	5791,74	900,62	3,02	2,30	
1	W21X55	W12X30	Bawah	5,36	4,61	137,24	141,49	0,37	0,50	0,00	0,00	208,25	-225,05	4989,60	1706,76	4732,12	8153,02	932,16	307,25	4732,12	932,16	307,25	4732,12	932,16	307,25	4732,12	932,16	2,75	2,30	
Deser	0	0	Atas	5,36	4,61	137,24	141,49	1,00	1,10	0,00	0,00	3098,84	-43,74	4260,90	13295,35	0,00	4260,90	58,3	4260,90	58,3	4260,90	58,3	4260,90	58,3	4260,90	58,3	4260,90	58,3	2,60	2,30

TABEL MOMEN RENCANA KOLOM Mu,k

Kolom K6

Join Lantai	Profil Babok		Lokasi M, k	Ln (m)		hn		α		DMF	Momen Kolom Arah X			Momen Kolom Arah Y			Mpb		M,k Arah X		M,k Arah Y		M,k pakal		M,u,k desain		Arah X		
	B1	B2		B1	B2	In	Ar	Ar	Ar		Ar	M,D,k	M,L,k	M,E,k	M,D,k	M,L,k	M,E,k	B1	B2	{1}	{2}	{1}	{2}	Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y
14	W18X35	W12X26	Bawah	5,30	4,61	128,39	135,39	1,00	1,00	1,10	0,00	0,00	-335,53	6,86	9,37	2633,40	1473,12	1342,12	2258,28	12,91	1342,12	2258,28	1342,12	2258,28	1942,12	2258,28	3,10	2,30	
13	W21X50	W12X30	Atas	5,30	4,61	126,84	135,34	0,48	0,50	1,50	0,00	0,00	154,92	-5,29	-7,03	4356,00	1706,76	4990,91	619,68	1783,29	9,87	619,68	1783,29	3237,27	1980,80	2,28	2,28		
12	W21X55	W12X30	Bawah	5,30	4,61	126,84	135,34	0,56	0,50	1,67	0,00	0,00	-382,28	-6,51	-6,88	4989,60	1706,76	7437,23	1449,05	1980,80	11,15	1449,05	1980,80	5310,51	1980,80	2,31	2,30		
11	W21X55	W12X30	Atas	5,30	4,61	126,84	135,34	0,44	0,50	1,87	0,00	0,00	-1327,83	9,55	9,11	4989,60	1706,76	5768,74	5310,51	1980,80	16,01	5310,51	1980,80	5310,51	1980,80	2,31	2,30		
10	W21X55	W12X30	Bawah	5,30	4,61	126,84	135,34	0,58	0,50	1,67	0,00	0,00	627,75	-8,33	-8,16	4989,60	1706,76	7654,50	2511,01	1982,85	14,08	2511,01	1982,85	5431,76	1982,85	2,62	2,30		
9	W21X55	W12X30	Atas	5,30	4,61	125,44	135,34	0,42	0,50	1,65	0,00	0,00	-1620,20	7,29	7,38	4989,60	1706,76	5431,76	6480,78	1982,85	12,44	3768,42	1944,89	3768,42	1944,89	2,64	2,30		
8	W24X55	W12X30	Bawah	5,30	4,61	124,04	135,34	0,55	0,50	1,64	0,00	0,00	-1850,97	6,94	7,20	4989,60	1706,76	5782,92	7403,88	1944,89	11,93	5782,92	1944,89	5782,92	1944,89	2,95	2,30		
7	W24X55	W12X30	Atas	5,30	4,61	124,04	135,34	0,48	0,50	1,62	0,00	0,00	1304,28	-6,80	-7,03	4989,60	1706,76	6636,96	5217,12	1926,94	11,43	5217,12	1926,94	6703,46	1926,94	3,01	2,30		
6	W24X55	W12X30	Bawah	5,30	4,61	124,04	135,34	0,50	0,50	1,61	0,00	0,00	-2381,43	6,34	6,60	5346,00	1706,76	6703,46	6789,27	1908,98	9,81	6703,46	1908,98	7005,33	1908,98	3,01	2,30		
5	W24X55	W12X30	Atas	5,30	4,61	123,99	135,34	0,53	0,50	1,59	0,00	0,00	1909,81	-5,90	-6,16	5346,00	1706,76	6631,73	9525,72	1926,94	10,90	6631,73	1908,98	7005,33	1908,98	2,97	2,30		
4	W24X62	W12X30	Bawah	5,30	4,61	123,94	135,34	0,47	0,50	1,58	0,00	0,00	-2109,17	4,51	4,69	5346,00	1706,76	6732,46	8436,68	1873,07	8,02	6732,46	1873,07	8383,25	1873,07	3,09	2,30		
3	W24X62	W12X30	Atas	5,30	4,61	123,94	135,34	0,49	0,50	1,56	0,00	0,00	2815,16	-3,12	-3,14	5346,00	1706,76	6393,25	9467,40	1855,12	5,82	6393,25	1855,12	7026,60	1855,12	2,99	2,30		
2	W24X62	W12X30	Bawah	5,30	4,61	123,94	135,34	0,51	0,50	1,55	0,00	0,00	-2545,81	2,17	3,65	5346,00	1706,76	6560,44	10783,24	1855,12	4,43	6560,44	1855,12	7026,60	1837,16	3,01	2,30		
1	W24X62	W12X30	Atas	5,30	4,61	123,94	135,34	0,48	0,50	1,55	0,00	0,00	2693,55	-1,65	-3,21	6098,40	1706,76	7026,60	10783,24	1837,16	3,58	7026,60	1837,16	7601,27	1837,16	3,01	2,30		
Dasar	0	0	Atas	5,30	4,61	135,79	141,49	0,52	0,50	1,53	0,00	0,00	-2817,81	0,95	2,86	6098,40	1706,76	7601,27	11271,24	1837,16	2,58	7601,27	1837,16	7601,27	1837,16	3,01	2,30		
			Bawah	5,30	4,61	135,79	141,49	0,49	0,50	1,53	0,00	0,00	2754,02	-0,43	-2,43	6098,40	1706,76	7164,67	11016,08	1819,20	1,74	7164,67	1819,20	7320,24	1819,20	2,96	2,30		
			Atas	5,30	4,61	135,79	141,49	0,51	0,50	1,53	0,00	0,00	-2793,60	0,26	1,51	6098,40	1706,76	7320,24	11174,39	1819,20	1,27	7320,24	1819,20	7320,24	1819,20	2,96	2,30		
			Bawah	5,30	4,61	135,79	141,49	0,47	0,50	1,52	0,00	0,00	2879,00	-0,61	-1,91	6098,40	1706,76	6662,45	11515,99	1801,25	1,88	6662,45	1801,25	7649,49	1801,25	2,84	2,30		
			Atas	5,30	4,61	135,79	141,49	0,53	0,50	1,52	0,00	0,00	-2607,69	-1,91	0,61	6098,40	1706,76	7649,49	10430,77	1801,25	2,60	7649,49	1801,25	7649,49	1801,25	2,84	2,30		
			Bawah	5,30	4,61	135,79	141,49	0,41	0,50	1,50	0,00	0,00	3193,09	4,86	0,69	6098,40	1706,76	6354,77	12772,36	1864,33	6,18	6354,77	1864,33	7507,58	1864,33	2,61	2,30		
			Atas	5,30	4,61	135,79	141,49	0,59	0,50	1,50	0,00	0,00	-1976,92	-1,13	0,26	6098,40	1706,76	9161,81	7907,68	1864,33	1,48	7907,68	1864,33	7507,58	1864,33	2,61	2,30		
			Bawah	5,30	4,61	135,79	141,49	0,49	0,50	1,10	0,00	0,00	3736,05	-5,64	-2,52	0,00	0,00	5137,07	14544,20	0,00	8,03	5137,07	8,03						

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TABEL GESER RENCANA KOLOM Vu,k

Kolom Lantai	hn		Mu,k Desain		Gaya Geser Portal Arah X			Gaya Geser Portal Arah Y			Vu,k Arah X		Vu,k Arah Y		Vu,k		Vu,k pakat			
	Arah X	Arah Y	Arah X	Arah Y	VD,k	VL,k	VE,k	VD,k	VL,k	VE,k	{1}	{2}	Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y		
	In	In	K-in	K-in	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	
14	130,74	135,44	757,48	1096,24	3,72	1,08	0,22	-1,32	-0,40	5,88	16,19	2,05	5,88	2,05	5,88	2,05	5,88	2,05	5,88	2,05
13	128,34	135,44	1217,55	830,22	5,48	1,58	2,60	-2,20	-0,55	17,75	12,26	6,03	17,75	6,03	17,75	6,03	17,75	6,03	17,75	6,03
12	126,94	135,44	1287,96	830,22	4,97	1,43	4,27	-1,87	-0,48	23,75	12,26	7,61	23,75	7,61	20,29	7,61	20,29	7,61	20,29	7,61
11	126,94	135,44	1613,75	822,70	4,95	1,43	6,09	-1,91	-0,48	31,03	12,15	9,85	31,03	9,85	25,43	9,85	25,43	9,85	25,43	9,85
10	126,94	135,44	2121,76	815,17	4,95	1,43	6,09	-1,91	-0,48	31,03	12,15	9,85	31,03	9,85	25,43	9,85	25,43	9,85	25,43	9,85
9	126,89	135,44	2897,51	807,64	4,77	1,39	9,11	-1,87	-0,48	42,85	11,93	13,42	42,85	11,93	42,85	11,93	42,85	11,93	42,85	11,93
8	126,84	135,44	2900,53	800,12	4,99	1,43	9,77	-1,91	-0,48	45,78	11,82	14,26	45,78	11,82	45,74	11,82	45,74	11,82	45,74	11,82
7	126,84	135,44	2846,11	792,59	4,80	1,39	11,15	-1,87	-0,46	51,06	11,70	15,86	51,06	11,70	44,88	11,70	44,88	11,70	44,88	11,70
6	126,84	135,44	2602,19	785,07	4,77	1,36	12,08	-1,87	-0,46	54,72	11,59	16,97	54,72	11,59	41,03	11,59	41,03	11,59	41,03	11,59
5	126,84	135,44	2947,39	777,54	4,77	1,36	12,08	-1,87	-0,46	54,72	11,59	16,97	54,72	11,59	41,03	11,59	41,03	11,59	41,03	11,59
4	126,84	135,44	3108,21	770,02	4,77	1,36	13,18	-1,87	-0,46	59,12	11,37	18,29	59,12	11,37	43,01	11,37	43,01	11,37	43,01	11,37
3	126,84	135,44	3127,87	762,49	4,44	1,25	14,06	-1,74	-0,42	62,19	11,26	19,16	62,19	11,26	49,32	11,26	49,32	11,26	49,32	11,26
2	126,84	135,44	3184,18	781,10	4,86	1,39	14,23	-1,98	-0,48	53,46	11,53	19,70	53,46	11,53	50,21	11,53	50,21	11,53	50,21	11,53
1	137,24	141,54	3131,92	781,10	2,09	0,53	16,41	-0,95	-0,20	68,42	11,04	20,93	68,42	11,04	45,64	11,04	45,64	11,04	45,64	11,04
					2,09	0,53	16,41	-0,95	-0,20	68,42	11,04	20,93	68,42	11,04	45,64	11,04	45,64	11,04	45,64	11,04

# LAMPIRAN C-2-3

TABEL GESER RENCANA KOLOM Vu,k

Kolom K2

Kolom Lantai	ln		Mu,k Desain		Gaya Geser Portal Arah X		Gaya Geser Portal Arah Y		Vu,k Arah X		Vu,k Arah Y		Vu,k		Vu,k pakat	
	Arah X	Arah Y	Arah X	Arah Y	VD,k	VE,k	VL,k	VK,k	VL,k	VK,k	{1}	{2}	Arah X	Arah Y	Arah X	Arah Y
	in	in	K-in	K-in	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips
14	130,74	135,39	888,47	1129,15	0,40	1,85	0,13	1,85	-2,11	-0,73	16,68	5,12	7,93	5,12	7,93	5,12
13	128,34	135,34	2131,72	990,40	0,48	5,28	0,18	5,28	-2,77	-0,73	16,68	5,12	7,93	5,12	7,93	5,12
12	126,94	135,34	3621,00	990,40	0,66	9,15	0,22	9,15	-2,73	-0,97	14,64	10,15	21,79	10,15	21,79	10,15
11	126,34	135,34	4292,85	931,42	0,57	12,08	0,20	12,08	-2,64	-0,92	14,64	10,15	21,79	10,15	21,79	10,15
10	126,34	135,34	4508,63	972,45	0,53	14,98	0,18	14,98	-2,68	-0,92	14,50	18,12	49,10	14,50	49,10	14,50
9	126,39	135,34	4767,49	963,47	0,53	14,98	0,18	14,98	-2,68	-0,92	14,37	21,56	60,65	14,37	60,65	14,37
8	126,34	135,34	5542,83	954,49	0,48	17,01	0,18	17,01	-2,55	-0,88	14,24	23,91	68,69	14,24	68,69	14,24
7	126,94	135,34	5502,88	945,51	0,48	17,01	0,18	17,01	-2,55	-0,88	14,11	28,30	82,30	14,11	82,30	14,11
6	126,34	135,34	5277,06	936,54	0,44	20,39	0,15	20,39	-2,62	-0,90	13,97	29,89	86,77	13,97	86,77	13,97
5	126,34	135,34	5842,20	927,56	0,37	23,63	0,13	23,63	-2,66	-0,90	13,84	32,00	83,21	13,84	83,21	13,84
4	126,34	135,34	6268,99	916,58	0,37	23,63	0,13	23,63	-2,66	-0,90	13,84	32,00	83,21	13,84	83,21	13,84
3	126,94	135,34	6126,91	906,60	0,31	25,23	0,11	25,23	-2,55	-0,86	13,71	33,77	82,12	13,71	82,12	13,71
2	126,34	135,34	6080,32	932,16	0,26	26,36	0,09	26,36	-2,68	-0,90	13,71	33,77	82,12	13,71	82,12	13,71
1	137,24	141,49	6367,65	932,16	0,26	26,36	0,09	26,36	-2,68	-0,90	13,57	35,30	86,77	13,57	86,77	13,57
					0,18	27,24	0,07	27,24	-2,51	-0,84	13,44	36,11	96,61	13,44	96,61	13,44
					0,18	27,24	0,07	27,24	-2,51	-0,84	13,44	36,11	96,61	13,44	96,61	13,44
					0,00	26,47	0,00	26,47	-2,88	-0,95	13,78	35,69	95,88	13,78	95,88	13,78
					0,00	26,47	0,00	26,47	-2,88	-0,95	13,78	35,69	95,88	13,78	95,88	13,78
					0,02	32,16	0,02	32,16	-1,30	-0,40	13,18	40,35	92,80	13,18	92,80	13,18
					0,02	32,16	0,02	32,16	-1,30	-0,40	13,18	40,35	92,80	13,18	92,80	13,18

# LAMPIRAN C-2-3

TABEL GESER RENCANA KOLOM Vu,k

Kolom Lantai	In		Mu,k Desain		Gaya Geser Portal Arah X		Gaya Geser Portal Arah Y		Vu,k Arah X		Vu,k Arah Y		Vu,k		Vu,k pakai	
	Arah X	Arah Y	Arah X	Arah Y	VD,k	VE,k	VD,k	VE,k	{1}	{2}	Arah X	Arah Y	Arah X	Arah Y	Kips	Kips
14	128,39	135,44	1179,68	2192,49	6,14	2,00	-0,18	0,44	32,38	10,13	32,38	0,78	10,13	0,78	10,13	0,78
13	126,84	135,44	1652,61	1660,44	8,27	3,12	-0,15	0,44	32,38	10,13	32,38	0,78	10,13	0,78	10,13	0,78
12	126,84	135,44	1508,97	1660,44	8,27	3,12	-0,15	0,44	24,52	26,45	24,52	4,72	26,06	4,72	26,06	4,72
11	126,84	135,44	2089,91	1645,39	7,46	2,75	-0,18	0,44	24,52	26,45	24,52	4,72	26,06	4,72	26,06	4,72
10	126,84	135,44	2945,62	1630,34	7,46	2,75	-0,18	0,44	24,52	26,45	24,52	4,72	26,06	4,72	26,06	4,72
9	125,44	135,44	3625,25	1615,29	7,24	2,68	-0,13	0,44	24,08	52,12	24,08	12,76	46,45	12,76	46,45	12,76
8	124,04	135,44	3548,95	1600,24	7,24	2,68	-0,13	0,44	23,85	80,10	23,85	15,21	57,80	15,21	57,80	15,21
7	124,04	135,44	3464,30	1585,19	7,59	2,82	-0,13	0,44	23,63	64,72	23,63	16,45	57,22	16,45	57,22	16,45
6	124,04	135,44	3162,11	1570,13	7,28	2,68	-0,11	0,44	23,41	71,77	23,41	18,67	55,86	18,67	55,86	18,67
5	123,99	135,44	3561,16	1555,08	7,26	2,68	-0,09	0,44	23,19	77,02	23,19	20,22	50,99	20,22	50,99	20,22
4	123,94	135,44	3752,78	1540,03	6,97	2,55	-0,07	0,44	22,96	81,89	22,96	21,78	57,44	21,78	57,44	21,78
3	123,94	135,44	3770,61	1524,98	7,28	2,66	-0,04	0,44	22,74	82,76	22,74	21,87	60,56	21,87	60,56	21,87
2	123,94	135,44	3953,12	1562,21	6,82	2,49	-0,04	0,44	22,52	86,78	22,52	23,27	60,85	23,27	60,85	23,27
1	135,79	141,54	3865,35	1562,21	7,57	2,75	0,00	0,00	23,07	92,30	23,07	24,55	63,79	24,55	63,79	24,55
					3,08	1,03	-0,02	0,00	22,07	79,54	22,07	22,62	56,93	22,62	56,93	22,62
					3,08	1,03	-0,02	0,00	22,07	79,54	22,07	22,62	56,93	22,62	56,93	22,62

# LAMPIRAN C-2-3

TABEL GESER RENCANA KOLOM Vu,k

Kolom K4

Kolom Lantai	hn		Muk Desain		Gaya Geser Portal Arah X			Gaya Geser Portal Arah Y			Vu,k Arah X		Vu,k Arah Y		Vu,k		Vu,k pakal	
	Arah X	Arah Y	Arah X	Arah Y	VD,k	VL,k	VE,k	VD,k	VL,k	VE,k	{1}	{2}	{1}	{2}	Arah X	Arah Y	Arah X	Arah Y
14	128,39	135,39	1194,38	2253,29	0,35	0,20	2,62	-0,07	-0,09	33,36	3,26	3,26	10,99	3,26	10,99	3,26	10,99	3,26
13	126,34	135,34	3264,32	1980,80	0,62	0,29	7,37	-0,07	-0,09	33,36	3,26	3,26	10,99	3,26	10,99	3,26	30,36	8,97
12	126,34	135,34	5220,99	1980,80	0,75	0,35	12,39	-0,11	-0,11	50,62	29,27	15,05	50,62	15,05	50,62	15,05	50,62	15,05
11	126,34	135,34	5172,76	1962,85	0,62	0,29	16,85	-0,09	-0,09	68,29	29,01	20,37	68,29	20,37	68,29	20,37	68,29	20,37
10	126,34	135,34	5539,55	1944,89	0,57	0,26	20,83	-0,09	-0,09	84,15	28,74	25,15	84,15	25,15	84,15	25,15	84,15	25,15
9	125,44	135,34	6653,18	1923,94	0,53	0,26	24,88	-0,09	-0,09	100,29	28,48	30,51	100,29	28,48	100,29	28,48	100,29	28,48
8	124,34	135,34	6894,71	1903,98	0,55	0,26	27,74	-0,09	-0,09	100,29	28,48	32,21	100,29	28,48	100,29	28,48	100,29	28,48
7	124,34	135,34	6740,81	1891,03	0,46	0,22	30,73	-0,07	-0,07	123,60	27,95	33,44	123,60	27,95	108,69	27,95	108,69	27,95
6	124,34	135,34	6377,60	1873,07	0,35	0,20	33,15	-0,04	-0,04	133,14	27,68	36,99	133,14	27,68	108,69	27,95	108,69	27,95
5	123,39	135,34	7019,69	1853,12	0,35	0,20	33,15	-0,04	-0,04	133,14	27,68	39,87	133,14	27,68	102,83	27,68	102,83	27,68
4	123,34	135,34	7608,18	1837,16	0,26	0,15	34,94	-0,02	-0,04	140,14	27,41	41,97	140,14	27,41	113,23	27,41	113,23	27,41
3	123,34	135,34	7342,69	1819,20	0,22	0,13	37,25	-0,02	-0,04	149,31	27,15	44,74	149,31	27,15	122,77	27,15	122,77	27,15
2	123,34	135,34	7654,10	1864,33	0,11	0,09	38,10	0,00	-0,02	152,59	26,88	45,74	152,59	26,88	118,49	26,88	118,49	26,88
1	135,79	141,49	7547,56	1864,33	0,00	0,02	38,24	-0,02	-0,02	152,96	26,35	45,91	152,96	26,35	123,68	27,55	123,68	27,55
					0,00	0,02	38,24	-0,02	-0,02	152,96	26,35	45,92	152,96	26,35	111,17	26,35	111,17	26,35



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TABEL GESER RENCANA KOLOM Vu,k

Kolom K5

Kolom Lantai	hn		Mu,k Desain		Gaya Geser Portal Arah X				Gaya Geser Portal Arah Y				Vu,k Arah X		Vu,k Arah Y		Vu,k		Vu,k pakal					
	Arah X	Arah Y	Arah X	Arah Y	VD,k	VL,k	VE,k	VL,k	VD,k	VL,k	VD,k	VL,k	(1)	(2)	Arah X	Arah Y	(1)	(2)	Arah X	Arah Y	Kips	Kips		
14	130,74	135,39	980,24	1123,15	0,00	0,00	2,07	-0,73	-2,09	-0,73	0,00	0,00	16,68	5,35	8,27	5,35	16,68	5,35	8,27	5,35	8,27	5,35	8,27	5,35
13	128,34	135,34	2307,23	990,40	0,00	0,00	5,94	-1,01	-2,90	-1,01	0,00	0,00	14,64	11,12	23,76	11,12	14,64	11,12	23,76	11,12	23,76	11,12	23,76	11,12
12	126,34	135,34	3666,36	990,40	0,00	0,00	9,57	-0,95	-2,68	-0,95	0,00	0,00	14,64	11,12	38,28	11,12	14,64	11,12	38,28	11,12	38,28	11,12	38,28	11,12
11	126,34	135,34	4320,90	981,42	0,00	0,00	12,50	-0,92	-2,66	-0,92	0,00	0,00	14,50	18,65	49,98	18,65	14,50	18,65	49,98	18,65	49,98	18,65	49,98	18,65
10	126,34	135,34	4503,36	972,45	0,00	0,00	15,36	-0,92	-2,68	-0,92	0,00	0,00	14,37	22,11	61,42	22,11	14,37	22,11	61,42	22,11	61,42	22,11	61,42	22,11
9	126,39	135,34	4822,05	963,47	0,00	0,00	17,36	-0,88	-2,55	-0,88	0,00	0,00	14,24	24,33	69,43	24,33	14,24	24,33	69,43	24,33	69,43	24,33	69,43	24,33
8	126,34	135,34	5562,54	954,49	0,00	0,00	20,81	-0,95	-2,77	-0,95	0,00	0,00	14,11	28,77	83,25	28,77	14,11	28,77	83,25	28,77	83,25	28,77	83,25	28,77
7	126,34	135,34	5512,53	945,51	0,00	0,00	22,26	-0,90	-2,82	-0,90	0,00	0,00	13,97	30,31	89,06	30,31	13,97	30,31	89,06	30,31	86,92	13,97	86,92	13,97
6	126,34	135,34	5267,41	936,54	0,00	0,00	23,91	-0,90	-2,84	-0,90	0,00	0,00	13,84	32,32	95,66	32,32	13,84	32,32	95,66	32,32	83,06	13,84	83,06	13,84
5	126,34	135,34	5863,18	927,56	0,00	0,00	25,45	-0,86	-2,65	-0,86	0,00	0,00	13,71	34,04	101,82	34,04	13,71	34,04	101,82	34,04	92,29	13,71	92,29	13,71
4	126,34	135,34	5258,01	916,58	0,00	0,00	26,51	-0,90	-2,66	-0,90	0,00	0,00	13,57	35,46	106,04	35,46	13,57	35,46	106,04	35,46	98,68	13,57	98,68	13,57
3	126,34	135,34	6106,80	905,60	0,00	0,00	27,28	-0,84	-2,51	-0,84	0,00	0,00	13,44	36,16	109,12	36,16	13,44	36,16	109,12	36,16	96,29	13,44	96,29	13,44
2	126,34	135,34	6082,72	932,16	0,00	0,00	26,53	-0,95	-2,88	-0,95	0,00	0,00	13,78	35,77	106,13	35,77	13,78	35,77	106,13	35,77	95,91	13,78	95,91	13,78
1	137,24	141,49	6283,60	932,16	0,00	0,00	31,57	-0,40	-1,30	-0,40	0,00	0,00	13,18	39,54	126,28	39,54	13,18	39,54	126,28	39,54	91,67	13,18	91,67	13,18

# LAMPIRAN C-2-3

## TABEL GESER RENCANA KOLOM Vu,k

Kolom Lantai	hm		Mu,k Desain		Gaya Geser Portal Ararah X				Gaya Geser Portal Ararah Y		Vu,k Ararah X		Vu,k Ararah Y		Vu,k		Vu,k pakal			
	Arah X in	Arah Y in	Arah X K-in	Arah Y K-in	VD,k	VL,k		VE,k		VL,k	Kips	{2}	{1}	{2}	Arah X Kips	Arah Y Kips	Arah X Kips	Arah Y Kips		
						Kips	Kips	Kips	Kips											
14	128,39	135,34	1342,12	2253,29	0,00	0,00	0,00	3,32	3,32	-0,09	-0,11	13,29	33,36	4,15	13,29	4,15	13,29	4,15	13,29	4,15
13	126,34	135,34	3237,27	1980,80	0,00	0,00	0,00	7,92	7,92	-0,09	-0,09	31,68	29,27	9,65	31,68	9,65	31,68	9,65	31,68	9,65
12	126,34	135,34	5310,51	1980,80	0,00	0,00	0,00	13,22	13,22	-0,11	-0,11	52,89	29,27	16,05	52,89	16,05	52,89	16,05	52,89	16,05
11	126,34	135,34	5431,76	1962,85	0,00	0,00	0,00	17,31	17,31	-0,09	-0,11	52,89	29,27	16,05	52,89	16,05	52,89	16,05	52,89	16,05
10	126,34	135,34	5782,92	1944,89	0,00	0,00	0,00	21,32	21,32	-0,09	-0,11	69,26	29,01	20,94	69,26	20,94	69,26	20,94	69,26	20,94
9	125,44	135,34	6703,46	1923,94	0,00	0,00	0,00	24,49	24,49	-0,09	-0,09	85,27	28,74	25,73	85,27	25,73	85,27	25,73	85,27	25,73
8	124,34	135,34	7005,33	1903,98	0,00	0,00	0,00	29,02	29,02	-0,09	-0,09	97,94	28,48	29,53	97,94	28,48	97,94	28,48	97,94	28,48
7	124,34	135,34	6732,46	1891,03	0,00	0,00	0,00	31,22	31,22	-0,07	-0,07	116,07	28,21	34,97	116,07	34,97	116,07	34,97	116,07	34,97
6	124,34	135,34	6383,25	1873,07	0,00	0,00	0,00	33,68	33,68	-0,04	-0,07	124,87	27,95	37,57	124,87	37,57	124,87	37,57	124,87	37,57
5	123,39	135,34	7026,60	1855,12	0,00	0,00	0,00	35,35	35,35	-0,04	-0,07	134,73	27,68	40,50	134,73	40,50	134,73	40,50	134,73	40,50
4	123,34	135,34	7601,27	1837,16	0,00	0,00	0,00	37,66	37,66	-0,04	-0,04	141,42	27,41	42,47	141,42	42,47	141,42	42,47	141,42	42,47
3	123,34	135,34	7320,24	1813,20	0,00	0,00	0,00	36,35	36,35	0,00	-0,02	150,66	27,15	45,22	150,66	45,22	150,66	45,22	150,66	45,22
2	123,34	135,34	7549,49	1864,33	0,00	0,00	0,00	39,20	39,20	0,04	-0,02	153,38	26,88	46,03	153,38	46,03	153,38	46,03	153,38	46,03
1	135,79	141,49	7507,68	1864,33	0,00	0,00	0,00	37,95	37,95	-0,02	-0,02	151,80	26,35	45,58	151,80	45,58	151,80	45,58	151,80	45,58

# LAMPIRAN C-2-4

TABEL GAYA AKSIAL RENCANA KOLOM Pu,k

Kolom K1

Kolom Lantai	Rv	Profil Balok		Mp, b				P, k				Pu, k		Pu, k rencana
		B1	B4	B1	B4	lantai	komulatif		(1)	(2)	Kips	Kips		
							PE,k	PL,k					Kips	
14	0,75	W16X31	W12X26	-7,17	-2,07	1473,12	18,92	18,92	18,92	28,62	12,37	13,82	13,82	
13	0,75	W16X40	W12X26	-8,38	-2,07	1473,12	18,92	18,92	29,89	13,82	13,82	13,82	13,82	
12	0,75	W16X40	W12X26	-29,13	-7,11	1473,12	23,73	42,64	80,69	49,07	49,07	51,65	51,65	
11	0,75	W21X44	W12X26	-52,38	-12,23	1473,12	23,73	42,64	82,95	51,65	51,65	51,65	51,65	
10	0,75	W21X44	W12X26	-54,76	-12,23	1473,12	27,08	69,72	137,56	95,46	95,46	98,31	98,31	
9	0,75	W21X44	W12X26	-75,81	-17,34	1473,12	27,08	69,72	140,06	98,31	98,31	98,31	98,31	
8	0,75	W21X44	W12X26	-78,17	-17,34	1473,12	27,08	69,72	140,06	148,13	148,13	150,96	150,96	
7	0,75	W21X44	W12X26	-99,18	-22,44	1473,12	27,08	69,72	140,06	197,07	150,96	150,96	150,96	
6	0,75	W21X50	W12X26	-101,53	-22,44	1473,12	27,08	133,87	251,57	206,79	206,79	209,62	209,62	
5	0,75	W21X50	W12X26	-122,45	-27,50	1473,12	27,08	133,87	254,04	209,62	209,62	212,45	212,45	
4	0,75	W21X50	W12X26	-145,79	-32,58	1473,12	27,08	150,96	308,40	270,08	270,08	272,93	272,93	
3	0,75	W21X50	W12X26	-148,39	-32,58	1473,12	29,95	183,90	370,92	344,58	344,58	344,58	344,58	
2	0,75	W21X50	W12X26	-169,31	-37,62	1473,12	29,95	183,90	370,92	344,58	344,58	344,58	344,58	
1	0,75	W21X50	W12X26	-171,86	-37,62	1473,12	29,95	210,85	428,13	416,82	416,82	419,91	419,91	
14	0,75	W16X31	W12X26	-7,17	-2,07	1473,12	18,92	18,92	28,62	12,37	13,82	13,82	13,82	
13	0,75	W16X40	W12X26	-8,38	-2,07	1473,12	18,92	18,92	29,89	13,82	13,82	13,82	13,82	
12	0,75	W16X40	W12X26	-29,13	-7,11	1473,12	23,73	42,64	80,69	49,07	49,07	51,65	51,65	
11	0,75	W21X44	W12X30	-52,38	-12,23	1706,76	23,73	42,64	82,95	51,65	51,65	51,65	51,65	
10	0,75	W21X44	W12X30	-54,76	-12,23	1706,76	27,08	69,72	137,56	95,46	95,46	98,31	98,31	
9	0,75	W21X44	W12X30	-75,81	-17,34	1706,76	27,08	69,72	140,06	98,31	98,31	98,31	98,31	
8	0,75	W21X44	W12X30	-78,17	-17,34	1706,76	27,08	69,72	140,06	148,13	148,13	150,96	150,96	
7	0,75	W21X44	W12X30	-99,18	-22,44	1706,76	27,08	69,72	140,06	197,07	150,96	150,96	150,96	
6	0,75	W21X50	W12X30	-101,53	-22,44	1706,76	27,08	133,87	251,57	206,79	206,79	209,62	209,62	
5	0,75	W21X50	W12X30	-122,45	-27,50	1706,76	27,08	133,87	254,04	209,62	209,62	212,45	212,45	
4	0,75	W21X50	W12X30	-145,79	-32,58	1706,76	27,08	150,96	308,40	270,08	270,08	272,93	272,93	
3	0,75	W21X50	W12X30	-148,39	-32,58	1706,76	29,95	183,90	370,92	344,58	344,58	344,58	344,58	
2	0,75	W21X50	W12X30	-169,31	-37,62	1706,76	29,95	183,90	370,92	344,58	344,58	344,58	344,58	
1	0,75	W21X50	W12X30	-171,86	-37,62	1706,76	29,95	210,85	428,13	416,82	416,82	419,91	419,91	

Kolom K2

Kolom Lantai	Rv	Profil Balok		Mp, b				P, k				Pu, k		Pu, k rencana
		B3	B4	B3	B4	lantai	komulatif		(1)	(2)	Kips	Kips		
							PE,k	PL,k					Kips	
14	0,75	W16X31	W12X26	-13,29	-3,85	1706,76	1473,12	8,53	8,53	26,52	18,75	18,75	20,33	
13	0,75	W16X40	W12X30	-14,61	-3,85	1706,76	1473,12	8,53	8,53	27,91	20,33	20,33	20,33	
12	0,75	W21X44	W12X30	-52,27	-13,44	1706,76	1706,76	9,88	18,41	86,38	69,50	69,50	71,82	
11	0,75	W21X44	W12X30	-87,96	-22,99	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
10	0,75	W21X44	W12X30	-90,55	-22,99	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
9	0,75	W21X44	W12X30	-128,28	-32,56	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
8	0,75	W21X44	W12X30	-128,85	-32,56	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
7	0,75	W21X50	W12X30	-164,63	-42,13	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
6	0,75	W21X50	W12X30	-167,22	-42,13	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
5	0,75	W21X50	W12X30	-203,04	-51,70	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
4	0,75	W21X50	W12X30	-241,58	-51,70	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
3	0,75	W21X50	W12X30	-244,73	-51,70	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
2	0,75	W21X50	W12X30	-280,72	-70,36	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	
1	0,75	W21X50	W12X30	-283,85	-70,36	1706,76	1706,76	9,88	18,41	87,41	71,82	71,82	71,82	

# LAMPIRAN C-2-4

TABEL GAYA AKSIAL RENCANA KOLOM PU,K

**Kolom K3**

Kolom Lantai	Rv	Profil Balok		Aksial Kolom			Mp, b			P, k			Pu, k		Pu, k rencana		
		B1	B4	PD,k	PL,k	PE,k	B1	B4	B4	lantai	komulatif	(1)	(2)	Kips	Kips	Kips	Kips
14	0,75	W18X35	W12X26	-13,24	-3,83	-0,88	2633,40	1473,12	13,25	13,25	31,18	21,33	21,33	23,10	23,10		
	0,75			-14,72	-3,83	-0,88	2633,40	1473,12	13,25	13,25	32,72	23,10	23,10	23,10	23,10		
13	0,75	W21X50	W12X26	-49,13	-13,53	-3,89	4356,00	1706,76	21,92	35,17	100,96	81,28	81,28	84,72	84,72		
	0,75			-51,99	-13,53	-3,89	4356,00	1706,76	21,92	35,17	103,96	84,72	84,72	84,72	84,72		
12	0,75	W21X55	W12X26	-86,61	-23,32	-9,35	4989,60	1706,76	25,11	60,28	175,71	153,00	153,00	156,77	156,77		
	0,75			-86,76	-23,32	-9,35	4989,60	1706,76	25,11	60,28	179,01	156,77	156,77	156,77	156,77		
11	0,75	W21X55	W12X26	-124,39	-33,09	-16,83	4989,60	1706,76	25,11	65,39	250,74	233,13	233,13	236,90	236,90		
	0,75			-127,53	-33,09	-16,83	4989,60	1706,76	25,11	65,39	254,04	236,90	236,90	236,90	236,90		
10	0,75	W21X55	W12X26	-162,12	-42,86	-26,38	4989,60	1706,76	25,11	110,50	329,04	325,28	325,28	325,28	325,28		
	0,75			-165,29	-42,86	-26,38	4989,60	1706,76	25,11	110,50	329,04	325,28	325,28	325,28	325,28		
9	0,75	W21X55	W12X26	-199,85	-52,60	-37,60	4989,60	1706,76	25,11	138,50	400,88	416,51	416,51	403,96	403,96		
	0,75			-202,99	-52,60	-37,60	4989,60	1706,76	25,11	138,50	403,98	420,29	420,29	403,96	403,96		
8	0,75	W24X55	W12X26	-237,60	-62,39	-51,79	5346,00	1706,76	26,90	162,50	477,50	523,47	477,50	481,15	481,15		
	0,75			-241,08	-62,39	-51,79	5346,00	1706,76	26,90	162,50	481,15	527,64	481,15	481,15	481,15		
7	0,75	W24X55	W12X26	-279,11	-72,14	-67,21	5346,00	1706,76	26,90	189,41	554,57	635,67	554,57	558,22	558,22		
	0,75			-279,11	-72,14	-67,21	5346,00	1706,76	26,90	189,41	558,22	635,67	558,22	558,22	558,22		
6	0,75	W24X55	W12X26	-313,61	-81,88	-83,84	5346,00	1706,76	26,90	216,31	631,58	752,64	631,58	635,23	635,23		
	0,75			-317,09	-81,88	-83,84	5346,00	1706,76	26,90	216,31	635,23	752,64	635,23	635,23	635,23		
5	0,75	W24X55	W12X26	-351,49	-91,56	-101,27	5346,00	1706,76	26,90	243,21	708,42	872,64	708,42	712,07	712,07		
	0,75			-354,97	-91,56	-101,27	5346,00	1706,76	26,90	243,21	712,07	872,64	712,07	712,07	712,07		
4	0,75	W24X62	W12X26	-389,40	-101,24	-120,87	6096,40	1706,76	30,69	273,90	789,07	1001,37	789,07	793,07	793,07		
	0,75			-393,21	-101,24	-120,87	6096,40	1706,76	30,69	273,90	793,07	1005,94	793,07	793,07	793,07		
3	0,75	W24X62	W12X26	-427,59	-110,88	-140,71	6096,40	1706,76	30,69	304,56	869,98	1131,40	869,98	873,98	873,98		
	0,75			-431,40	-110,88	-140,71	6096,40	1706,76	30,69	304,56	873,98	1135,97	873,98	873,98	873,98		
2	0,75	W24X62	W12X26	-465,67	-120,49	-160,51	6096,40	1706,76	30,69	335,27	950,75	1261,10	950,75	954,77	954,77		
	0,75			-469,50	-120,49	-160,51	6096,40	1706,76	30,69	335,27	954,77	1265,70	954,77	954,77	954,77		
1	0,75	W24X62	W12X26	-503,60	-130,02	-178,93	6096,40	1706,76	30,69	365,96	1031,26	1385,04	1031,26	1065,95	1065,95		
	0,75			-507,41	-130,02	-178,93	6096,40	1706,76	30,69	365,96	1035,95	1389,98	1035,95	1065,95	1065,95		

**Kolom K4**

Kolom Lantai	Rv	Profil Balok		Aksial Kolom			Mp, b			P, k			Pu, k		Pu, k rencana		
		B3	B4	PD,k	PL,k	PE,k	B3	B4	B4	lantai	komulatif	(1)	(2)	Kips	Kips	Kips	Kips
14	0,75	W18X35	W12X26	-26,47	-7,57	-0,33	2633,40	1473,12	0,00	0,00	35,74	36,98	35,74	37,58	37,58		
	0,75			-28,23	-7,57	-0,33	2633,40	1473,12	0,00	0,00	37,58	36,98	37,58	37,58	37,58		
13	0,75	W21X50	W12X30	-87,65	-26,58	-0,81	4356,00	1706,76	0,00	0,00	119,94	121,72	119,94	122,94	122,94		
	0,75			-90,51	-26,58	-0,81	4356,00	1706,76	0,00	0,00	122,94	125,15	122,94	125,15	125,15		
12	0,75	W21X55	W12X30	-149,71	-45,45	-1,52	4989,60	1706,76	0,00	0,00	204,92	208,45	204,92	208,45	208,45		
	0,75			-153,93	-45,45	-1,52	4989,60	1706,76	0,00	0,00	209,36	213,52	209,36	213,52	213,52		
11	0,75	W21X55	W12X30	-213,15	-64,33	-2,18	4989,60	1706,76	0,00	0,00	291,36	296,67	291,36	296,67	296,67		
	0,75			-217,35	-64,33	-2,18	4989,60	1706,76	0,00	0,00	296,77	301,71	296,77	301,71	301,71		
10	0,75	W21X55	W12X30	-276,61	-83,23	-2,77	4989,60	1706,76	0,00	0,00	377,82	384,63	377,82	382,24	382,24		
	0,75			-280,81	-83,23	-2,77	4989,60	1706,76	0,00	0,00	382,24	386,67	382,24	386,67	386,67		
9	0,75	W21X55	W12X30	-340,10	-102,17	-3,33	4989,60	1706,76	0,00	0,00	464,36	472,44	464,36	468,79	468,79		
	0,75			-344,30	-102,17	-3,33	4989,60	1706,76	0,00	0,00	468,79	477,44	468,79	472,44	472,44		
8	0,75	W24X55	W12X30	-403,50	-121,04	-3,85	5346,00	1706,76	0,00	0,00	550,77	560,12	550,77	555,56	555,56		
	0,75			-408,06	-121,04	-3,85	5346,00	1706,76	0,00	0,00	555,56	565,59	555,56	560,12	560,12		
7	0,75	W24X55	W12X30	-467,30	-139,59	-4,44	5346,00	1706,76	0,00	0,00	637,65	648,53	637,65	642,43	642,43		
	0,75			-471,86	-139,59	-4,44	5346,00	1706,76	0,00	0,00	642,43	654,00	642,43	648,53	648,53		
6	0,75	W24X55	W12X30	-531,26	-158,97	-4,91	5346,00	1706,76	0,00	0,00	724,74	736,62	724,74	729,52	729,52		
	0,75			-536,81	-158,97	-4,91	5346,00	1706,76	0,00	0,00	729,52	742,08	729,52	736,62	736,62		
5	0,75	W24X55	W12X30	-595,36	-178,02	-5,28	5346,00	1706,76	0,00	0,00	812,06	824,57	812,06	816,82	816,82		
	0,75			-599,90	-178,02	-5,28	5346,00	1706,76	0,00	0,00	816,82	830,01	816,82	824,57	824,57		
4	0,75	W24X62	W12X30	-669,71	-197,14	-5,67	6096,40	1706,76	0,00	0,00	899,70	912,49	899,70	905,17	905,17		
	0,75			-674,33	-197,14	-5,67	6096,40	1706,76	0,00	0,00	905,17	918,75	905,17	912,49	912,49		
3	0,75	W24X62	W12X30	-724,86	-216,30	-6,33	6096,40	1706,76	0,00	0,00	986,22	1001,30	986,22	993,69	993,69		
	0,75			-730,07	-216,30	-6,33	6096,40	1706,76	0,00	0,00	993,69	1007,56	993,69	1001,30	1001,30		
2	0,75	W24X62	W12X30	-790,13	-235,55	-6,87	6096,40	1706,76	0,00	0,00	1082,44	1095,69	1082,44	1089,43	1089,43		
	0,75			-795,34	-235,55	-6,87	6096,40	1706,76	0,00	0,00	1089,43	1095,69	1089,43	1095,69	1095,69		
1	0,75	W24X62	W12X30	-855,76	-254,94	-7,33	6096,40	1706,76	0,00	0,00	1166,23	1177,70	1166,23	1171,70	1171,70		
	0,75			-860,97	-254,94	-7,33	6096,40	1706,76	0,00	0,00	1171,70	1183,95	1171,70	1183,95	1183,95		

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TABEL GAYA AKSIAL RENCANA KOLOM Pu,k

## Kolom K5

Kolom Lantai	Rv	Profil Balok		Aksial Kolom				Mp, b		P, k		Pu, k		Pu, k rencana		
		B1	B4	PD,k Kips	PL,k Kips	PE,k Kips	B1 K-in	B4 K-in	lantai Kips	komutatif Kips	(1) Kips	(2) Kips	Kips	Kips	Kips	Kips
14	0,75	W18X31	W12X26	-13,51	-3,94	0,00	2138,40	1473,12	8,53	8,53	26,85	18,18	18,18	18,18	19,79	19,79
13	0,75	W18X40	W12X30	-50,97	-13,66	0,00	3104,64	1706,76	9,88	18,41	86,28	68,00	68,00	68,00	70,59	70,59
12	0,75	W21X44	W12X30	-89,43	-23,45	0,00	3777,84	1706,76	9,88	28,29	146,82	119,04	119,04	119,04	122,13	122,13
11	0,75	W21X44	W12X30	-128,28	-33,20	0,00	3777,84	1706,76	9,88	38,18	207,73	170,54	170,54	170,54	173,63	173,63
10	0,75	W21X44	W12X30	-130,88	-33,20	0,00	3777,84	1706,76	9,88	38,18	210,46	173,65	173,65	173,65	176,62	176,62
9	0,75	W21X44	W12X30	-167,16	-42,94	0,00	3777,84	1706,76	9,88	48,06	269,67	222,06	222,06	222,06	225,15	225,15
8	0,75	W21X50	W12X30	-205,99	-52,89	0,00	3777,84	1706,76	9,88	57,94	329,55	273,53	273,53	273,53	276,62	276,62
7	0,75	W21X50	W12X30	-208,56	-52,89	0,00	3777,84	1706,76	9,88	57,94	332,26	276,62	276,62	276,62	279,71	279,71
6	0,75	W21X50	W12X30	-244,85	-62,44	0,00	4356,00	1706,76	9,88	67,83	390,58	325,16	325,16	325,16	328,96	328,96
5	0,75	W21X50	W12X30	-284,48	-62,44	0,00	4356,00	1706,76	9,88	67,83	393,91	328,96	328,96	328,96	332,85	332,85
4	0,75	W21X50	W12X30	-323,97	-81,86	0,00	4356,00	1706,76	9,88	77,71	452,18	377,46	377,46	377,46	381,23	381,23
3	0,75	W21X50	W12X30	-327,14	-81,86	0,00	4356,00	1706,76	9,88	77,71	455,49	381,23	381,23	381,23	385,00	385,00
2	0,75	W21X50	W12X30	-363,44	-81,54	0,00	4356,00	1706,76	9,88	87,59	513,72	429,70	429,70	429,70	433,50	433,50
1	0,75	W21X50	W12X30	-403,02	-101,22	0,00	4356,00	1706,76	9,88	97,47	571,04	483,50	483,50	483,50	487,30	487,30
	0,75	W21X50	W12X30	-406,49	-101,22	0,00	4356,00	1706,76	9,88	107,36	630,81	534,23	534,23	534,23	538,04	538,04
	0,75	W21X50	W12X30	-442,88	-110,86	0,00	4356,00	1706,76	9,88	117,24	689,67	596,89	596,89	596,89	600,69	600,69
	0,75	W21X50	W12X30	-446,36	-110,86	0,00	4356,00	1706,76	9,88	117,24	692,92	599,16	599,16	599,16	602,96	602,96
	0,75	W21X50	W12X30	-482,75	-120,49	0,00	4356,00	1706,76	9,88	127,12	751,62	658,84	658,84	658,84	662,71	662,71
	0,75	W21X50	W12X30	-486,22	-120,49	0,00	4356,00	1706,76	9,88	127,12	754,87	662,09	662,09	662,09	665,96	665,96
	0,75	W21X50	W12X30	-522,50	-130,09	0,00	4356,00	1706,76	9,88	137,00	811,67	719,04	719,04	719,04	722,91	722,91
	0,75	W21X50	W12X30	-525,98	-130,09	0,00	4356,00	1706,76	9,88	137,00	814,91	722,28	722,28	722,28	726,15	726,15

## Kolom K6

Kolom Lantai	Rv	Profil Balok		Aksial Kolom				Mp, b		P, k		Pu, k		Pu, k rencana		
		B3	B4	PD,k Kips	PL,k Kips	PE,k Kips	B3 K-in	B4 K-in	lantai Kips	komutatif Kips	(1) Kips	(2) Kips	Kips	Kips	Kips	Kips
14	0,75	W18X35	W12X26	-26,33	-7,59	0,00	2633,40	1473,12	0,00	0,00	35,62	35,40	35,40	35,40	37,48	37,48
13	0,75	W21X50	W12X30	-87,63	-26,69	0,00	4356,00	1706,76	0,00	0,00	120,03	118,49	118,49	118,49	121,58	121,58
12	0,75	W21X55	W12X30	-99,20	-26,69	0,00	4356,00	1706,76	0,00	0,00	205,27	202,56	202,56	202,56	207,13	207,13
11	0,75	W21X55	W12X30	-149,73	-45,76	0,00	4989,60	1706,76	0,00	0,00	209,26	207,13	207,13	207,13	213,82	213,82
10	0,75	W21X55	W12X30	-153,54	-45,76	0,00	4989,60	1706,76	0,00	0,00	291,80	288,12	288,12	288,12	292,68	292,68
9	0,75	W21X55	W12X30	-213,06	-64,81	0,00	4989,60	1706,76	0,00	0,00	295,80	292,68	292,68	292,68	298,12	298,12
8	0,75	W21X55	W12X30	-216,90	-64,81	0,00	4989,60	1706,76	0,00	0,00	378,42	373,75	373,75	373,75	378,32	378,32
7	0,75	W21X55	W12X30	-276,50	-83,91	0,00	4989,60	1706,76	0,00	0,00	382,42	378,32	378,32	378,32	383,82	383,82
6	0,75	W21X55	W12X30	-336,97	-103,50	0,00	4989,60	1706,76	0,00	0,00	465,12	459,46	459,46	459,46	464,03	464,03
5	0,75	W24X55	W12X30	-343,77	-103,00	0,00	4989,60	1706,76	0,00	0,00	469,11	464,03	464,03	464,03	469,74	469,74
4	0,75	W24X55	W12X30	-403,52	-122,14	0,00	5346,00	1706,76	0,00	0,00	551,95	546,30	546,30	546,30	550,74	550,74
3	0,75	W24X55	W12X30	-408,06	-122,14	0,00	5346,00	1706,76	0,00	0,00	556,71	550,74	550,74	550,74	555,74	555,74
2	0,75	W24X55	W12X30	-467,81	-141,31	0,00	5346,00	1706,76	0,00	0,00	639,57	632,02	632,02	632,02	637,45	637,45
1	0,75	W24X55	W12X30	-472,34	-141,31	0,00	5346,00	1706,76	0,00	0,00	644,33	637,46	637,46	637,46	642,81	642,81
	0,75	W24X55	W12X30	-532,11	-160,47	0,00	5346,00	1706,76	0,00	0,00	727,21	718,77	718,77	718,77	724,21	724,21
	0,75	W24X55	W12X30	-536,65	-160,47	0,00	5346,00	1706,76	0,00	0,00	731,97	724,21	724,21	724,21	729,74	729,74
	0,75	W24X55	W12X30	-596,44	-179,65	0,00	5346,00	1706,76	0,00	0,00	814,90	805,56	805,56	805,56	810,99	810,99
	0,75	W24X55	W12X30	-600,97	-179,65	0,00	5346,00	1706,76	0,00	0,00	819,66	810,99	810,99	810,99	816,48	816,48
	0,75	W24X55	W12X30	-660,95	-198,86	0,00	5998,40	1706,76	0,00	0,00	902,79	892,56	892,56	892,56	898,02	898,02
	0,75	W24X55	W12X30	-666,16	-198,86	0,00	5998,40	1706,76	0,00	0,00	908,27	898,02	898,02	898,02	903,51	903,51
	0,75	W24X55	W12X30	-726,13	-218,06	0,00	5998,40	1706,76	0,00	0,00	991,41	980,39	980,39	980,39	985,85	985,85
	0,75	W24X55	W12X30	-731,35	-218,06	0,00	5998,40	1706,76	0,00	0,00	996,98	986,65	986,65	986,65	992,11	992,11
	0,75	W24X55	W12X30	-791,32	-237,31	0,00	5998,40	1706,76	0,00	0,00	1080,06	1069,24	1069,24	1069,24	1074,50	1074,50
	0,75	W24X55	W12X30	-796,53	-237,31	0,00	5998,40	1706,76	0,00	0,00	1085,54	1074,50	1074,50	1074,50	1079,76	1079,76
	0,75	W24X55	W12X30	-856,57	-256,56	0,00	5998,40	1706,76	0,00	0,00	1168,79	1156,17	1156,17	1156,17	1161,42	1161,42
	0,75	W24X55	W12X30	-861,78	-256,56	0,00	5998,40	1706,76	0,00	0,00	1174,27	1162,42	1162,42	1162,42	1167,67	1167,67

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM ( K ) arah X

Kolom K1  
Faktor Kekakuan

Lantai	Profil	Ix		L			I / L		Join Batok	Profil	Ix		L		I / L		Join Lantai	G	GA	GB	K
		In4	In3	m	In	In3	m	In			In3	In4	In3	m	In	In3					
14	W14X82	881	5.967	3.75	147.638	5.967	14	W16X31	B1	375	7	275.591	1.361	4.39	6.1	4.4	2.3				
13	W14X99	1110	7.518	3.75	147.638	7.518	13	W18X40		612	7	275.591	2.221	6.07	4.9	6.1	2.4				
12	W14X99	1110	7.518	3.75	147.638	7.518	12	W21X44		843	7	275.591	3.059	4.92	4.9	4.9	2.21				
11	W14X99	1110	7.518	3.75	147.638	7.518	11	W21X44		843	7	275.591	3.059	4.92	5.5	4.9	2.38				
10	W14X120	1380	9.347	3.75	147.638	9.347	10	W21X44		843	7	275.591	3.059	5.51	6.1	5.5	2.5				
9	W14X120	1380	9.347	3.75	147.638	9.347	9	W21X44		843	7	275.591	3.059	6.11	5.9	6.1	2.52				
8	W14X145	1710	11.582	3.75	147.638	11.582	8	W21X50		984	7	275.591	3.571	5.86	6.5	5.9	2.54				
7	W14X145	1710	11.582	3.75	147.638	11.582	7	W21X50		984	7	275.591	3.571	6.49	7.3	6.5	2.82				
6	W14X176	2140	14.495	3.75	147.638	14.495	6	W21X50		984	7	275.591	3.571	7.30	8.1	7.3	2.81				
5	W14X176	2140	14.495	3.75	147.638	14.495	5	W21X50		984	7	275.591	3.571	8.12	7.4	8.1	2.82				
4	W14X193	2400	16.256	3.75	147.638	16.256	4	W21X55		1140	7	275.591	4.137	7.43	7.9	7.4	2.78				
3	W14X193	2400	16.256	3.75	147.638	16.256	3	W21X55		1140	7	275.591	4.137	7.86	8.3	7.9	2.8				
2	W14X211	2660	18.017	3.75	147.638	18.017	2	W21X55		1140	7	275.591	4.137	8.29	8.7	8.3	2.9				
1	W14X211	2660	18.017	3.75	147.638	18.017	1	W21X55		1140	7	275.591	4.137	8.71	10.0	8.7	2.95				
							0							10.00							

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM ( K ) arah Y

Kolom K1  
Faktor Kekakuan

Lantai	Profil	Iy		L		I/L		Join Balok	Profil	Ix	L		I/L		Join Lantai	G	GA	GB	K
		in4	1030	m	in	in3	in				in3	m	in	in3					
14	W14X82	148	3.75	147.638	1.002	147.638	1.036	14	B2	204	5	196.850	1.036	14	0.97	3.6	1.0	1.6	
13	W14X99	402	3.75	147.638	2.723	147.638	1.036	13	W12X26	204	5	196.850	1.036	13	3.59	5.3	3.6	2.18	
12	W14X99	402	3.75	147.638	2.723	147.638	1.036	12	W12X26	204	5	196.850	1.036	12	5.25	5.3	5.3	2.4	
11	W14X99	402	3.75	147.638	2.723	147.638	1.036	11	W12X26	204	5	196.850	1.036	11	5.25	5.9	5.3	2.42	
10	W14X120	495	3.75	147.638	3.353	147.638	1.036	10	W12X26	204	5	196.850	1.036	10	5.86	6.5	5.9	2.57	
9	W14X120	495	3.75	147.638	3.353	147.638	1.036	9	W12X26	204	5	196.850	1.036	9	6.47	7.7	6.5	2.62	
8	W14X145	677	3.75	147.638	4.586	147.638	1.036	8	W12X26	204	5	196.850	1.036	8	7.66	8.8	7.7	2.8	
7	W14X145	677	3.75	147.638	4.586	147.638	1.036	7	W12X26	204	5	196.850	1.036	7	8.85	9.9	8.8	2.9	
6	W14X176	838	3.75	147.638	5.676	147.638	1.036	6	W12X26	204	5	196.850	1.036	6	9.90	11.0	9.9	3.1	
5	W14X176	838	3.75	147.638	5.676	147.638	1.036	5	W12X26	204	5	196.850	1.036	5	10.95	11.6	11.0	3.15	
4	W14X193	931	3.75	147.638	6.306	147.638	1.036	4	W12X26	204	5	196.850	1.036	4	11.56	12.2	11.6	3.2	
3	W14X193	931	3.75	147.638	6.306	147.638	1.036	3	W12X26	204	5	196.850	1.036	3	12.17	12.8	12.2	3.22	
2	W14X211	1030	3.75	147.638	6.977	147.638	1.036	2	W12X26	204	5	196.850	1.036	2	12.82	13.5	12.8	3.25	
1	W14X211	1030	3.75	147.638	6.977	147.638	1.036	1	W12X26	204	5	196.850	1.036	1	13.46	10.0	13.5	3.2	
								0						0	10.00				

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah X

Kolom K2  
Faktor Kekakuan

Lantai	Profil	Ix In4	L		I/L In3	Join Balok	Profil B1	Ix In4	L		I/L In3	Join Lantai	G	GA	GB	K
			m	In					m	In						
14	W14X99	1110	3.75	147.638	7.518	14	W16X31	375	7	275.591	1.361	14	2.76	4.6	2.8	1.9
13	W14X159	1900	3.75	147.638	12.869	13	W18X40	612	7	275.591	2.221	13	4.59	4.5	4.6	2.2
12	W14X176	2140	3.75	147.638	14.495	12	W21X44	843	7	275.591	3.059	12	4.47	4.7	4.5	2.21
11	W14X176	2140	3.75	147.638	14.495	11	W21X44	843	7	275.591	3.059	11	4.74	5.3	4.7	2.3
10	W14X211	2660	3.75	147.638	18.017	10	W21X44	843	7	275.591	3.059	10	5.31	5.9	5.3	2.41
9	W14X211	2660	3.75	147.638	18.017	9	W21X44	843	7	275.591	3.059	9	5.89	5.4	5.9	2.42
8	W14X233	3010	3.75	147.638	20.388	8	W21X50	984	7	275.591	3.571	8	5.38	5.7	5.4	2.415
7	W14X233	3010	3.75	147.638	20.388	7	W21X50	984	7	275.591	3.571	7	5.71	6.1	5.7	2.5
6	W14X257	3400	3.75	147.638	23.029	6	W21X50	984	7	275.591	3.571	6	6.08	6.4	6.1	2.59
5	W14X257	3400	3.75	147.638	23.029	5	W21X50	984	7	275.591	3.571	5	6.45	5.9	6.4	2.5
4	W14X283	3840	3.75	147.639	26.010	4	W21X55	1140	7	275.591	4.137	4	5.93	6.3	5.9	2.49
3	W14X283	3840	3.75	147.638	26.010	3	W21X55	1140	7	275.591	4.137	3	6.29	6.3	6.3	2.59
2	W14X283	3840	3.75	147.638	26.010	2	W21X55	1140	7	275.591	4.137	2	6.29	6.3	6.3	2.59
1	W14X283	3840	3.75	147.638	26.010	1	W21X55	1140	7	275.591	4.137	1	6.29	10.0	6.3	2.8
												0	10.00			

C



# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K2

Faktor Kekakuan

Lantai	Profil	ly		L		I / L		Join Balok	Profil	Ix	L		I / L		Join Lantai	G	GA	GB	K
		In4	m	In	m	In3	m				In	In3							
14	W14X99	402	3.75	147.638	3.75	2.723	147.638	14	B4	204	5	196.850	1.036	14	1.31	3.2	1.3	1.61	
13	W14X159	748	3.75	147.638	3.75	5.066	147.638	13	W12X30	238	5	196.850	1.209	13	3.22	4.4	3.2	1.92	
12	W14X176	838	3.75	147.638	3.75	5.676	147.638	12	W12X30	238	5	196.850	1.209	12	4.44	4.7	4.4	2.2	
11	W14X176	838	3.75	147.638	3.75	5.676	147.638	11	W12X30	238	5	196.850	1.209	11	4.69	5.2	4.7	2.3	
10	W14X211	1030	3.75	147.638	3.75	6.977	147.638	10	W12X30	238	5	196.850	1.209	10	5.23	5.8	5.2	2.4	
9	W14X211	1030	3.75	147.638	3.75	6.977	147.638	9	W12X30	238	5	196.850	1.209	9	5.77	6.1	5.8	2.5	
8	W14X233	1150	3.75	147.638	3.75	7.763	147.638	8	W12X30	238	5	196.850	1.209	8	6.11	6.4	6.1	2.58	
7	W14X233	1150	3.75	147.638	3.75	7.789	147.638	7	W12X30	238	5	196.850	1.209	7	6.44	6.8	6.4	2.6	
6	W14X257	1290	3.75	147.638	3.75	8.738	147.638	6	W12X30	238	5	196.850	1.209	6	6.83	7.2	6.8	2.63	
5	W14X257	1290	3.75	147.638	3.75	8.738	147.638	5	W12X30	238	5	196.850	1.209	5	7.23	7.6	7.2	2.72	
4	W14X283	1440	3.75	147.638	3.75	9.754	147.638	4	W12X30	238	5	196.850	1.209	4	7.65	8.1	7.6	2.8	
3	W14X283	1440	3.75	147.638	3.75	9.754	147.638	3	W12X30	238	5	196.850	1.209	3	8.07	8.1	8.1	2.83	
2	W14X283	1440	3.75	147.638	3.75	9.754	147.638	2	W12X30	238	5	196.850	1.209	2	8.07	8.1	8.1	2.83	
1	W14X283	1440	3.75	147.638	3.75	9.754	147.638	1	W12X30	238	5	196.850	1.209	1	8.07	10.0	8.1	2.97	
														0	10.00				

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM ( K ) arah X

Kolom K3  
Faktor Kekakuan

Lantai	Profil	Ix		L		I / L		Join Balok	Profil	Ix		L		I / L		Join Lantai	G	GA	GB	K
		in4	in3	m	in	in4	in3			m	in	in4	in3							
14	W14X99	1110	147.638	3.75	147.638	7.518	147.638	14	B3	510	7	275.591	1.851	14	4.06	4.7	4.1	2.19		
13	W14X120	1380	147.638	3.75	147.638	9.347	147.638	13	W21X50	984	7	275.591	3.571	13	4.72	5.1	4.7	2.3		
12	W14X145	1710	147.638	3.75	147.638	11.582	147.638	12	W21X55	1140	7	275.591	4.137	12	5.06	5.6	5.1	2.4		
11	W14X145	1710	147.638	3.75	147.638	11.582	147.638	11	W21X55	1140	7	275.591	4.137	11	5.60	7.2	5.6	2.6		
10	W14X211	2660	147.638	3.75	147.638	18.017	147.638	10	W21X55	1140	7	275.591	4.137	10	7.16	8.7	7.2	2.8		
9	W14X211	2660	147.638	3.75	147.638	18.017	147.638	9	W21X55	1140	7	275.591	4.137	9	8.71	7.8	8.7	2.81		
8	W14X233	3010	147.638	3.75	147.638	20.388	147.638	8	W24X55	1360	7	275.591	4.935	8	7.78	8.3	7.8	2.8		
7	W14X233	3010	147.638	3.75	147.638	20.388	147.638	7	W24X55	1360	7	275.591	4.935	7	8.26	8.3	8.3	2.82		
6	W14X233	3010	147.638	3.75	147.638	20.388	147.638	6	W24X55	1360	7	275.591	4.935	6	8.26	8.3	8.3	2.82		
5	W14X233	3010	147.638	3.75	147.638	20.388	147.638	5	W24X55	1360	7	275.591	4.935	5	8.26	8.2	8.3	2.81		
4	W14X283	3840	147.638	3.75	147.638	26.010	147.638	4	W24X62	1560	7	275.591	5.661	4	8.20	9.2	8.2	2.9		
3	W14X283	3840	147.638	3.75	147.638	26.010	147.638	3	W24X62	1560	7	275.591	5.661	3	9.19	9.8	9.2	2.96		
2	W14X311	4330	147.638	3.75	147.638	29.329	147.638	2	W24X62	1560	7	275.591	5.661	2	9.78	10.4	9.8	3		
1	W14X311	4330	147.638	3.75	147.638	29.329	147.638	1	W24X62	1560	7	275.591	5.661	1	10.36	10.0	10.4	3.2		
														0	10.00					

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K3  
Faktor Kekakuan

Lantai	Profil	Iy In4	L		I/L In3	Join Batok	Profil B2	Ix In4	L		I/L In3	Join Lantai	G	GA	GB	K
			m	In					m	In						
14	W14X99	402	3.75	147.638	2.723	14	W12X26	204	5	196.850	1.036	14	2.63	5.9	2.6	2
13	W14X120	495	3.75	147.638	3.353	13	W12X26	204	5	196.850	1.036	13	5.86	7.7	5.9	2.6
12	W14X145	677	3.75	147.638	4.586	12	W12X26	204	5	196.850	1.036	12	7.66	8.8	7.7	2.81
11	W14X145	677	3.75	147.638	4.586	11	W12X26	204	5	196.850	1.036	11	8.85	11.2	8.8	3
10	W14X211	1030	3.75	147.638	6.977	10	W12X26	204	5	196.850	1.036	10	11.16	13.5	11.2	3.25
9	W14X211	1030	3.75	147.638	6.977	9	W12X26	204	5	196.850	1.036	9	13.46	14.2	13.5	3.4
8	W14X233	1150	3.75	147.638	7.789	8	W12X26	204	5	196.850	1.036	8	14.25	15.0	14.2	3.41
7	W14X233	1150	3.75	147.638	7.789	7	W12X26	204	5	196.850	1.036	7	15.03	15.0	15.0	3.5
6	W14X233	1150	3.75	147.638	7.789	6	W12X26	204	5	196.850	1.036	6	15.03	15.0	15.0	3.5
5	W14X233	1150	3.75	147.638	7.789	5	W12X26	204	5	196.850	1.036	5	15.03	16.9	15.0	3.6
4	W14X283	1440	3.75	147.638	9.754	4	W12X25	204	5	196.850	1.036	4	16.93	18.8	16.9	3.7
3	W14X283	1440	3.75	147.638	9.754	3	W12X26	204	5	196.850	1.036	3	18.82	19.9	18.8	3.8
2	W14X311	1610	3.75	147.638	10.905	2	W12X26	204	5	196.850	1.036	2	19.93	21.0	19.9	4.1
1	W14X311	1610	3.75	147.638	10.905	1	W12X26	204	5	196.850	1.036	1	21.05	10.0	21.0	3.5
												0	10.00			

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM ( K ) arah X

Kolom K4  
Faktor Kekakuan

Lantai	Profil	Ix		L		I/L		Join Balok	Profil	Ix		L		I/L		Join Lantai	G	GA	GB	K
		In4	ix	m	in	In3	in3			In4	ix	m	in	In3	in3					
14	W14X145	1710		3.75	147.638	11.582		14	W18X35	510		7	275.591	1.851		14	3.13	4.1	3.1	1.92
13	W14X211	2660		3.75	147.638	18.017		13	W21X50	984		7	275.591	3.571		13	4.14	5.0	4.1	2.2
12	W14X257	3400		3.75	147.638	23.029		12	W21X55	1140		7	275.591	4.137		12	4.96	5.6	5.0	2.39
11	W14X257	3400		3.75	147.638	23.029		11	W21X55	1140		7	275.591	4.137		11	5.57	6.3	5.6	2.5
10	W14X311	4330		3.75	147.638	29.329		10	W21X55	1140		7	275.591	4.137		10	6.33	7.1	6.3	2.61
9	W14X311	4330		3.75	147.638	29.329		9	W21X55	1140		7	275.591	4.137		9	7.09	6.3	7.1	2.61
8	W14X342	4900		3.75	147.638	33.189		8	W24X55	1360		7	275.591	4.935		8	6.33	6.7	6.3	2.6
7	W14X342	4900		3.75	147.638	33.189		7	W24X55	1360		7	275.591	4.935		7	6.73	7.1	6.7	2.68
6	W14X370	5440		3.75	147.638	36.847		6	W24X55	1360		7	275.591	4.935		6	7.10	7.5	7.1	2.7
5	W14X370	5440		3.75	147.638	36.847		5	W24X55	1360		7	275.591	4.935		5	7.47	7.2	7.5	2.71
4	W14X426	6600		3.75	147.638	44.704		4	W24X62	1560		7	275.591	5.661		4	7.20	7.9	7.2	2.75
3	W14X426	6600		3.75	147.638	44.704		3	W24X62	1560		7	275.591	5.661		3	7.90	7.9	7.9	2.8
2	W14X426	6600		3.75	147.638	44.704		2	W24X62	1560		7	275.591	5.661		2	7.90	7.9	7.9	2.8
1	W14X426	6600		3.75	147.638	44.704		1	W24X62	1560		7	275.591	5.661		1	7.80	10.0	7.9	2.86
																0	10.00			

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM ( K ) arah Y

Kolom K4  
Faktor Kekakuan

Lantai	Profil	Iy		L		I/L		Join Balok	Profil	Ix	L		I/L		Join Lantai	G	GA	GB	K
		in4	in3	m	in	in4	in3				m	in							
14	W14X145	677	4.586	3.75	147.638	204	4.586	14	B4	204	5	196.850	1.036	14	2.21	4.8	2.2	1.8	
13	W14X211	1030	6.977	3.75	147.638	238	6.977	13	W12X30	238	5	196.850	1.209	13	4.78	6.5	4.8	2.4	
12	W14X257	1290	8.738	3.75	147.638	238	8.738	12	W12X30	238	5	196.850	1.209	12	6.50	7.2	6.5	2.62	
11	W14X257	1290	8.738	3.75	147.638	238	8.738	11	W12X30	238	5	196.850	1.209	11	7.23	8.1	7.2	2.8	
10	W14X311	1610	10.905	3.75	147.638	238	10.905	10	W12X30	238	5	196.850	1.209	10	8.12	9.0	8.1	2.9	
9	W14X311	1610	10.905	3.75	147.638	238	10.905	9	W12X30	238	5	196.850	1.209	9	9.02	9.6	9.0	2.93	
8	W14X342	1810	12.260	3.75	147.638	238	12.260	8	W12X30	238	5	196.850	1.209	8	5.58	10.1	9.6	2.94	
7	W14X342	1810	12.260	3.75	147.638	238	12.260	7	W12X30	238	5	196.850	1.209	7	10.14	10.6	10.1	3.1	
6	W14X370	1990	13.479	3.75	147.638	238	13.479	6	W12X30	238	5	196.850	1.209	6	10.64	11.1	10.6	3.2	
5	W14X370	1990	13.479	3.75	147.638	238	13.479	5	W12X30	238	5	196.850	1.209	5	11.15	12.2	11.1	3.22	
4	W14X426	2360	15.985	3.75	147.638	238	15.985	4	W12X30	238	5	196.850	1.209	4	12.18	13.2	12.2	3.3	
3	W14X426	2360	15.985	3.75	147.638	238	15.985	3	W12X30	238	5	196.850	1.209	3	13.22	13.2	13.2	3.4	
2	W14X426	2360	15.985	3.75	147.638	238	15.985	2	W12X30	238	5	196.850	1.209	2	13.22	13.2	13.2	3.4	
1	W14X426	2360	15.985	3.75	147.638	238	15.985	1	W12X30	238	5	196.850	1.209	1	13.22	10.0	13.2	3.2	
								0						0	10.00				

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM ( K ) arah X

Kolom K5  
Faktor Kekakuan

Lantai	Profil	Ix		L		I / L		Join Balok	Profil	Ix	L		I / L		Join Lantai	G	GA	GB	K
		In4	m	In	in	In3	in3				m	in							
14	W14X99	1110	3.75	147.638	7.518	14	W16X31	375	7	275.591	1.361	2.76	4.6	2.8	1.9				
13	W14X159	1900	3.75	147.638	12.869	13	W18X40	612	7	275.591	2.221	4.59	4.5	4.6	2.2				
12	W14X176	2140	3.75	147.638	14.495	12	W21X44	843	7	275.591	3.059	4.47	4.7	4.5	2.25				
11	W14X176	2140	3.75	147.638	14.495	11	W21X44	843	7	275.591	3.059	4.74	5.3	4.7	2.3				
10	W14X211	2660	3.75	147.638	18.017	10	W21X44	843	7	275.591	3.059	5.31	5.9	5.3	2.41				
9	W14X211	2660	3.75	147.638	18.017	9	W21X44	843	7	275.591	3.059	5.89	5.4	5.9	2.42				
8	W14X233	3010	3.75	147.638	20.388	8	W21X50	984	7	275.591	3.571	5.38	5.7	5.4	2.41				
7	W14X233	3010	3.75	147.638	20.388	7	W21X50	984	7	275.591	3.571	5.71	6.1	5.7	2.5				
6	W14X257	3400	3.75	147.638	23.029	6	W21X50	984	7	275.591	3.571	6.08	6.4	6.1	2.58				
5	W14X257	3400	3.75	147.638	23.029	5	W21X50	984	7	275.591	3.571	6.45	5.9	6.4	2.5				
4	W14X283	3840	3.75	147.638	26.010	4	W21X55	1140	7	275.591	4.137	5.93	6.3	5.9	2.42				
3	W14X283	3840	3.75	147.638	26.010	3	W21X55	1140	7	275.591	4.137	6.29	6.3	6.3	2.58				
2	W14X283	3840	3.75	147.638	26.010	2	W21X55	1140	7	275.591	4.137	6.29	6.3	6.3	2.58				
1	W14X283	3840	3.75	147.638	26.010	1	W21X55	1140	7	275.591	4.137	6.29	10.0	6.3	2.8				
												10.00							

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah Y

Kolom K5  
Faktor Kekakuan

Lantai	Profil	ly		L		I/L		Join Balok	Profil	Ix	L		I/L		Join Lantai	G	GA	GB	K
		In4		m	In	In3					m	In	In3						
14	W14X99	402		3.75	147.638	2.723		14	W12X26	204	5	196.850	1.036	1.31	14	3.2	1.3	1.61	
13	W14X159	748		3.75	147.638	5.066		13	W12X30	238	5	196.850	1.209	3.22	13	4.4	3.2	1.9	
12	W14X176	838		3.75	147.638	5.676		12	W12X30	238	5	196.850	1.209	4.44	12	4.7	4.4	2.2	
11	W14X176	838		3.75	147.638	5.676		11	W12X30	238	5	196.850	1.209	4.69	11	5.2	4.7	2.3	
10	W14X211	1030		3.75	147.638	6.977		10	W12X30	238	5	196.850	1.209	5.23	10	5.8	5.2	2.4	
9	W14X211	1030		3.75	147.638	6.977		9	W12X30	238	5	196.850	1.209	5.77	9	6.1	5.8	2.5	
8	W14X233	1150		3.75	147.638	7.789		8	W12X30	238	5	196.850	1.209	6.11	8	6.4	6.1	2.58	
7	W14X233	1150		3.75	147.638	7.789		7	W12X30	238	5	196.850	1.209	6.44	7	6.8	6.4	2.6	
6	W14X257	1290		3.75	147.638	8.738		6	W12X30	238	5	196.850	1.209	6.83	6	7.2	6.8	2.62	
5	W14X257	1290		3.75	147.638	8.738		5	W12X30	238	5	196.850	1.209	7.23	5	7.6	7.2	2.72	
4	W14X283	1440		3.75	147.638	9.754		4	W12X30	238	5	196.850	1.209	7.65	4	8.1	7.6	2.8	
3	W14X283	1440		3.75	147.638	9.754		3	W12X30	238	5	196.850	1.209	8.07	3	8.1	8.1	2.81	
2	W14X283	1440		3.75	147.638	9.754		2	W12X30	238	5	196.850	1.209	8.07	2	8.1	8.1	2.81	
1	W14X283	1440		3.75	147.638	9.754		1	W12X30	238	5	196.850	1.209	8.07	1	10.0	8.1	2.9	
															0				10.00

# LAMPIRAN C-2-5

FAKTOR PANJANG EFEKTIF KOLOM (K) arah X

Kolom K6  
Faktor Kekakuan

Lantai	Profil	Ix		L		I/L		Join Balok	Profil	Ix	L		I/L		Join Lantai	G	GA	GB	K
		In4		m	In	In3					m	In	In3						
14	W14X132	1530		3.75	147.638	10.363		22	W18X35	510	7	275.591	1.851		22	2.80	4.0	2.8	1.8
13	W14X211	2660		3.75	147.638	18.017		13	W21X50	984	7	275.591	3.571		13	3.97	5.0	4.0	2.18
12	W14X257	3400		3.75	147.638	23.029		12	W21X55	1140	7	275.591	4.137		12	4.96	5.6	5.0	2.33
11	W14X257	3400		3.75	147.638	23.029		11	W21X55	1140	7	275.591	4.137		11	5.57	6.3	5.6	2.5
10	W14X311	4330		3.75	147.638	29.329		10	W21X55	1140	7	275.591	4.137		10	6.33	7.1	6.3	2.6
9	W14X311	4330		3.75	147.638	29.329		9	W21X55	1140	7	275.591	4.137		9	7.09	6.7	7.1	2.61
8	W14X370	5440		3.75	147.638	36.847		8	W24X55	1360	7	275.591	4.935		8	6.70	7.5	6.7	2.68
7	W14X370	5440		3.75	147.638	36.847		7	W24X55	1360	7	275.591	4.935		7	7.47	7.5	7.5	2.73
6	W14X370	5440		3.75	147.638	36.847		6	W24X55	1360	7	275.591	4.935		6	7.47	7.5	7.5	2.73
5	W14X370	5440		3.75	147.638	36.847		5	W24X55	1360	7	275.591	4.935		5	7.47	7.2	7.5	2.71
4	W14X426	6600		3.75	147.638	44.704		4	W24X62	1560	7	275.591	5.661		4	7.20	7.9	7.2	2.78
3	W14X426	6600		3.75	147.638	44.704		3	W24X62	1560	7	275.591	5.661		3	7.90	7.9	7.9	2.8
2	W14X426	6600		3.75	147.638	44.704		2	W24X62	1560	7	275.591	5.661		2	7.90	7.9	7.9	2.8
1	W14X426	6600		3.75	147.638	44.704		1	W24X62	1560	7	275.591	5.661		1	7.90	10.0	7.9	2.9
															0	10.00			



# LAMPIRAN C-2-5

## FAKTOR PANJANG EFEKTIF KOLOM ( K ) arah Y

Kolom K6  
Faktor Kekakuan

Lantai	Profil	Iy		L		I / L		Join Balok	Profil	Ix		L		I / L		Join Lantai	G	GA	GB	K
		In4	m	In	In3	In4	m			In	In3									
14	W14X132	548	3.75	147.638	3.712	W12X26	22	B4	204	5	196.850	1.036	1.79	4.4	1.8	1.7				
13	W14X211	1030	3.75	147.638	6.977	W12X30	13	W12X30	238	5	196.850	1.209	4.42	6.5	4.4	2.38				
12	W14X257	1290	3.75	147.638	8.738	W12X30	12	W12X30	238	5	196.850	1.209	6.50	7.2	6.5	2.62				
11	W14X257	1290	3.75	147.638	8.738	W12X30	11	W12X30	238	5	196.850	1.209	7.23	8.1	7.2	2.78				
10	W14X311	1610	3.75	147.638	10.905	W12X30	10	W12X30	238	5	196.850	1.209	8.12	9.0	8.1	2.83				
9	W14X311	1610	3.75	147.638	10.905	W12X30	9	W12X30	238	5	196.850	1.209	9.02	10.1	9.0	2.93				
8	W14X370	1990	3.75	147.638	13.479	W12X30	8	W12X30	238	5	196.850	1.209	10.08	11.1	10.1	3.1				
7	W14X370	1990	3.75	147.638	13.479	W12X30	7	W12X30	238	5	196.850	1.209	11.15	11.1	11.1	3.12				
6	W14X370	1990	3.75	147.638	13.479	W12X30	6	W12X30	238	5	196.850	1.209	11.15	11.1	11.1	3.12				
5	W14X370	1990	3.75	147.638	13.479	W12X30	5	W12X30	238	5	196.850	1.209	11.15	12.2	11.1	3.2				
4	W14X426	2360	3.75	147.638	15.985	W12X30	4	W12X30	238	5	196.850	1.209	12.18	13.2	12.2	3.3				
3	W14X426	2360	3.75	147.638	15.985	W12X30	3	W12X30	238	5	196.850	1.209	13.22	13.2	13.2	3.4				
2	W14X426	2360	3.75	147.638	15.985	W12X30	2	W12X30	238	5	196.850	1.209	13.22	13.2	13.2	3.4				
1	W14X426	2360	3.75	147.638	15.985	W12X30	1	W12X30	238	5	196.850	1.209	13.22	10.0	13.2	3.2				
																0	10.00			

# LAMPIRAN C-2-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K1 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	M <sub>u,k</sub> x (K-in)	M <sub>u,k</sub> y (K-in)	Cek Kapasitas	Rasio
			(m)	(in)											
14	W14X82	5004	3.75	147.638	124.165	3582.303	0.000869	514.358	Lp<=L<=Lr	2.30	3203.637	757.48	1096.24	aman	0.17
13	W14X99	6228	3.75	147.638	185.840	3199.571	0.001230	701.648	Lb<=Lp	2.30	4064.788	1217.55	830.22	aman	0.22
12	W14X99	6228	3.75	147.638	185.840	3199.571	0.001230	701.648	Lb<=Lp	2.30	4064.788	1287.96	830.22	aman	0.23
11	W14X99	6228	3.75	147.638	185.840	3199.571	0.001230	701.648	Lb<=Lp	2.30	4064.788	1613.75	822.70	aman	0.29
10	W14X132	8424	3.75	147.638	187.910	4199.397	0.000445	888.103	Lb<=Lp	2.30	5412.246	2121.76	815.17	aman	0.28
9	W14X132	8424	3.75	147.638	187.910	4199.397	0.000445	888.103	Lb<=Lp	2.30	5412.246	2897.51	807.64	aman	0.38
8	W14X145	9360	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	2.30	6008.109	2900.53	800.12	aman	0.34
7	W14X145	9360	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	2.30	6008.109	2846.11	792.59	aman	0.34
6	W14X176	11520	3.75	147.638	201.105	5265.144	0.000188	1169.461	Lb<=Lp	2.30	7321.054	2602.19	765.07	aman	0.25
5	W14X176	11520	3.75	147.638	201.105	5265.144	0.000188	1169.461	Lb<=Lp	2.30	7321.054	2347.39	777.54	aman	0.28
4	W14X211	14040	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	2.30	8810.191	3108.21	770.02	aman	0.25
3	W14X211	14040	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	2.30	8810.191	3127.87	762.49	aman	0.25
2	W14X233	15696	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	2.30	9782.500	3184.18	751.10	aman	0.23
1	W14X233	15696	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	2.30	9782.500	3131.92	761.10	aman	0.22

### KOLOM K2 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	M <sub>u,k</sub> x (K-in)	M <sub>u,k</sub> y (K-in)	Cek Kapasitas	Rasio
			(m)	(in)											
14	W14X99	6228	3.75	147.638	185.840	3199.571	0.001230	701.648	Lb<=Lp	2.30	4064.788	888.47	1129.15	aman	0.16
13	W14X159	10332	3.75	147.638	200.105	4790.953	0.000268	1065.292	Lb<=Lp	2.30	6586.866	2131.72	990.40	aman	0.23
12	W14X176	11520	3.75	147.638	201.105	5265.144	0.000188	1169.461	Lb<=Lp	2.30	7321.054	3621.00	990.40	aman	0.35
11	W14X176	11520	3.75	147.638	201.105	5265.144	0.000188	1169.461	Lb<=Lp	2.30	7321.054	4292.85	981.42	aman	0.41
10	W14X211	14040	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	2.30	8810.191	4508.63	972.45	aman	0.36
9	W14X211	14040	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	2.30	8810.191	4767.49	963.47	aman	0.38
8	W14X233	15696	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	2.30	9782.500	5542.83	954.49	aman	0.39
7	W14X233	15696	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	2.30	9782.500	5502.88	945.51	aman	0.39
6	W14X257	17532	3.75	147.638	206.540	7462.884	0.000053	1684.256	Lb<=Lp	2.30	10780.489	5277.06	936.54	aman	0.33
5	W14X257	17532	3.75	147.638	206.540	7462.884	0.000053	1684.256	Lb<=Lp	2.30	10780.489	5842.20	927.56	aman	0.37
4	W14X283	19512	3.75	147.638	207.890	8098.734	0.000039	1837.588	Lb<=Lp	2.30	11956.885	6268.99	918.58	aman	0.36
3	W14X283	19512	3.75	147.638	207.890	8098.734	0.000039	1837.588	Lb<=Lp	2.30	11956.885	6126.91	909.50	aman	0.35
2	W14X283	19512	3.75	147.638	207.890	8098.734	0.000039	1837.588	Lb<=Lp	2.30	11956.885	6080.32	932.16	aman	0.35
1	W14X283	19512	3.75	147.638	207.890	8098.734	0.000039	1837.588	Lb<=Lp	2.30	11956.885	6367.65	932.16	aman	0.36

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## DESAIN KOLOM PORTAL BAJA

### KOLOM K3 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Kali)	X2 (Kali)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mn (K-in)	Mn pakai (K-in)	fMn (K-in)	Muk x (K-in)	Muk y (K-in)	Cek Kapasitas	Rasio
			(m)	(in)														
14	W14X120	7632	3.75	147.638	187.235	3823.304	0.000624	815.360	Lb<=Lp	2.30	4948.965	7632	7632	6868.8	1179.68	2192.49	aman	0.17
13	W14X120	7632	3.75	147.638	187.235	3823.304	0.000624	815.360	Lb<=Lp	2.30	4948.965	7632	7632	6868.8	1179.68	1660.44	aman	0.24
12	W14X145	9360	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	2.30	6008.109	9360	9360	8424	1508.97	1660.44	aman	0.18
11	W14X145	9360	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	2.30	6008.109	9360	9360	8424	2089.91	1645.39	aman	0.25
10	W14X211	14040	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	2.30	8810.191	14040	14040	12636	2945.62	1630.34	aman	0.23
9	W14X211	14040	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	2.30	8810.191	14040	14040	12636	3625.25	1615.29	aman	0.29
8	W14X233	15696	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	2.30	9782.500	15696	15696	14126.4	3548.95	1600.24	aman	0.25
7	W14X233	15696	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	2.30	9782.500	15696	15696	14126.4	3464.30	1585.19	aman	0.25
6	W14X283	19512	3.75	147.638	207.880	8098.734	0.000039	1837.588	Lb<=Lp	2.30	11956.885	19512	19512	17560.8	3162.11	1570.13	aman	0.18
5	W14X283	19512	3.75	147.638	207.880	8098.734	0.000039	1837.588	Lb<=Lp	2.30	11956.885	19512	19512	17560.8	3551.16	1555.08	aman	0.20
4	W14X311	21708	3.75	147.638	209.850	8809.342	0.000029	2015.983	Lb<=Lp	2.30	13167.250	21708	21708	19537.2	3752.78	1540.03	aman	0.19
3	W14X311	21708	3.75	147.638	209.850	8809.342	0.000029	2015.983	Lb<=Lp	2.30	13167.250	21708	21708	19537.2	3770.61	1524.98	aman	0.19
2	W14X370	26496	3.75	147.638	213.640	10240.863	0.000017	2383.539	Lb<=Lp	2.30	15803.351	26496	26496	23846.4	3553.12	1562.21	aman	0.17
1	W14X370	26496	3.75	147.638	213.640	10240.863	0.000017	2383.539	Lb<=Lp	2.30	15803.351	26496	26496	23846.4	3665.35	1562.21	aman	0.16

### KOLOM K4 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Kali)	X2 (Kali)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mn (K-in)	Mn pakai (K-in)	fMn (K-in)	Muk x (K-in)	Muk y (K-in)	Cek Kapasitas	Rasio
			(m)	(in)														
14	W14X145	9360	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	2.30	6008.109	9360	9360	8424	1194.38	2258.29	aman	0.14
13	W14X211	14040	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	2.19	8810.191	14040	14040	12636	3264.32	1980.80	aman	0.26
12	W14X257	17532	3.75	147.638	206.540	7462.884	0.000053	1684.256	Lb<=Lp	2.24	10780.489	17532	17532	15778.8	5220.99	1980.80	aman	0.33
11	W14X257	17532	3.75	147.638	206.540	7462.884	0.000053	1684.256	Lb<=Lp	2.30	10780.489	17532	17532	15778.8	5172.76	1962.85	aman	0.33
10	W14X311	21708	3.75	147.638	209.850	8809.342	0.000029	2015.983	Lb<=Lp	2.30	13167.250	21708	21708	19537.2	5539.55	1944.89	aman	0.28
9	W14X311	21708	3.75	147.638	209.850	8809.342	0.000029	2015.983	Lb<=Lp	2.30	13167.250	21708	21708	19537.2	6853.18	1926.94	aman	0.35
8	W14X342	24192	3.75	147.638	211.665	9580.878	0.000022	2210.151	Lb<=Lp	2.30	14560.000	24192	24192	21772.8	6884.71	1908.98	aman	0.32
7	W14X342	24192	3.75	147.638	211.665	9580.878	0.000022	2210.151	Lb<=Lp	2.30	14560.000	24192	24192	21772.8	6740.81	1891.03	aman	0.31
6	W14X370	26496	3.75	147.638	213.640	10240.863	0.000017	2383.539	Lb<=Lp	2.30	15803.351	26496	26496	23846.4	6377.60	1873.07	aman	0.27
5	W14X370	26496	3.75	147.638	213.640	10240.863	0.000017	2383.539	Lb<=Lp	2.30	15803.351	26496	26496	23846.4	7019.69	1855.12	aman	0.29
4	W14X426	31284	3.75	147.638	217.255	11530.798	0.000011	2727.844	Lb<=Lp	2.30	18352.940	31284	31284	28155.6	7608.18	1837.16	aman	0.27
3	W14X426	31284	3.75	147.638	217.255	11530.798	0.000011	2727.844	Lb<=Lp	2.30	18352.940	31284	31284	28155.6	7342.69	1819.20	aman	0.26
2	W14X426	31284	3.75	147.638	217.255	11530.798	0.000011	2727.844	Lb<=Lp	2.30	18352.940	31284	31284	28155.6	7664.10	1864.33	aman	0.27
1	W14X426	31284	3.75	147.638	217.255	11530.798	0.000011	2727.844	Lb<=Lp	2.30	18352.940	31284	31284	28155.6	7547.56	1864.33	aman	0.27

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## DESAIN KOLOM PORTAL BAJA

### KOLOM K5 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Min (K-in)	Min pakai (K-in)	Mfn (K-in)	Mu,k x (K-in)	Mu,k y (K-in)	Cek Kapasitas	Rasio
14	W14X98	185,840	3199,571	0,001230	701,648	Lb<=Lp	2,30	4064,788	6228	6228	5605,2	980,24	1129,15	aman	0,17
13	W14X159	200,105	4790,953	0,000268	1065,292	Lb<=Lp	2,30	6586,666	10332	10332	9298,8	2307,23	990,40	aman	0,25
12	W14X176	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	3666,36	990,40	aman	0,35
11	W14X176	201,105	5265,144	0,000188	1169,461	Lb<=Lp	2,30	7321,054	11520	11520	10368	4320,90	981,42	aman	0,42
10	W14X211	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8810,191	14040	14040	12636	4503,36	972,45	aman	0,36
9	W14X211	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,30	8810,191	14040	14040	12636	4822,05	963,47	aman	0,38
8	W14X233	204,870	6789,690	0,000074	1522,487	Lb<=Lp	2,30	9782,500	15696	15696	14126,4	5562,54	954,49	aman	0,39
7	W14X257	206,540	7462,884	0,000053	1684,256	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	5267,41	936,54	aman	0,33
5	W14X257	206,540	7462,884	0,000053	1684,256	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	5653,18	927,56	aman	0,37
4	W14X283	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,685	19512	19512	17560,8	6258,01	918,58	aman	0,36
3	W14X283	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,685	19512	19512	17560,8	6106,80	909,60	aman	0,35
2	W14X283	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,685	19512	19512	17560,8	6092,72	932,16	aman	0,35
1	W14X283	207,890	8098,734	0,000039	1837,588	Lb<=Lp	2,30	11956,685	19512	19512	17560,8	6283,60	932,16	aman	0,36

### KOLOM K6 CEK TERHADAP LENTUR ARAH X

Kolom Lantai	Profil	Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Min (K-in)	Min pakai (K-in)	Mfn (K-in)	Mu,k x (K-in)	Mu,k y (K-in)	Cek Kapasitas	Rasio
14	W14X132	187,910	4199,397	0,000445	888,103	Lb<=Lp	2,30	5412,246	8424	8424	7681,6	1342,12	2258,29	aman	0,18
13	W14X211	203,795	6209,748	0,000102	1388,359	Lb<=Lp	2,28	8310,191	14040	14040	12636	3737,27	1980,80	aman	0,26
12	W14X257	206,540	7462,884	0,000053	1684,256	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	5310,51	1980,80	aman	0,34
11	W14X257	206,540	7462,884	0,000053	1684,256	Lb<=Lp	2,30	10780,489	17532	17532	15778,8	5431,76	1962,85	aman	0,34
10	W14X311	209,850	8809,342	0,000029	2015,983	Lb<=Lp	2,30	13167,250	21708	21708	19537,2	5782,92	1944,89	aman	0,30
9	W14X311	209,850	8809,342	0,000029	2015,983	Lb<=Lp	2,30	13167,250	21708	21708	19537,2	6703,46	1926,94	aman	0,34
8	W14X370	213,640	10240,863	0,000017	2383,539	Lb<=Lp	2,30	15803,351	26496	26496	23846,4	7005,33	1908,98	aman	0,29
7	W14X370	213,640	10240,863	0,000017	2383,539	Lb<=Lp	2,30	15803,351	26496	26496	23846,4	6732,46	1891,03	aman	0,28
6	W14X370	213,640	10240,863	0,000017	2383,539	Lb<=Lp	2,30	15803,351	26496	26496	23846,4	6393,25	1873,07	aman	0,27
5	W14X370	213,640	10240,863	0,000017	2383,539	Lb<=Lp	2,30	15803,351	26496	26496	23846,4	7026,60	1855,12	aman	0,29
4	W14X426	217,255	11530,798	0,000011	2727,844	Lb<=Lp	2,30	18352,940	31284	31284	28155,6	7601,27	1837,16	aman	0,27
3	W14X426	217,255	11530,798	0,000011	2727,844	Lb<=Lp	2,30	18352,940	31284	31284	28155,6	7320,24	1819,20	aman	0,26
2	W14X426	217,255	11530,798	0,000011	2727,844	Lb<=Lp	2,30	18352,940	31284	31284	28155,6	7649,49	1864,33	aman	0,27
1	W14X426	217,255	11530,798	0,000011	2727,844	Lb<=Lp	2,30	18352,940	31284	31284	28155,6	7507,68	1864,33	aman	0,27

# LAMPIRAN C-2-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K1 CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mu,k (K-in)	Cek Kapasitas	Rasio
			(m)	(in)										
14	W14X82	1612.8	3.75	147.638	124.165	3582.303	0.000869	514.358	Lp<=Lr	1.00	3203.637	1096.24	aman	0.76
13	W14X99	3009.6	3.75	147.638	185.840	3199.571	0.001230	701.648	Lb<=Lp	1.00	4064.788	830.22	aman	0.31
12	W14X99	3009.6	3.75	147.638	185.840	3199.571	0.001230	701.648	Lb<=Lp	1.00	4064.788	830.22	aman	0.31
11	W14X99	3009.6	3.75	147.638	185.840	3199.571	0.001230	701.648	Lb<=Lp	1.00	4064.788	822.70	aman	0.30
10	W14X132	4068	3.75	147.638	187.910	4199.397	0.000445	888.103	Lb<=Lp	1.00	5412.246	815.17	aman	0.22
9	W14X132	4068	3.75	147.638	187.910	4199.397	0.000445	888.103	Lb<=Lp	1.00	5412.246	807.64	aman	0.22
8	W14X145	4768	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	1.00	6008.109	800.12	aman	0.19
7	W14X145	4768	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	1.00	6008.109	792.59	aman	0.18
6	W14X176	5868	3.75	147.638	201.105	5265.144	0.000188	1169.461	Lb<=Lp	1.00	7321.054	785.07	aman	0.15
5	W14X176	5868	3.75	147.638	201.105	5265.144	0.000188	1169.461	Lb<=Lp	1.00	7321.054	777.54	aman	0.15
4	W14X211	7128	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	1.00	8810.191	770.02	aman	0.12
3	W14X211	7128	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	1.00	8810.191	762.49	aman	0.12
2	W14X233	7956	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	1.00	9782.500	781.10	aman	0.11
1	W14X233	7956	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	1.00	9782.500	781.10	aman	0.11

### KOLOM K2 CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Mu,k (K-in)	Cek Kapasitas	Rasio
			(m)	(in)										
14	W14X99	3009.6	3.75	147.638	185.840	3199.571	0.001230	701.648	Lb<=Lp	1.00	4064.788	1129.15	aman	0.42
13	W14X159	5256	3.75	147.638	200.105	4790.953	0.000268	1065.282	Lb<=Lp	1.00	6586.666	990.40	aman	0.21
12	W14X176	5868	3.75	147.638	201.105	5265.144	0.000188	1169.461	Lb<=Lp	1.00	7321.054	990.40	aman	0.19
11	W14X176	5868	3.75	147.638	201.105	5265.144	0.000188	1169.461	Lb<=Lp	1.00	7321.054	981.42	aman	0.19
10	W14X211	7128	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	1.00	8810.191	972.45	aman	0.15
9	W14X211	7128	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	1.00	8810.191	963.47	aman	0.15
8	W14X233	7956	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	1.00	9782.500	954.49	aman	0.13
7	W14X233	7956	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	1.00	9782.500	945.51	aman	0.13
6	W14X257	8856	3.75	147.638	206.540	7462.884	0.000053	1684.256	Lb<=Lp	1.00	10780.489	936.54	aman	0.12
5	W14X257	8856	3.75	147.638	206.540	7462.884	0.000053	1684.256	Lb<=Lp	1.00	10780.489	927.56	aman	0.12
4	W14X283	9864	3.75	147.638	207.890	8098.734	0.000039	1837.588	Lb<=Lp	1.00	11956.885	918.58	aman	0.10
3	W14X283	9864	3.75	147.638	207.890	8098.734	0.000039	1837.588	Lb<=Lp	1.00	11956.885	909.60	aman	0.10
2	W14X283	9864	3.75	147.638	207.890	8098.734	0.000039	1837.588	Lb<=Lp	1.00	11956.885	932.16	aman	0.11
1	W14X283	9864	3.75	147.638	207.890	8098.734	0.000039	1837.588	Lb<=Lp	1.00	11956.885	932.16	aman	0.11

# LAMPIRAN C-2-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K3 CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Muk (K-in)	Cek Kapasitas	Rasio
			(m)	(in)										
14	W14X120	3672	3.75	147.638	187.235	3823.304	0.000624	815.360	Lb<=Lp	1.00	4948.965	2192.49	aman	0.66
13	W14X120	3672	3.75	147.638	187.235	3823.304	0.000624	815.360	Lb<=Lp	1.00	4948.965	1660.44	aman	0.50
12	W14X145	4788	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	1.00	6008.109	1660.44	aman	0.39
11	W14X145	4788	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	1.00	6008.109	1645.39	aman	0.38
10	W14X211	7128	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	1.00	8810.191	1630.34	aman	0.25
9	W14X211	7128	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	1.00	8810.191	1615.29	aman	0.25
8	W14X233	7956	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	1.00	9782.500	1600.24	aman	0.22
7	W14X233	7956	3.75	147.638	204.870	6789.690	0.000074	1522.487	Lb<=Lp	1.00	9782.500	1585.19	aman	0.22
6	W14X283	9864	3.75	147.638	207.850	8098.734	0.000039	1837.588	Lb<=Lp	1.00	11956.885	1570.13	aman	0.18
5	W14X283	9864	3.75	147.638	207.850	8098.734	0.000039	1837.588	Lb<=Lp	1.00	11956.885	1555.08	aman	0.18
4	W14X311	10944	3.75	147.638	209.850	8809.342	0.000029	2015.983	Lb<=Lp	1.00	13167.250	1540.03	aman	0.16
3	W14X311	10944	3.75	147.638	209.850	8809.342	0.000029	2015.983	Lb<=Lp	1.00	13167.250	1524.98	aman	0.15
2	W14X370	13320	3.75	147.638	213.640	10240.863	0.000017	2383.539	Lb<=Lp	1.00	15803.351	1532.21	aman	0.13
1	W14X370	13320	3.75	147.638	213.640	10240.863	0.000017	2383.539	Lb<=Lp	1.00	15803.351	1562.21	aman	0.13

### KOLOM K4 CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Muk (K-in)	Cek Kapasitas	Rasio
			(m)	(in)										
14	W14X145	4788	3.75	147.638	199.090	4411.578	0.000364	982.863	Lb<=Lp	1.00	6008.109	2258.29	aman	0.52
13	W14X211	7128	3.75	147.638	203.795	6209.748	0.000102	1388.359	Lb<=Lp	1.00	8810.191	1980.80	aman	0.31
12	W14X257	8856	3.75	147.638	206.540	7462.884	0.000053	1684.256	Lb<=Lp	1.00	10780.489	1980.80	aman	0.25
11	W14X257	8856	3.75	147.638	206.540	7462.884	0.000053	1684.256	Lb<=Lp	1.00	10780.489	1962.85	aman	0.25
10	W14X311	10944	3.75	147.638	209.850	8809.342	0.000029	2015.983	Lb<=Lp	1.00	13167.250	1944.89	aman	0.20
9	W14X311	10944	3.75	147.638	209.850	8809.342	0.000029	2015.983	Lb<=Lp	1.00	13167.250	1926.94	aman	0.20
8	W14X342	12168	3.75	147.638	211.665	9580.878	0.000022	2210.151	Lb<=Lp	1.00	14560.000	1908.98	aman	0.17
7	W14X342	12168	3.75	147.638	211.665	9580.878	0.000022	2210.151	Lb<=Lp	1.00	14560.000	1891.03	aman	0.17
6	W14X370	13320	3.75	147.638	213.640	10240.863	0.000017	2383.539	Lb<=Lp	1.00	15803.351	1873.07	aman	0.16
5	W14X370	13320	3.75	147.638	213.640	10240.863	0.000017	2383.539	Lb<=Lp	1.00	15803.351	1855.12	aman	0.15
4	W14X426	15624	3.75	147.638	217.255	11530.798	0.000011	2727.844	Lb<=Lp	1.00	18352.940	1837.16	aman	0.13
3	W14X426	15624	3.75	147.638	217.255	11530.798	0.000011	2727.844	Lb<=Lp	1.00	18352.940	1819.20	aman	0.13
2	W14X426	15624	3.75	147.638	217.255	11530.798	0.000011	2727.844	Lb<=Lp	1.00	18352.940	1854.33	aman	0.13
1	W14X426	15624	3.75	147.638	217.255	11530.798	0.000011	2727.844	Lb<=Lp	1.00	18352.940	1854.33	aman	0.13

DESAIN KOLOM PORTAL BAJA

KOLOM K5  
CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Min (K-in)	Mn pakai (K-in)	fMn (K-in)	Mu,k (K-in)	Cek Kapasitas	Rasio
			(m)	(in)													
14	W14X99	3009,6	3,75	147,638	185,840	3199,571	0,001230	701,648	Lb<=Lp	1,00	4064,768	3009,6	3009,6	2708,64	1129,15	aman	0,42
13	W14X159	5256	3,75	147,638	200,105	4790,953	0,000268	1065,292	Lb<=Lp	1,00	6586,666	5256	5256	4730,4	990,40	aman	0,21
12	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	990,40	aman	0,19
11	W14X176	5868	3,75	147,638	201,105	5265,144	0,000188	1169,461	Lb<=Lp	1,00	7321,054	5868	5868	5281,2	981,42	aman	0,19
10	W14X211	7128	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	1,00	8810,191	7128	7128	6415,2	972,45	aman	0,15
9	W14X211	7128	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	1,00	8810,191	7128	7128	6415,2	963,47	aman	0,15
8	W14X233	7956	3,75	147,638	204,870	6789,690	0,000074	1522,487	Lb<=Lp	1,00	9782,500	7956	7956	7160,4	954,49	aman	0,13
7	W14X233	7956	3,75	147,638	204,870	6789,690	0,000074	1522,487	Lb<=Lp	1,00	9782,500	7956	7956	7160,4	945,51	aman	0,13
6	W14X257	8856	3,75	147,638	206,540	7462,884	0,000053	1664,256	Lb<=Lp	1,00	10780,489	8856	8856	7970,4	936,54	aman	0,12
5	W14X257	8856	3,75	147,638	206,540	7462,884	0,000053	1664,256	Lb<=Lp	1,00	10780,489	8856	8856	7970,4	927,56	aman	0,12
4	W14X283	9864	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	1,00	11956,885	9864	9864	8877,6	918,58	aman	0,10
3	W14X283	9864	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	1,00	11956,885	9864	9864	8877,6	909,60	aman	0,10
2	W14X283	9864	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	1,00	11956,885	9864	9864	8877,6	932,16	aman	0,11
1	W14X283	9864	3,75	147,638	207,890	8098,734	0,000039	1837,588	Lb<=Lp	1,00	11956,885	9864	9864	8877,6	932,16	aman	0,11

KOLOM K6  
CEK TERHADAP LENTUR ARAH Y

Kolom Lantai	Profil	Mp (K-in)	Lb		Lp (in)	X1 (Ksi)	X2 (Ksi)	Lr (in)	Ket Bentang	Cb	Mr (K-in)	Min (K-in)	Mn pakai (K-in)	fMn (K-in)	Mu,k (K-in)	Cek Kapasitas	Rasio
			(m)	(in)													
14	W14X132	4474,8	3,75	147,638	187,910	4198,397	0,000445	888,103	Lb<=Lp	1,00	5412,246	4474,8	4474,8	4027,32	2258,29	aman	0,56
13	W14X211	7840,8	3,75	147,638	203,795	6209,748	0,000102	1388,359	Lb<=Lp	1,00	8810,191	7840,8	7840,8	7056,72	1980,80	aman	0,28
12	W14X257	9741,6	3,75	147,638	206,540	7462,884	0,000053	1684,256	Lb<=Lp	1,00	10780,489	9741,6	9741,6	8767,44	1980,80	aman	0,23
11	W14X257	9741,6	3,75	147,638	206,540	7462,884	0,000053	1684,256	Lb<=Lp	1,00	10780,489	9741,6	9741,6	8767,44	1962,85	aman	0,22
10	W14X311	12038,4	3,75	147,638	209,850	8809,342	0,000029	2015,983	Lb<=Lp	1,00	13167,250	12038,4	12038,4	10834,56	1944,89	aman	0,18
9	W14X311	12038,4	3,75	147,638	209,850	8809,342	0,000029	2015,983	Lb<=Lp	1,00	13167,250	12038,4	12038,4	10834,56	1926,94	aman	0,18
8	W14X370	14652	3,75	147,638	213,640	10240,863	0,000017	2383,539	Lb<=Lp	1,00	15803,351	14652	14652	13186,8	1908,98	aman	0,14
7	W14X370	14652	3,75	147,638	213,640	10240,863	0,000017	2383,539	Lb<=Lp	1,00	15803,351	14652	14652	13186,8	1873,07	aman	0,14
6	W14X370	14652	3,75	147,638	213,640	10240,863	0,000017	2383,539	Lb<=Lp	1,00	15803,351	14652	14652	13186,8	1855,12	aman	0,14
5	W14X426	17186,4	3,75	147,638	217,255	11530,798	0,000011	2727,844	Lb<=Lp	1,00	18352,940	17186,4	17186,4	15467,76	1819,20	aman	0,12
4	W14X426	17186,4	3,75	147,638	217,255	11530,798	0,000011	2727,844	Lb<=Lp	1,00	18352,940	17186,4	17186,4	15467,76	1819,20	aman	0,12
3	W14X426	17186,4	3,75	147,638	217,255	11530,798	0,000011	2727,844	Lb<=Lp	1,00	18352,940	17186,4	17186,4	15467,76	1864,33	aman	0,12
2	W14X426	17186,4	3,75	147,638	217,255	11530,798	0,000011	2727,844	Lb<=Lp	1,00	18352,940	17186,4	17186,4	15467,76	1864,33	aman	0,12
1	W14X426	17186,4	3,75	147,638	217,255	11530,798	0,000011	2727,844	Lb<=Lp	1,00	18352,940	17186,4	17186,4	15467,76	1864,33	aman	0,12

DESAIN KOLOM PORTAL BAJA

KOLOM K1  
CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb		Ac x	Ac y	Ac	Fer (Kil)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Rasio	Cek Rasio Mu&Pu	Vu, K pakai		Cek Rasio db / tw	ΦVn		Cek Geser		Rasio	
		(in)	(in)										Arah X	Arah Y		Arah X	Arah Y	Kips	Kips		Arah X
14	W14X82	147.638	1.534	1.067	1.534	13.411	273.566	13.920	0.051	0.95	aman	Ok	28.04	28.04	Ok	141.776	279.790	aman	aman	0.04	136.75
13	W14X69	147.638	1.070	0.972	1.070	22.300	551.592	51.654	0.094	0.57	aman	Ok	29.28	29.28	Ok	133.883	368.971	aman	aman	0.13	61.19
12	W14X69	147.638	0.985	1.070	1.070	23.300	551.592	98.314	0.178	0.63	aman	Ok	29.28	29.28	Ok	133.883	368.971	aman	aman	0.15	48.50
11	W14X69	147.638	1.061	1.079	1.079	22.122	547.188	150.955	0.276	0.80	aman	Ok	29.28	29.28	Ok	133.883	368.971	aman	aman	0.19	37.45
10	W14X132	147.638	1.102	1.133	1.133	21.039	860.961	209.616	0.302	0.75	aman	Ok	22.79	22.79	Ok	184.320	490.568	aman	aman	0.18	41.74
9	W14X132	147.638	1.111	1.155	1.155	20.599	860.961	272.928	0.402	0.84	aman	Ok	22.79	22.79	Ok	184.320	490.568	aman	aman	0.23	41.13
8	W14X145	147.638	1.057	1.165	1.165	20.400	740.409	344.575	0.465	0.94	aman	Ok	21.76	21.76	Ok	156.644	547.397	aman	aman	0.23	46.33
7	W14X145	147.638	1.173	1.207	1.207	19.574	710.456	419.985	0.591	1.05	bahaya	Ok	21.76	21.76	Ok	156.644	547.397	aman	aman	0.23	46.77
6	W14X176	147.638	1.157	1.277	1.277	18.195	801.145	490.631	0.512	0.97	aman	Ok	18.31	18.31	Ok	245.255	666.370	aman	aman	0.17	57.46
5	W14X176	147.638	1.161	1.297	1.297	17.796	783.565	550.287	0.702	1.09	bahaya	Ok	18.31	18.31	Ok	245.255	666.370	aman	aman	0.16	58.04
4	W14X211	147.638	1.130	1.301	1.301	17.734	934.603	616.145	0.656	0.98	aman	Ok	15.02	15.02	Ok	255.104	798.595	aman	aman	0.16	70.23
3	W14X211	147.638	1.138	1.309	1.309	17.578	926.343	676.145	0.730	1.06	bahaya	Ok	14.95	14.95	Ok	332.613	866.075	aman	aman	0.15	76.82
2	W14X233	147.638	1.172	1.314	1.314	17.476	1017.564	798.795	0.726	1.02	bahaya	Ok	14.95	14.95	Ok	332.613	866.075	aman	aman	0.15	76.82
1	W14X233	147.638	1.193	1.294	1.294	17.866	1040.266	834.204	0.802	1.10	bahaya	Ok	14.95	14.95	Ok	332.613	866.075	aman	aman	0.14	80.28

KOLOM K2

CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb		Ac x	Ac y	Ac	Fer (Kil)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Rasio	Cek Rasio Mu&Pu	Vu, K pakai		Cek Rasio db / tw	ΦVn		Cek Geser		Rasio	
		(in)	(in)										Arah X	Arah Y		Arah X	Arah Y	Kips	Kips		Arah X
14	W14X89	147.638	0.847	0.718	0.847	25.665	659.562	20.335	0.031	0.59	aman	Ok	28.28	28.28	Ok	133.883	368.971	aman	aman	0.06	72.14
13	W14X159	147.638	0.911	0.795	0.911	25.442	1009.936	71.923	0.071	0.47	aman	Ok	20.13	20.13	Ok	217.242	601.474	aman	aman	0.10	59.28
12	W14X176	147.638	0.910	0.906	0.910	25.450	1120.578	124.293	0.111	0.59	aman	Ok	18.31	18.31	Ok	245.255	666.370	aman	aman	0.15	45.53
11	W14X176	147.638	0.947	0.947	0.947	24.727	1088.743	176.713	0.162	0.68	aman	Ok	18.31	18.31	Ok	245.255	666.370	aman	aman	0.20	45.95
10	W14X211	147.638	0.980	0.975	0.980	24.083	1269.720	228.947	0.180	0.60	aman	Ok	16.02	16.02	Ok	299.104	798.595	aman	aman	0.20	55.57
9	W14X211	147.638	0.984	1.016	1.016	23.368	1231.512	260.856	0.228	0.70	aman	Ok	16.02	16.02	Ok	299.104	798.595	aman	aman	0.23	56.08
8	W14X233	147.638	0.976	1.043	1.043	22.831	1329.310	333.624	0.251	0.72	aman	Ok	14.95	14.95	Ok	332.613	866.075	aman	aman	0.25	62.32
7	W14X257	147.638	1.039	1.051	1.051	22.669	1319.921	386.833	0.293	0.76	aman	Ok	14.95	14.95	Ok	332.613	866.075	aman	aman	0.26	63.42
6	W14X257	147.638	1.039	1.055	1.055	22.599	1452.203	438.527	0.303	0.70	aman	Ok	13.90	13.90	Ok	376.203	979.776	aman	aman	0.22	70.78
5	W14X283	147.638	1.003	1.091	1.091	21.878	1405.887	492.037	0.350	0.78	aman	Ok	13.90	13.90	Ok	376.203	979.776	aman	aman	0.24	71.48
4	W14X283	147.638	0.992	1.116	1.116	21.393	1514.017	544.634	0.360	0.77	aman	Ok	12.95	12.95	Ok	418.766	1079.795	aman	aman	0.24	79.55
3	W14X283	147.638	1.032	1.128	1.128	21.144	1497.121	597.056	0.396	0.80	aman	Ok	12.95	12.95	Ok	418.766	1079.795	aman	aman	0.23	80.33
2	W14X283	147.638	1.032	1.128	1.128	21.144	1497.121	648.998	0.433	0.83	aman	Ok	12.95	12.95	Ok	418.766	1079.795	aman	aman	0.23	78.36
1	W14X283	147.638	1.116	1.183	1.183	20.034	1418.487	701.030	0.494	0.91	aman	Ok	12.95	12.95	Ok	418.766	1079.795	aman	aman	0.22	81.95



# LAMPIRAN C-2-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K3

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb (in)	Ac x	Ac y	Ac	Fer (Kil)	ΦcPh (Kips)	Pu (Kips)	Pu / φcPh	Rasio	Cek Rasio Mu&Pu	Vuk pakal		Cek Rasio db / fw	ΦVn		Cek Geser		Rasio		
												Arsh X (Kips)	Kips		Arsh X (Kips)	Kips	Arsh X	Arsh Y	Arsh X	Arsh Y	Arsh X
14	W14X120	147.638	0.969	0.885	0.969	24.304	729.252	23.096	0.032	0.85	aman	10.127	0.783	24.56	Ok	166.309	447.703	aman	aman	0.06	57.163
13	W14X120	147.638	1.017	1.150	1.150	20.663	620.807	64.724	0.136	0.81	aman	26.059	4.117	24.58	Ok	166.309	447.703	aman	aman	0.16	94.92
12	W14X145	147.638	0.999	1.169	1.169	20.317	737.406	156.772	0.213	0.71	aman	23.794	7.146	21.76	Ok	195.644	547.397	aman	aman	0.12	76.61
11	W14X145	147.638	1.062	1.248	1.248	18.755	680.728	236.905	0.348	0.91	aman	30.954	10.182	21.76	Ok	195.644	547.397	aman	aman	0.17	53.76
9	W14X211	147.638	1.138	1.321	1.321	17.343	913.994	325.263	0.356	0.79	aman	46.447	12.756	16.02	Ok	299.104	796.595	aman	aman	0.16	62.80
8	W14X233	147.638	1.132	1.362	1.362	16.187	853.081	403.979	0.474	0.95	aman	57.802	15.219	15.02	Ok	299.104	796.595	aman	aman	0.18	52.49
7	W14X233	147.638	1.140	1.415	1.415	15.571	946.017	481.146	0.509	0.93	aman	57.224	16.454	14.95	Ok	332.013	886.075	aman	aman	0.17	53.85
6	W14X283	147.638	1.124	1.365	1.365	15.952	1129.666	635.225	0.562	1.00	bahaya	55.659	16.671	14.95	Ok	332.013	886.075	aman	aman	0.17	47.46
5	W14X283	147.638	1.120	1.434	1.434	15.217	1077.420	742.070	0.661	0.88	aman	50.986	20.218	12.95	Ok	418.796	1079.795	aman	aman	0.12	53.41
4	W14X311	147.638	1.145	1.460	1.460	14.744	1145.423	793.063	0.892	1.00	bahaya	57.444	21.776	12.95	Ok	418.796	1079.795	aman	aman	0.14	49.59
3	W14X311	147.638	1.166	1.500	1.500	14.040	1090.751	873.976	0.801	1.11	bahaya	60.556	21.870	12.13	Ok	468.718	1186.229	aman	aman	0.13	54.24
2	W14X370	147.638	1.163	1.590	1.590	12.495	944.786	944.786	0.825	1.05	bahaya	60.847	22.519	12.13	Ok	468.718	1186.229	aman	aman	0.15	52.68
1	W14X370	147.638	1.241	1.357	1.357	16.656	1543.216	1095.947	0.891	0.95	aman	63.792	23.063	10.78	Ok	577.640	1422.036	aman	aman	0.11	61.64
												56.932	22.071	10.78	Ok	577.640	1422.036	aman	aman	0.10	64.42

### KOLOM K4

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb (in)	Ac x	Ac y	Ac	Fer (Kil)	ΦcPh (Kips)	Pu (Kips)	Pu / φcPh	Rasio	Cek Rasio Mu&Pu	Vuk pakal		Cek Rasio db / fw	ΦVn		Cek Geser		Rasio		
												Arsh X (Kips)	Kips		Arsh X (Kips)	Kips	Arsh X	Arsh Y	Arsh X	Arsh Y	Arsh X
14	W14X145	147.638	0.799	0.749	0.799	27.592	1000.370	37.584	0.038	0.68	aman	10.993	3.265	21.76	Ok	195.644	547.397	aman	aman	0.06	167.67
13	W14X211	147.638	0.894	0.975	0.975	24.174	1273.950	122.936	0.097	0.62	aman	30.362	6.967	16.02	Ok	299.104	796.595	aman	aman	0.10	89.06
12	W14X257	147.638	0.956	1.051	1.051	22.678	1487.344	269.365	0.144	0.65	aman	50.918	16.060	13.90	Ok	376.303	979.776	aman	aman	0.13	65.10
11	W14X257	147.638	1.003	1.123	1.123	21.237	1344.710	265.772	0.217	0.73	aman	68.290	20.372	13.90	Ok	376.303	979.776	aman	aman	0.15	48.09
10	W14X311	147.638	1.030	1.145	1.145	20.803	1516.203	362.236	0.237	0.66	aman	84.154	25.150	12.13	Ok	468.718	1186.229	aman	aman	0.18	47.17
8	W14X311	147.638	1.030	1.157	1.157	20.567	1691.874	488.791	0.293	0.78	aman	100.284	28.476	12.13	Ok	468.718	1186.229	aman	aman	0.21	41.66
7	W14X342	147.638	1.017	1.181	1.181	20.887	1775.969	565.656	0.313	0.75	aman	111.171	26.211	11.36	Ok	523.508	1312.459	aman	aman	0.21	46.52
6	W14X370	147.638	1.049	1.213	1.213	19.444	1898.300	642.634	0.365	0.81	aman	106.690	27.945	11.36	Ok	523.508	1312.459	aman	aman	0.21	46.97
5	W14X370	147.638	1.047	1.241	1.241	18.902	1751.251	729.521	0.417	0.79	aman	102.833	27.680	10.78	Ok	577.640	1422.036	aman	aman	0.16	51.37
4	W14X426	147.638	1.051	1.248	1.248	18.750	1737.160	818.816	0.470	0.87	aman	113.232	27.416	10.78	Ok	577.640	1422.036	aman	aman	0.20	51.87
3	W14X426	147.638	1.068	1.256	1.256	18.559	1971.929	965.174	0.459	0.82	aman	122.774	27.146	9.95	Ok	683.433	1644.963	aman	aman	0.15	60.59
2	W14X426	147.638	1.068	1.296	1.296	17.818	1893.164	903.693	0.525	0.97	aman	116.490	26.884	9.95	Ok	683.433	1644.963	aman	aman	0.17	61.18
1	W14X426	147.638	1.090	1.220	1.220	19.308	2051.473	1171.701	0.572	0.93	aman	123.677	27.551	9.95	Ok	683.433	1644.963	aman	aman	0.18	59.70
												111.167	26.353	9.95	Ok	683.433	1644.963	aman	aman	0.16	62.42

# LAMPIRAN C-2-6

## DESAIN KOLOM PORTAL BAJA

### KOLOM K5

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb (in)	Ac x	Ac y	Ac	Fer (ksi)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Rasio	Cek Rasio Mu&Pu	Vuk pakai		Cek Rasio db / tw	ΦVh		Cek Geser		Rasio	
												Arah X	Arah Y		Arah X	Arah Y	Arah X	Arah Y		
14	W14X99	147,638	0,847	0,718	0,847	26,665	659,562	19,786	0,030	0,60	aman	8,272	5,353	29,28	33,883	368,971	aman	aman	0,06	68,93
13	W14X159	147,638	0,911	0,786	0,911	25,442	1009,936	70,587	0,070	0,49	aman	23,780	11,119	20,13	2,7,242	601,474	aman	aman	0,11	54,10
12	W14X176	147,638	0,927	0,906	0,927	25,130	1108,473	122,131	0,110	0,60	aman	38,280	14,636	18,31	2,45,255	666,370	aman	aman	0,16	45,53
11	W14X176	147,638	0,947	0,947	0,947	24,727	1086,743	173,653	0,156	0,68	aman	49,984	14,503	18,31	2,45,255	666,370	aman	aman	0,20	45,95
10	W14X211	147,638	0,980	0,975	0,980	24,053	1269,720	225,148	0,177	0,60	aman	61,424	14,371	16,02	2,96,104	798,595	aman	aman	0,21	55,57
9	W14X211	147,638	0,984	1,016	0,984	23,368	1231,512	278,617	0,225	0,70	aman	69,432	14,238	16,02	2,96,104	798,595	aman	aman	0,23	56,09
8	W14X233	147,638	0,974	1,043	0,974	22,831	1329,310	328,957	0,247	0,72	aman	83,248	14,105	14,95	3,32,813	886,075	aman	aman	0,25	62,82
5	W14X257	147,638	1,035	1,051	1,051	22,669	1319,921	381,234	0,286	0,75	aman	86,923	13,973	14,95	3,32,813	886,075	aman	aman	0,26	63,42
5	W14X257	147,638	1,003	1,091	1,091	21,878	1405,887	468,701	0,345	0,78	aman	83,057	13,840	13,90	3,32,813	886,075	aman	aman	0,22	70,79
4	W14X283	147,638	0,964	1,116	1,116	21,393	1514,017	538,404	0,356	0,76	aman	92,294	13,707	13,90	3,32,813	886,075	aman	aman	0,25	71,48
3	W14X283	147,638	1,028	1,120	1,120	21,303	1508,384	591,059	0,392	0,79	aman	98,677	13,575	12,95	4,2,396	1079,795	aman	aman	0,24	76,35
2	W14X283	147,638	1,028	1,120	1,120	21,303	1508,384	643,713	0,427	0,83	aman	95,293	13,442	12,95	4,2,396	1079,795	aman	aman	0,23	80,33
1	W14X283	147,638	1,116	1,155	1,155	20,588	1457,748	696,214	0,478	0,89	aman	91,572	13,177	12,95	4,2,396	1079,795	aman	aman	0,23	78,39

### KOLOM K6

#### CEK TERHADAP KOMBINASI LENTUR & AKSIAL SERTA GESER

Kolom Lantai	Profil	Lb (in)	Ac x	Ac y	Ac	Fer (ksi)	ΦcPh (Kips)	Pu (Kips)	Pu / ΦcPh	Rasio	Cek Rasio Mu&Pu	Vuk pakai		Cek Rasio db / tw	ΦVh		Cek Geser		Rasio	
												Arah X	Arah Y		Arah X	Arah Y	Arah X	Arah Y		
14	W14X132	147,638	0,793	0,749	0,793	27,661	912,260	37,481	0,041	0,76	aman	13,298	4,147	22,79	34,320	490,668	aman	aman	0,07	118,29
13	W14X211	147,638	0,886	0,967	0,886	24,334	1282,398	121,583	0,096	0,58	aman	31,880	9,654	16,02	2,99,104	798,965	aman	aman	0,11	82,73
12	W14X257	147,638	0,934	1,051	1,051	22,679	1457,344	207,126	0,142	0,63	aman	52,888	16,053	13,90	3,75,203	979,776	aman	aman	0,14	61,03
10	W14X311	147,638	1,026	1,117	1,117	21,397	1375,001	292,684	0,213	0,72	aman	69,256	20,337	13,90	3,75,203	979,776	aman	aman	0,18	46,80
9	W14X311	147,638	1,030	1,157	1,157	21,355	1659,033	378,316	0,228	0,65	aman	85,272	25,731	12,13	4,68,718	1186,229	aman	aman	0,16	46,10
8	W14X370	147,638	1,039	1,202	1,202	19,666	1622,069	550,739	0,302	0,69	aman	97,844	28,476	12,13	4,68,718	1186,229	aman	aman	0,21	41,86
7	W14X370	147,638	1,058	1,210	1,210	19,513	1607,654	637,461	0,353	0,73	aman	112,955	28,211	10,78	5,77,640	1422,036	aman	aman	0,20	50,41
5	W14X370	147,638	1,058	1,210	1,210	19,513	1607,654	637,461	0,353	0,73	aman	108,555	27,945	10,78	5,77,640	1422,036	aman	aman	0,19	50,89
4	W14X426	147,638	1,060	1,241	1,241	18,902	1751,251	810,996	0,463	0,85	aman	103,086	27,680	10,78	5,77,640	1422,036	aman	aman	0,18	51,37
3	W14X426	147,638	1,068	1,258	1,258	18,559	1971,929	898,821	0,456	0,80	aman	113,943	27,415	10,78	5,77,640	1422,036	aman	aman	0,20	51,87
2	W14X426	147,638	1,068	1,296	1,296	17,816	1893,164	986,847	0,521	0,86	aman	122,653	27,149	9,95	5,83,433	1644,883	aman	aman	0,18	60,59
1	W14X426	147,638	1,068	1,296	1,296	17,816	1893,164	1074,495	0,566	0,92	aman	118,128	26,884	9,95	5,83,433	1644,883	aman	aman	0,17	61,18

# LAMPIRAN C-2-7

## CEK STRONG KOLOM WEAK BEAM

### Kolom K1

#### Cek Strong Kolom Weak Beam

Lantai	Profil Kolom	Profil Balok		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
		B1	B2				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X82	W16X31	W12X26	13,820	8,901	32,077	4923,957	1587,002	2423,91705	1473,12	2,03	Ok	1,08	Ok
13	W14X99	W18X40	W12X26	51,654	23,433	34,160	10844,874	4448,208	3905,1159	1473,12	2,78	Ok	3,02	Ok
12	W14X99	W21X44	W12X26	98,314	32,262	34,360	11564,441	5588,366	4886,3545	1473,12	2,37	Ok	3,79	Ok
11	W14X99	W21X44	W12X26	150,955	38,603	34,360	10974,093	5303,088	5104,2564	1473,12	2,15	Ok	3,60	Ok
10	W14X132	W21X44	W12X26	209,616	44,858	34,410	12490,390	6033,448	5321,39332	1473,12	2,35	Ok	4,10	Ok
9	W14X132	W21X44	W12X26	272,928	49,885	34,660	13937,814	6730,654	5506,84569	1473,12	2,53	Ok	4,57	Ok
8	W14X145	W21X50	W12X26	344,575	56,827	34,660	14039,879	6987,867	6325,63216	1473,12	2,22	Ok	4,74	Ok
7	W14X145	W21X50	W12X26	419,905	56,773	34,660	14065,085	7194,832	6323,76585	1473,12	2,22	Ok	4,88	Ok
6	W14X176	W21X50	W12X26	490,631	56,672	34,960	15292,274	7804,220	6337,25609	1473,12	2,41	Ok	5,30	Ok
5	W14X176	W21X50	W12X26	550,267	56,559	35,010	16609,739	8460,586	6336,12083	1473,12	2,82	Ok	5,74	Ok
4	W14X211	W21X55	W12X26	613,287	62,575	35,010	18302,893	9305,903	7180,34711	1473,12	2,55	Ok	6,32	Ok
3	W14X211	W21X55	W12X26	676,145	62,454	35,410	19969,059	10138,137	7201,11212	1473,12	2,77	Ok	6,88	Ok
2	W14X233	W21X55	W12X26	738,795	62,307	35,410	20780,429	10541,142	7195,89448	1473,12	2,89	Ok	7,16	Ok
1	W14X233	W21X55	W12X26	834,204	62,032	35,410	21379,923	10837,071	7186,14396	1473,12	2,98	Ok	7,36	Ok

### Kolom K2

#### Cek Strong Kolom Weak Beam

Lantai	Profil Kolom	Profil Balok		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
		B1	B4				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X99	W16X31	W12X26	20,335	8,901	32,077	6107,110	295,182	4847,83409	1473,12	1,26	Ok	2,00	Ok
13	W14X159	W18X40	W12X30	71,823	23,433	34,160	15997,712	7982,637	7810,2318	1706,76	2,05	Ok	4,68	Ok
12	W14X176	W21X44	W12X30	124,293	32,262	34,360	20642,766	10508,339	9772,70899	1706,76	2,11	Ok	6,16	Ok
11	W14X176	W21X44	W12X30	176,713	38,603	34,360	21180,502	10788,818	10208,5128	1706,76	2,07	Ok	6,32	Ok
10	W14X211	W21X44	W12X30	228,947	44,858	34,410	23028,185	11708,780	10642,7866	1706,76	2,16	Ok	6,86	Ok
9	W14X211	W21X44	W12X30	280,856	49,885	34,660	24873,170	12627,917	11013,6914	1706,76	2,26	Ok	7,40	Ok
8	W14X233	W21X50	W12X30	333,824	56,827	34,660	25844,548	13110,064	12651,2643	1706,76	2,04	Ok	7,68	Ok
7	W14X233	W21X50	W12X30	386,833	56,773	34,660	26805,050	13586,963	12647,5317	1706,76	2,12	Ok	7,96	Ok
6	W14X257	W21X50	W12X30	439,527	56,672	34,960	27934,480	14133,764	12674,5122	1706,76	2,20	Ok	8,28	Ok
5	W14X257	W21X50	W12X30	492,037	56,559	35,010	29063,055	14680,722	12672,2417	1706,76	2,29	Ok	8,60	Ok
4	W14X283	W21X55	W12X30	544,634	62,575	35,010	30330,881	15327,455	14360,6942	1706,76	2,11	Ok	8,98	Ok
3	W14X283	W21X55	W12X30	597,058	62,454	35,410	31595,463	15972,614	14402,2242	1706,76	2,19	Ok	9,36	Ok
2	W14X283	W21X55	W12X30	648,998	62,307	35,410	30916,410	15629,329	14391,789	1706,76	2,15	Ok	9,16	Ok
1	W14X283	W21X55	W12X30	701,030	62,032	35,410	30239,906	15287,332	14372,2879	1706,76	2,10	Ok	8,96	Ok

DESAIN USF 14LT/Perencanaan Kolom

# LAMPIRAN C-2-7

## CEK STRONG KOLOM WEAK BEAM

### Kolom K3 Cek Strong Kolom Weak Beam

Lantai	Profil Kolom		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
	B3	B2				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X120	W18X35	23,096	15,233	32,352	7493,296	3605,265	3126,199376	2946,24	2,40	Ok	1,22	Ok
13	W14X120	W21X50	84,724	37,526	34,460	14616,470	7032,453	5649,14306	2946,24	2,59	Ok	2,39	Ok
12	W14X145	W21X55	156,772	48,098	34,693	15528,591	7726,862	6658,298676	2946,24	2,33	Ok	2,62	Ok
11	W14X145	W21X55	236,905	56,647	34,693	16322,905	8349,794	6954,871128	2946,24	2,35	Ok	2,83	Ok
10	W14X211	W21X55	325,283	65,268	34,743	19911,352	10139,292	7257,241213	2946,24	2,74	Ok	3,44	Ok
9	W14X211	W21X55	403,979	72,092	35,043	23492,704	11927,065	7515,968954	2946,24	3,13	Ok	4,05	Ok
8	W14X233	W24X55	481,146	75,579	35,043	24132,362	12241,562	7994,526268	2946,24	3,02	Ok	4,15	Ok
7	W14X233	W24X55	558,221	75,503	35,043	24776,466	12558,713	7991,866458	2946,24	3,10	Ok	4,26	Ok
6	W14X283	W24X55	635,226	75,358	35,327	27521,779	13929,565	8008,156797	2946,24	3,44	Ok	4,73	Ok
5	W14X283	W24X55	712,070	75,197	35,227	30257,679	15296,317	7994,93704	2946,24	3,78	Ok	5,19	Ok
4	W14X311	W24X62	793,069	82,392	35,227	31354,668	15827,997	9000,795644	2946,24	3,48	Ok	5,37	Ok
3	W14X311	W24X62	873,976	82,261	35,627	32417,875	16343,340	9029,073167	2946,24	3,59	Ok	5,55	Ok
2	W14X370	W24X62	954,768	82,101	35,627	35991,178	18116,165	9023,387377	2946,24	3,95	Ok	6,15	Ok
1	W14X370	W24X62	1065,947	81,739	35,627	39347,542	19780,694	9010,49737	2946,24	4,37	Ok	6,71	Ok

### Kolom K4 Cek Strong Kolom Weak Beam

Lantai	Profil Kolom		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
	B3	B4				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X145	W18X35	37,584	15,233	32,352	9131,153	4670,936	6252,398753	2946,24	1,46	Ok	1,59	Ok
13	W14X211	W21X50	122,938	37,526	34,460	22397,832	11406,327	11298,28612	3413,52	1,98	Ok	3,34	Ok
12	W14X257	W21X55	209,355	48,098	34,693	29450,054	14910,155	13316,59735	3413,52	2,21	Ok	4,37	Ok
11	W14X257	W21X55	295,772	56,647	34,693	31810,069	16068,331	13909,74226	3413,52	2,29	Ok	4,71	Ok
10	W14X311	W21X55	382,236	65,268	34,743	34812,942	17566,235	14514,48243	3413,52	2,40	Ok	5,15	Ok
9	W14X311	W21X55	468,791	72,092	35,043	37801,456	19057,450	15031,91791	3413,52	2,51	Ok	5,58	Ok
8	W14X342	W24X55	555,555	75,579	35,043	39110,842	19693,597	15989,05254	3413,52	2,45	Ok	5,77	Ok
7	W14X342	W24X55	642,434	75,503	35,043	40413,221	20326,888	15983,73292	3413,52	2,53	Ok	5,95	Ok
6	W14X370	W24X55	729,521	75,358	35,327	41487,646	20861,716	16016,31359	3413,52	2,59	Ok	6,11	Ok
5	W14X370	W24X55	816,816	75,197	35,227	42550,678	21390,966	15989,87408	3413,52	2,66	Ok	6,27	Ok
4	W14X426	W24X62	905,174	82,392	35,227	45971,852	23028,559	18001,59129	3413,52	2,55	Ok	6,75	Ok
3	W14X426	W24X62	993,693	82,261	35,627	49367,082	24655,137	18058,14633	3413,52	2,73	Ok	7,22	Ok
2	W14X426	W24X62	1082,443	82,101	35,627	48134,705	24039,657	18046,77475	3413,52	2,67	Ok	7,04	Ok
1	W14X426	W24X62	1171,701	81,739	35,627	46697,190	23421,611	18020,99474	3413,52	2,60	Ok	6,86	Ok

DESAIN USF 14LT/Perencanaan Kolom

CEK STRONG KOLOM WEAK BEAM

Kolom K5  
Cek Strong Kolom Weak Beam

Lantai	Profil Kolom		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
	B1	B4				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X99	W12X26	19,789	8,901	32,077	6110,354	2952,749	4847,834091	1473,12	1,26	Ok	2,00	Ok
13	W14X159	W12X30	70,587	23,433	34,160	16008,554	7988,070	7810,231804	1706,76	2,05	Ok	4,68	Ok
12	W14X176	W12X30	121,131	32,262	34,360	20663,724	10519,010	9772,708994	1706,76	2,11	Ok	6,16	Ok
11	W14X176	W12X30	173,653	38,603	34,360	21212,767	10805,253	10208,5128	1706,76	2,08	Ok	6,33	Ok
10	W14X211	W12X30	225,148	44,858	34,410	23070,989	11730,543	10642,78663	1706,76	2,17	Ok	6,87	Ok
9	W14X233	W12X30	276,617	49,885	34,660	24923,736	12653,589	11013,69138	1706,76	2,26	Ok	7,41	Ok
8	W14X233	W12X30	328,957	56,827	34,660	25902,189	13139,303	12651,26431	1706,76	2,05	Ok	7,70	Ok
7	W14X233	W12X30	381,234	56,773	34,660	26871,661	13620,727	12647,5317	1706,76	2,12	Ok	7,98	Ok
6	W14X257	W12X30	433,499	56,672	34,960	28008,949	14171,443	12674,51218	1706,76	2,21	Ok	8,30	Ok
5	W14X257	W12X30	485,701	56,559	35,010	29142,701	14720,954	12672,24166	1706,76	2,30	Ok	8,63	Ok
4	W14X283	W12X30	538,404	62,575	35,010	30412,035	15368,566	14360,69421	1706,76	2,12	Ok	9,00	Ok
3	W14X283	W12X30	591,059	62,454	35,410	31675,037	16012,842	14402,22424	1706,76	2,20	Ok	9,38	Ok
2	W14X283	W12X30	643,713	62,307	35,410	30989,829	15666,445	14391,78896	1706,76	2,15	Ok	9,18	Ok
1	W14X283	W12X30	696,214	62,032	35,410	30305,624	15320,555	14372,28792	1706,76	2,11	Ok	8,98	Ok

Kolom K6  
Cek Strong Kolom Weak Beam

Lantai	Profil Balok		Pu, k Kips	Vu, b Kips	Xi in	ΣMpc (K-in)		ΣMpb (K-in)		Rasio			
	B3	B4				Arah X	Arah Y	Arah X	Arah Y	Arah X	Arah Y	Cek	Arah Y
14	W14X132	W12X26	37,491	15,233	32,352	8197,893	3958,811	6252,398753	2946,24	1,31	Ok	1,34	Ok
13	W14X211	W12X30	121,583	37,526	34,460	21473,096	10698,530	11298,28612	3413,52	1,90	Ok	3,13	Ok
12	W14X257	W12X30	207,126	48,098	34,693	29472,942	14921,739	13316,59735	3413,52	2,21	Ok	4,37	Ok
11	W14X257	W12X30	292,684	56,647	34,693	31844,330	16085,637	13909,74226	3413,52	2,29	Ok	4,71	Ok
10	W14X311	W12X30	378,316	65,268	34,743	34858,696	17589,322	14514,48243	3413,52	2,40	Ok	5,15	Ok
9	W14X311	W12X30	464,028	72,092	35,043	37858,736	19086,328	15031,91791	3413,52	2,52	Ok	5,59	Ok
8	W14X370	W24X55	550,739	75,579	35,043	41423,878	20851,142	15989,05254	3413,52	2,59	Ok	6,11	Ok
7	W14X370	W24X55	637,461	75,503	35,043	44968,923	22606,660	15983,73292	3413,52	2,81	Ok	6,62	Ok
6	W14X370	W24X55	724,209	75,358	35,327	43797,603	22017,817	16016,31359	3413,52	2,73	Ok	6,45	Ok
5	W14X370	W24X55	810,995	75,197	35,227	42625,852	21428,757	15989,87408	3413,52	2,67	Ok	6,28	Ok
4	W14X426	W24X62	898,821	82,392	35,227	46055,321	23070,375	18001,59129	3413,52	2,56	Ok	6,76	Ok
3	W14X426	W24X62	986,647	82,261	35,627	49460,225	24701,654	18058,14633	3413,52	2,74	Ok	7,24	Ok
2	W14X426	W24X62	1074,495	82,101	35,627	48238,937	24091,713	18046,77475	3413,52	2,67	Ok	7,06	Ok
1	W14X426	W24X62	1162,423	81,739	35,627	47016,945	23481,420	18020,99474	3413,52	2,61	Ok	6,88	Ok





Profil Type C

Lantai	Unbrace steel frame										
	B1	B2	B3	B4	K1	K2	K3	K4	K5	K6	
14	W18X35	W12X26	W18X40	W12X26	W14X99	W14X109	W14X120	W14X145	W14X109	W14X145	
13	W18X40	W12X26	W21X50	W12X30	W14X176	W14X159	W14X233	W14X233	W14X176	W14X145	
12	W21X50	W12X26	W24X55	W12X30	W14X193	W14X211	W14X257	W14X257	W14X176	W14X211	
11	W21X50	W12X26	W24X55	W12X30	W14X193	W14X211	W14X257	W14X257	W14X211	W14X311	
10	W21X50	W12X26	W24X55	W12X30	W14X193	W14X211	W14X257	W14X257	W14X211	W14X311	
9	W21X50	W12X26	W24X55	W12X30	W14X193	W14X211	W14X257	W14X257	W14X211	W14X311	
8	W21X55	W12X26	W24X62	W12X30	W14X211	W14X257	W14X283	W14X342	W14X211	W14X311	
7	W21X55	W12X26	W24X62	W12X30	W14X211	W14X257	W14X283	W14X342	W14X257	W14X370	
6	W21X55	W12X26	W24X62	W12X30	W14X211	W14X257	W14X283	W14X342	W14X257	W14X370	
5	W21X55	W12X26	W24X62	W12X30	W14X211	W14X257	W14X283	W14X370	W14X257	W14X370	
4	W24X55	W12X26	W24X62	W12X30	W14X233	W14X283	W14X370	W14X426	W14X283	W14X370	
3	W24X55	W12X26	W24X62	W12X30	W14X233	W14X283	W14X370	W14X426	W14X283	W14X426	
2	W24X55	W12X26	W24X62	W12X30	W14X233	W14X283	W14X370	W14X426	W14X283	W14X426	
1	W24X55	W12X26	W24X62	W12X30	W14X233	W14X283	W14X370	W14X426	W14X283	W14X426	

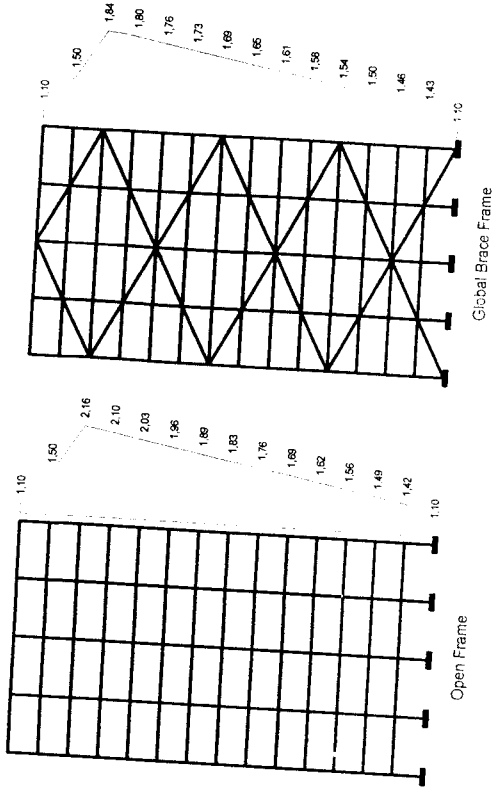
Lantai	Brace steel frame											Brecing
	B1	B2	B3	B4	K1	K2	K3	K4	K5	K6		
14	W16X31	W12X26	W18X35	W12X26	W14X99	W14X120	W14X109	W14X132	W14X99	W14X132	W12X65	
13	W18X35	W12X26	W21X48	W12X30	W14X145	W14X120	W14X120	W14X211	W14X132	W14X211	W12X72	
12	W18X40	W12X26	W21X50	W12X30	W14X159	W14X193	W14X211	W14X283	W14X176	W14X283	W12X72	
11	W18X40	W12X26	W21X50	W12X30	W14X159	W14X193	W14X211	W14X283	W14X176	W14X283	W12X72	
10	W18X40	W12X26	W21X50	W12X30	W14X159	W14X193	W14X211	W14X283	W14X176	W14X283	W12X96	
9	W18X40	W12X26	W21X50	W12X30	W14X159	W14X193	W14X211	W14X283	W14X176	W14X283	W12X96	
8	W21X44	W12X26	W21X55	W12X30	W14X176	W14X211	W14X233	W14X283	W14X176	W14X283	W12X96	
7	W21X44	W12X26	W21X55	W12X30	W14X176	W14X211	W14X233	W14X311	W14X193	W14X311	W12X120	
6	W21X44	W12X26	W21X55	W12X30	W14X176	W14X211	W14X233	W14X311	W14X193	W14X311	W12X120	
5	W21X44	W12X26	W21X55	W12X30	W14X176	W14X211	W14X233	W14X311	W14X193	W14X311	W12X136	
4	W21X48	W12X26	W24X55	W12X30	W14X176	W14X211	W14X233	W14X311	W14X193	W14X311	W12X136	
3	W21X48	W12X26	W24X55	W12X30	W14X193	W14X233	W14X257	W14X342	W14X211	W14X311	W12X152	
					W14X193	W14X233	W14X257	W14X342	W14X211	W14X311	W12X152	



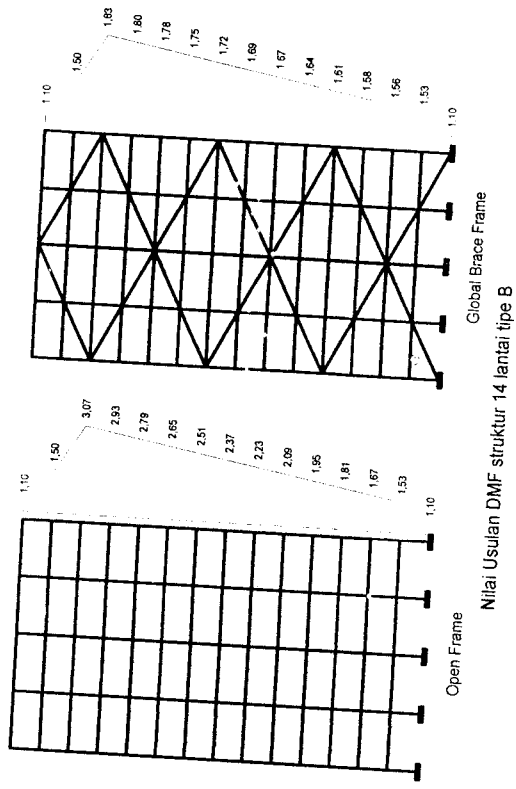
# LAMPIRAN D-1-2

Tabel Nilai Usulan DMF Struktur 14 lantai

Lantai	USF		BSF	
	Type A	Type B	Type B	Type B
14	1.10	1.10	1.10	1.10
13	1.50	1.50	1.50	1.50
12	2.16	3.07	1.84	1.83
11	2.10	2.93	1.80	1.80
10	2.03	2.79	1.75	1.78
9	1.96	2.65	1.73	1.75
8	1.89	2.51	1.69	1.72
7	1.83	2.37	1.65	1.69
6	1.76	2.23	1.61	1.67
5	1.69	2.09	1.58	1.64
4	1.62	1.95	1.54	1.61
3	1.56	1.81	1.50	1.58
2	1.49	1.67	1.46	1.56
1	1.42	1.53	1.43	1.53
0	1.10	1.10	1.10	1.10



Nilai Usulan DMF struktur 14 lantai tipe A



Nilai Usulan DMF struktur 14 lantai tipe B