



# LAMPIRAN 3

Koreksi Grafik

Tabel beban vs penurunan benda uji KS

Beban, KN	Penurunan, mm	Koreksi, mm
0	0	0
10	0,14	0,048049202
20	0,32	0,096098405
30	0,47	0,144147607
40	0,6	0,19219681
50	0,78	0,240246012
60	0,91	0,288295214
70	1,07	0,336344417
80	1,15	0,384393619
90	1,29	0,432442821
100	1,39	0,480492024
110	1,48	0,528541226
120	1,56	0,576590429
130	1,64	0,624639631
140	1,71	0,672688833
150	2,18	0,720738036
160	2,35	0,768787238
170	2,42	0,816836441
180	2,54	0,864885643
190	2,76	0,912934845
200	2,86	0,960984048
210	2,98	1,00903325
220	3,05	1,057082452
230	3,09	1,105131655
240	3,15	1,153180857
250	3,22	1,20123006
260	3,36	1,249279262
270	3,39	1,297328464
280	3,43	1,345377667
290	3,58	1,393426869
300	3,65	1,441476071
310	3,7	1,489525274
320	3,75	1,537574476
330	3,81	1,585623679
340	3,84	1,633672881
350	3,89	1,681722083

360	3,94	1,729771286
370	3,96	1,777820488
380	3,99	1,825869691
390	4,06	1,873918893
400	4,09	1,921968095
410	4,15	1,970017298
420	4,18	2,0180665
430	4,21	2,066115702
440	4,37	2,114164905
450	4,39	2,162214107
460	4,43	2,21026331
470	4,49	2,291845089
480	4,57	2,371845089
490	4,68	2,481845089
500	4,77	2,571845089
510	4,87	2,671845089
520	4,98	2,781845089
530	5,13	2,931845089
540	5,27	3,071845089
550	5,31	3,111845089
560	5,53	3,331845089
570	5,85	3,651845089
580	5,95	3,751845089
590	6,18	3,981845089
600	6,2	4,001845089
610	6,31	4,111845089
620	6,53	4,331845089
630	6,74	4,541845089
620	6,83	4,631845089
610	6,91	4,711845089
600	7,31	5,111845089
590	7,43	5,231845089

Tabel beban vs penurunan benda uji KG1

Beban, KN	Penurunan Dial (0,01)	Penurunan, mm	Koreksi, mm
0	0	0	0
10	0	0	0,062050137
20	0	0	0,124100273

30	0	0	0,18615041
40	0	0	0,248200546
50	0	0	0,310250683
60	0	0	0,372300819
70	0	0	0,434350956
80	0	0	0,496401092
90	8	0,08	0,558451229
100	14	0,14	0,620501365
110	30	0,3	0,682551502
120	47	0,47	0,744601638
130	56	0,56	0,806651775
140	75	0,75	0,868701911
150	82	0,82	0,930752048
160	100	1	0,992802184
170	107	1,07	1,054852321
180	128	1,28	1,116902457
190	138	1,38	1,178952594
200	142	1,42	1,24100273
210	198	1,98	1,303052867
220	210	2,1	1,365103003
230	218	2,18	1,42715314
240	226	2,26	1,489203276
250	310	3,1	1,551253413
260	367	3,67	1,613303549
270	376	3,76	1,675353686
280	385	3,85	1,737403822
290	390	3,9	1,799453959
300	394	3,94	1,861504095
310	396	3,96	1,923554232
320	398	3,98	1,985604368
330	402	4,02	2,047654505
340	407	4,07	2,109704641
350	413	4,13	2,171754778
360	416	4,16	2,233804914
370	416	4,16	2,295855051
380	416	4,16	2,357905187
390	416	4,16	2,419955324
400	427	4,27	2,48200546

410	443	4,43	2,544055597
420	446	4,46	2,606105733
430	460	4,6	2,66815587
440	472	4,72	2,730206006
450	479	4,79	2,792256143
460	490	4,9	2,854306279
470	499	4,99	2,916356416
480	511	5,11	2,978406552
490	520	5,2	3,040456689
500	529	5,29	3,102506826
510	536	5,36	3,164556962
520	544	5,44	3,226607099
530	552	5,52	3,288657235
540	562	5,62	3,350707372
550	568	5,68	3,412757508
560	575	5,75	3,474807645
570	582	5,82	3,536857781
580	589	5,89	3,598907918
590	595	5,95	3,660958054
600	601	6,01	3,723008191
610	610	6,1	3,785058327
620	616	6,16	3,847108464
630	621	6,21	3,9091586
640	626	6,26	3,971208737
650	633	6,33	4,033258873
660	640	6,4	4,09530901
670	643	6,43	4,157359146
680	647	6,47	4,219409283
690	656	6,56	4,281459419
700	662	6,62	4,343509556
710	668	6,68	4,405559692
720	673	6,73	4,467609829
730	679	6,79	4,529659965
740	686	6,86	4,591710102
750	696	6,96	4,680215934
760	700	7	4,720215934
770	709	7,09	4,810215934
780	721	7,21	4,930215934

790	738	7,38	5,100215934
800	746	7,46	5,180215934
810	754	7,54	5,260215934
820	766	7,66	5,380215934
830	784	7,84	5,560215934
840	818	8,18	5,900215934
830	826	8,26	5,980215934
820	833	8,33	6,050215934

Tabel beban vs penurunan benda uji KG2

Beban, KN	Penurunan Dial (0,01)	Penurunan, mm	Koreksi, mm
0	0	0	0
10	0	0	0,089734386
20	0	0	0,179468772
30	3	0,03	0,269203159
40	28	0,28	0,358937545
50	62	0,62	0,448671931
60	82	0,82	0,538406317
70	103	1,03	0,628140704
80	118	1,18	0,71787509
90	129	1,29	0,807609476
100	138	1,38	0,897343862
110	170	1,7	0,987078248
120	184	1,84	1,076812635
130	211	2,11	1,166547021
140	232	2,32	1,256281407
150	244	2,44	1,346015793
160	258	2,58	1,435750179
170	269	2,69	1,525484566
180	276	2,76	1,615218952
190	284	2,84	1,704953338
200	295	2,95	1,794687724
210	305	3,05	1,884422111
220	314	3,14	1,974156497
230	320	3,2	2,063890883
240	328	3,28	2,127631012
250	346	3,46	2,307631012
260	356	3,56	2,407631012

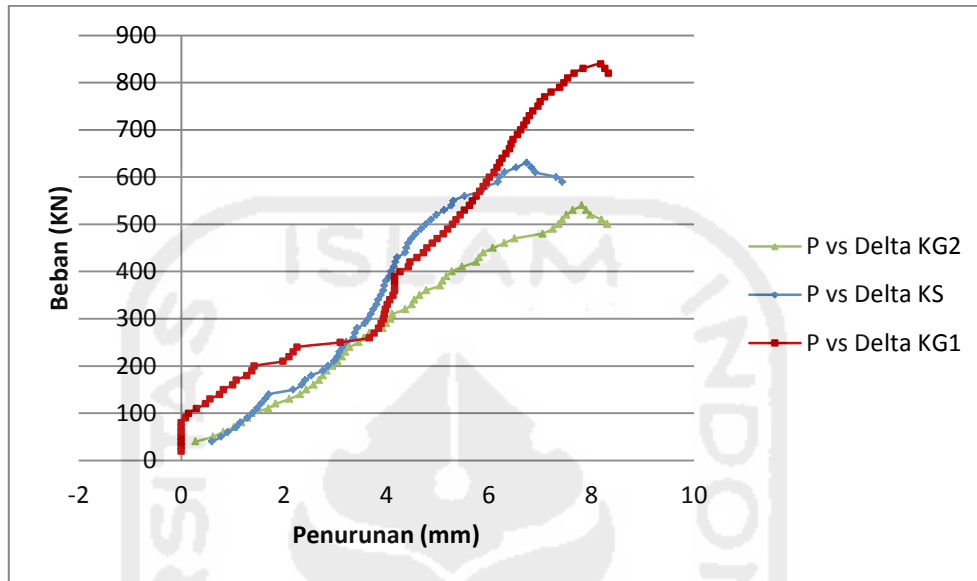
270	367	3,67	2,517631012
280	393	3,93	2,777631012
290	400	4	2,847631012
300	408	4,08	2,927631012
310	412	4,12	2,967631012
320	437	4,37	3,217631012
330	450	4,5	3,347631012
340	455	4,55	3,397631012
350	465	4,65	3,497631012
360	478	4,78	3,627631012
370	505	5,05	3,897631012
380	510	5,1	3,947631012
390	517	5,17	4,017631012
400	528	5,28	4,127631012
410	548	5,48	4,327631012
420	575	5,75	4,597631012
430	581	5,81	4,657631012
440	589	5,89	4,737631012
450	608	6,08	4,927631012
460	630	6,3	5,147631012
470	650	6,5	5,347631012
480	705	7,05	5,897631012
490	725	7,25	6,097631012
500	736	7,36	6,207631012
510	743	7,43	6,277631012
520	751	7,51	6,357631012
530	764	7,64	6,487631012
540	781	7,81	6,657631012
530	790	7,9	6,747631012
520	798	7,98	6,827631012
510	820	8,2	7,047631012
500	831	8,31	7,157631012

Mencari nilai penurunan dengan koreksi dengan rumus

Penurunan Terkoreksi =  $(\text{beban} - b) / a - x_0$  (rumus hanya digunakan pada daerah yang diarsir kuning)

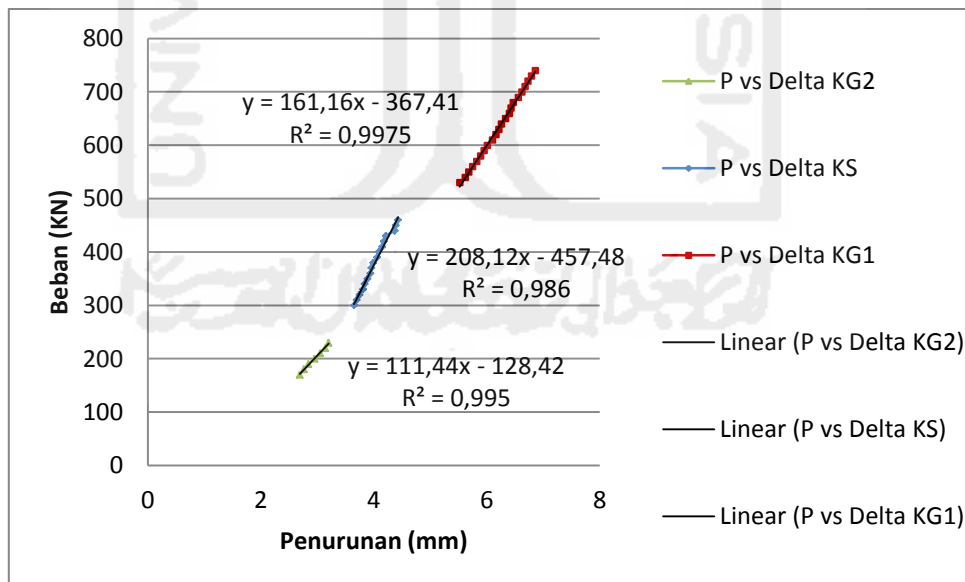
Untuk daerah yang tidak diarsir menggunakan rumus

Penurunan Terkoreksi = Penurunan -  $x_0$



Gambar grafik beban vs penurunan sebelum dikoreksi

Menentukan garis lurus pada grafik sehingga didapatkan nilai  $y$  dan  $R^2$



Gambar grafik untuk mencari angka koreksi



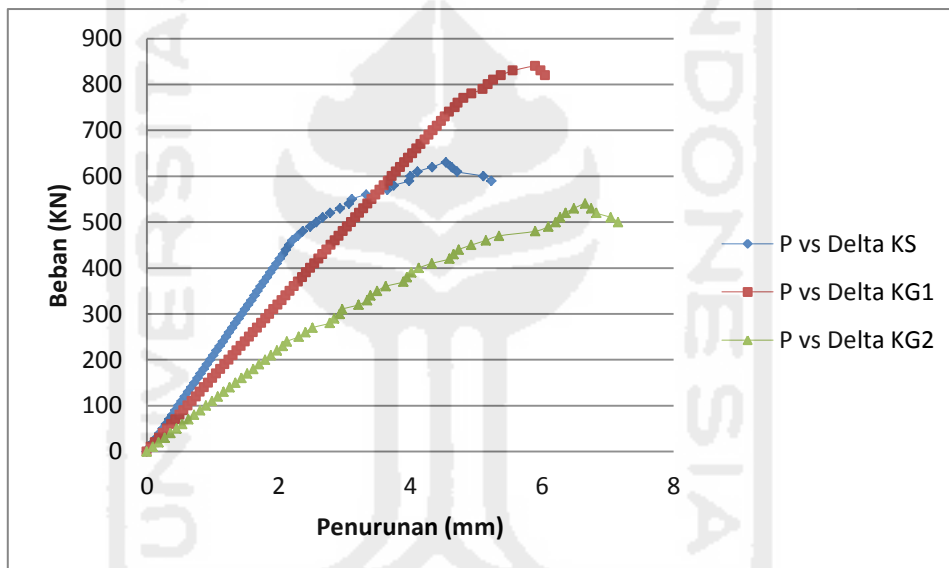
Sehingga didapatkan nilai a, b, dan  $x_0$

Nilai  $x_0$  didapatkan dengan rumus

$$x_0 = (-1 \times b) / a$$

Tabel nilai a, b, dan  $x_0$

Benda Uji	a	b	$x_0$
KS	208,12	-457,48	2,1982
KG1	161,16	-367,41	2,2798
KG2	111,44	-128,42	1,1524



Gambar grafik beban vs penurunan setelah dikoreksi