



LABORATORIUM JALAN RAYA
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UII
 Jl. Kalurang Km.14.4 Telp. 95330 Yogyakarta 55584

lampiran 19

Pekerjaan Test Marshall

Dikerjakan Oleh : 1. Irwan Sugianto
 2. Sandhi Nugroho

Batu pecah : batu kapur = 50% : 50% Jenis Campu Aspal Beton

Tanggal 28 Februari 2000

Diperiksa Oleh :

PERHITUNGAN TEST MARSHALL

No	t	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r
1	6.97	4.71	4.5	1183	1199	682	517	2.288201	2.416191	9.87	84.83044	5.30	15.16956	65.08028	5.297169	429	1470.483	1244.71	2.54
2	7.07	4.71	4.5	1177	1197	673	524	2.246183	2.416191	9.69	83.27271	7.04	16.72729	57.9359	7.036185	568	1946.934	1629.12	3.81
3	7.04	4.71	4.5	1177	1197	672	525	2.241905	2.416191	9.67	83.11409	7.21	16.88591	57.28237	7.213259	441	1511.616	1269.26	3.048
4	6.77	5.26	5	1185	1209	686	523	2.265774	2.39965	10.86	83.55923	5.58	16.44077	66.06632	5.57896	514	1761.838	1534.97	3.302
5	6.92	5.26	5	1182	1203	680	523	2.260038	2.39965	10.83	83.34768	5.82	16.63232	65.06191	5.818001	514	1761.838	1492.50	3.81
6	6.88	5.26	5	1180	1197	679	518	2.277992	2.39965	10.92	84.00981	5.07	15.99019	68.29427	5.069807	468	1604.164	1371.85	2.54
7	7.03	5.82	5.5	1190	1215	691	524	2.270992	2.383334	11.98	83.31086	4.71	16.68914	71.75632	4.713628	485	1662.435	1398.11	2.54
8	7.03	5.82	5.5	1189	1213	689	524	2.269084	2.383334	11.97	83.24085	4.79	16.75915	71.39652	4.7937	502	1720.705	1447.11	2.794
9	7.05	5.82	5.5	1186	1208	687	521	2.276392	2.383334	12.00	83.50893	4.49	16.49107	72.7908	4.487088	471	1614.447	1357.75	4.572
10	7.01	6.38	6	1188	1210	689	521	2.28023	2.367238	13.12	83.20716	3.68	16.79284	78.11269	3.675501	463	1587.025	1337.17	4.318
11	6.95	6.38	6	1191	1213	689	524	2.272901	2.367238	13.08	82.9397	3.99	17.0603	76.64094	3.985126	459	1573.314	1334.77	3.302
12	7.03	6.38	6	1190	1212	688	524	2.270992	2.367238	13.06	82.87006	4.07	17.12994	76.26528	4.065743	438	1501.333	1262.06	4.064
13	6.85	6.95	6.5	1188	1211	687	524	2.267176	2.351358	14.13	82.29073	3.58	17.70927	79.78358	3.580181	354	1213.406	1041.17	3.556
14	6.91	6.95	6.5	1187	1210	687	523	2.269598	2.351358	14.14	82.37867	3.48	17.62133	80.26744	3.477139	375	1285.388	1095.49	4.318
15	6.93	6.95	6.5	1189	1211	689	522	2.277778	2.351358	14.20	82.67555	3.13	17.32445	81.93718	3.129284	450	1542.465	1311.62	4.064

t = tebal benda uji

a = % aspal terhadap batuan

b = % aspal terhadap campuran

c = berat kering/sblm direndam

d = berat dim keadaan SSD (g)

e = berat didalam air (gr)

f = Vol (isi) = d - e

g = berat isi sampel = $\frac{c}{(100-b)} \cdot B.J \text{ agregat}$

g = berat isi sampel = $\frac{c}{f} \cdot B.J \text{ agregat}$

h = B.J maksimum (teoritis)

$$h = \frac{\left(\frac{\% \text{ aggr}}{B.J \text{ Aggr}} + \frac{\% \text{ aspal}}{B.J \text{ Aspal}} \right)}{b \times g}$$

$$i = \frac{B.J \text{ aspal}(100 - b) \cdot g}{(100 - b) \cdot B.J \text{ agregat}}$$

$$j = \frac{c}{f} \cdot B.J \text{ agregat}$$

k = (100-i-j) jumlah kandungan rongga

l = (100-j) rongga terhadap agregat

$$m = \left(100 \times \frac{l}{j} \right) \text{rongga yang terisi aspal (VFWA)}$$

N = rongga yang terisi campuran $100 - \left(100 \times \frac{g}{h} \right)$

o = pembacaan arloji (stabilitas)

p = o x kalibrasi proving ring

q = p x koreksi tebal sampel (STABILITAS)

r = FLOW (kelelahan plastis)

Suhu Pencampuran : ±160°C

Suhu Pematatan : ±140°C

Suhu Water Bath : 60°C

B.J. Aspal : 1,043

B.J. Agregat : 2,576

Tanda Tungan :