LAPORAN PENGUJIAN

2	3		8	6		4	7	4		P	K		2	2		K	O	T

PEMERIKSAAN MUTU ASPAL PADA PERKERASAN JALAN

DI CIREBON - LOSARI KM 8.000

DEPARTEMEN PEKERJAAN UMUM
BADAN PENELITIAN DAN PENGEMBANGAN PU
PUSAT PENELITIAN DAN PENGEMBANGAN JALAN

MFN 2913

LAPORAN PENGUJIAN

2 5	8 6	4 7 4	P K	2 2	R J O 2

PEMERIKSAAN MUTU ASPAL PADA PERKERASAN JALAN

DI CIREBON - LOSARI KM 8.000

DEPARTEMEN PEKERJAAN UMUM
BADAN PENELITIAN DAN PENGEMBANGAN PU
PUSAT PENELITIAN DAN PENGEMBANGAN JALAN

I. PENDAHULUAN.

Dalam rangka Pengendalian Mutu Aspal, Puslitbang Jalan telah melaksanakan "PEMERIKSAAN SUHU PERKERASAN JALAN" Aspal Beton di Cirebon - Losari Km. 8,000.
Pemeriksaan Suhu Perkerasan Jalan dimaksudkan untuk mengetahui sejauh mana keiten antara suhu perkerasan jalan aspal dengan titik lembek aspal.

II. PEMERIKSAAN SUHU PERKERASAN JALAN.

Pemeriksaan suhu perkerasan jalan aspal meliputi :
- pengukuran suhu.
- pengamatan fisik aspal secara visual pada suhu tertentu.

2.1. Pengukuran suhu.

Diukur suhu permukaan (tp), suhu tengah (tt) dan suhu bawah (tb).
Suhu Perkerasan Jalan (tl) dihitung dengan rumus

tl = 1/3 (tp + tt + tb)

2.1.1. Peralatan Yang Digunakan.

a. Thermometer permukaan : 20° - 80°C dengan pembagian skala 1°C.
b. Thermometer metal/logam : 0° - 250°C dengan pembagian skala 2°C.
c. Alat penggali sederhana : pelu dan pahat.

2.1.2. Cara Mengukur Suhu Permukaan.

a. Pengukuran dilakukan dengan menggunakan termometer permukaan.
b. Bersihkan permukaan yang akan diukur terhadap kotoran atau debu yang melekat.
c. Letakkan termometer pada titik yang akan diukur sedemikian sehingga bias cari termometer bersinggungan dengan permukaan aspal.
Lindungi termometer tersebut terhadap sinar mata hari langsung (dengan payung).
d. Pembacaan dilakukan setelah pengkuran berjalan 5 - 10 menit.

2.1.3. Cara Mengukur Suhu Tengah.

a. Pengukuran dilakukan dengan menggunakan termometer metal/logam.
b. Dilakukan penggalian dekat titik pengukuran suhu permukaan sedalam 5 (lima) cm.
c. Letakkan termometer sehingga ujung termometer tepat berada didasar galian (5 cm dari permukaan aspal). Lindungi termometer tersebut terhadap sinar mata hari langsung (dengan payung).
d. Pembacaan dijakukan setelah pengukuran berjalan 5 - 10 menit.

2.1.4. Cara Mengukur Suhu Bawah.

a. Pengukuran dilakukan dengan menggunakan termometer metal/logam.
b. Dilakukan penggalian dekat titik pengukuran suhu permukaan sedalam 10 (sepuluh) cm.
c. Letakkan termometer sehingga ujung termometer tepat berada didasar galian (10 cm dari permukaan aspal). Lindungi termometer tersebut terhadap sinar mata hari langsung (dengan payung).
d. Pembacaan dilakukan setelah pengukuran berjalan 5 - 10 menit.

2.2. Pengamatan fisik aspal secara visual.
Yang diamati adalah keadaan fisik aspal karena pengaruh panas (misalnya aspal bertambah lembek pada suhu tertentu).

2.3. Data lokasi pemeriksaan.

L o k a s i	: Cirebon-Losari Km 8,000
Jenis perkerasan	: hot mix (pen 60, R&B 48°C)
Lebar jalan	: 7,20 m
L H R	: 20.947 buah (dua arah)

2.4. Hasil pemeriksaan.

Pemeriksaan suhu perkerasan jalan dan pengamatan fisik aspal secara visual pada suhu tertentu dilakukan selama 3 (tiga) hari berturut-turut dengan hasil sebagai berikut :

HARI KE	No.	WAKTU	SUHU BAGIAN PERMUKAAN			SUHU BAGIAN TENGAH			SUHU BAGIAN BAWAH			SUHU PERKERASAN $\frac{tp + tt + tb}{3}$	KONDISI FISIK ASPAL
			tp1	tp2	tp	tt1	tt2	$\overline{tt}$	tb1	tb2	$\overline{tb}$		
1	1.	12.15	43,0	43,5	43,3	44,0	44,0	44,0	44,0	44,0	44,0	43,8	KERAS
	2.	12.30	45,0	45,0	45,0	44,0	44,0	44,0	44,0	44,0	44,0	44,3	
	3.	12.45	46,0	46,0	46,0	45,0	45,0	45,0	45,0	45,0	45,0	45,3	
	4.	13.00	46,0	46,0	46,0	45,0	45,0	45,0	45,0	45,0	45,0	45,3	TIDAK
	5.	13.15	47,0	47,0	47,0	45,0	45,0	45,0	45,0	45,0	45,0	45,7	BER
	6.	13.30	47,0	47,0	47,0	46,0	46,0	46,0	46,0	46,0	46,0	46,3	UBAH
	7.	13.45	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	
	8.	14.00	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	TIDAK
	9.	14.15	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	BER
	10.	14.30	45,0	45,0	45,0	46,0	46,0	46,0	46,0	46,0	46,0	45,7	UBAH
	11.	14.45	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	
	12.	04.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	13.	15.15	44,0	44,0	44,0	45,0	45,0	45,0	45,0	45,0	45,0	44,7	BER
	14.	15.30	43,0	43,0	43,0	44,0	44,0	44,0	44,0	44,0	44,0	43,7	UBAH
	15.	15.45	42,0	42,5	42,3	44,0	44,0	44,0	44,0	44,0	44,0	43,4	
	16.	16.00	42,0	42,5	42,3	43,0	43,0	43,0	43,0	43,0	43,0	42,8	TIDAK
	17.	16.15	41,0	41,0	41,0	42,0	42,0	42,0	42,0	42,0	42,0	41,7	BER
	18.	16.30	40,0	40,0	40,0	42,0	42,0	42,0	42,0	42,0	42,0	41,3	UBAH
	19.	16.45	39,0	39,0	39,0	41,0	41,0	41,0	41,0	41,0	41,0	40,3	
	20.	17.00	39,0	39,0	39,0	41,0	41,0	41,0	41,0	41,0	41,0	40,3	TIDAK
	21.	17.15	38,0	38,0	38,0	39,0	39,0	39,0	39,0	39,0	39,0	38,7	BER
	22.	17.30	36,0	36,0	36,0	38,0	38,0	38,0	38,0	38,0	38,0	37,3	UBAH
2	1.	01.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	KERAS
	2.	01.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	3.	01.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	4.	02.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	5.	02.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	BER
	6.	02.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	UBAH
	7.	02.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	8.	03.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	9.	03.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	BER
	10.	03.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	UBAH
	11.	03.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	12.	04.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	13.	04.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	BER
	14.	04.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	UBAH
	15.	04.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	

HARI KE	No.	WAKTU	SUHU BAGIAN PERMUKAAN tp1	tp2	$\overline{tp}$	SUHU BAGIAN TENGAH tt1	tt2	$\overline{tt}$	SUHU BAGIAN BAWAH tb1	tb2	$\overline{tb}$	SUHU PERKERASAN $\frac{tp + tt + tb}{3}$	KONDISI FISIK ASPAL
2	16.	06.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	KERAS
	17.	06.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	18.	06.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	19.	07.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	20.	07.15	29,5	29,5	29,5	29,0	29,0	29,0	29,0	29,0	29,0	29,2	BER
	21.	07.30	30,5	30,5	30,5	29,0	29,0	29,0	29,0	29,0	29,0	29,5	UBAH
	22.	07.45	31,0	31,0	31,0	29,0	29,0	29,0	29,0	29,0	29,0	29,7	
	23.	08.00	34,0	34,0	34,0	30,0	30,0	30,0	30,0	30,0	30,0	31,5	TIDAK
	24.	08.15	35,0	35,0	35,0	31,0	31,0	31,0	31,0	31,0	31,0	32,0	BER
	25.	08.30	37,0	37,0	37,0	32,0	32,0	32,0	32,0	32,0	32,0	33,7	UBAH
	26.	08.45	38,0	38,0	38,0	34,0	34,0	34,0	34,0	34,0	34,0	35,3	
	27.	09.00	39,0	39,0	39,0	35,0	35,0	35,0	35,0	35,0	35,0	36,3	TIDAK
	28.	09.15	40,0	40,0	40,0	36,0	36,0	36,0	36,0	36,0	36,0	37,3	BER
	29.	09.30	41,0	41,0	41,0	37,0	37,0	37,0	37,0	37,0	37,0	38,3	UBAH
	30.	09.45	43,0	43,0	43,0	38,0	38,0	38,0	38,0	38,0	38,0	39,7	
	31.	10.00	43,0	43,0	43,0	39,0	39,0	39,0	39,0	39,0	39,0	40,3	TIDAK
	32.	10.15	44,0	44,0	44,0	40,0	40,0	40,0	40,0	40,0	40,0	41,3	BER
	33.	10.30	44,0	44,0	44,0	40,0	40,0	40,0	40,0	40,0	40,0	41,3	UBAH
	34.	10.45	44,0	44,0	44,0	41,0	41,0	41,0	41,0	41,0	41,0	42,0	
	35.	11.00	45,0	45,0	45,0	42,0	42,0	42,0	42,0	42,0	42,0	43,0	TIDAK
	36.	11.15	45,0	45,0	45,0	44,0	44,0	44,0	44,0	44,0	44,0	44,3	BER
	37.	11.30	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	UBAH
	38.	11.45	45,0	45,0	45,0	46,0	46,0	46,0	46,0	46,0	46,0	45,7	
	39.	12.00	45,0	45,0	45,0	47,0	47,0	47,0	47,0	47,0	47,0	46,7	TIDAK
	40.	12.15	47,0	47,0	47,0	48,0	48,0	48,0	49,0	48,0	48,0	47,7	BER
	41.	12.30	46,0	48,0	48,0	49,0	49,0	49,0	49,0	49,0	49,0	48,7	UBAH
	42.	12.45	48,0	49,0	48,0	49,0	49,0	49,0	49,0	49,0	49,0	48,7	
	43.	13.00	48,0	48,0	48,0	49,0	49,0	49,0	49,0	49,0	48,0	48,7	TIDAK
	44.	13.15	48,0	48,0	48,0	48,0	48,0	48,0	48,0	48,0	48,0	48,0	BER
	45.	13.30	48,0	48,0	48,0	48,0	48,0	48,0	48,0	48,0	48,0	48,0	UBAH
	46	13.45	47,0	47,0	47,0	48,0	48,0	48,0	48,0	48,0	48,0	47,7	
	47.	14.00	47,0	47,0	47,0	48,0	48,0	48,0	48,0	48,0	48,0	47,7	TIDAK
	48.	14.15	47,0	47,0	47,0	48,0	48,0	48,0	48,0	48,0	48,0	47,7	BER
	49.	14.30	46,0	46,0	46,0	48,0	48,0	48,0	48,0	48,0	48,0	47,3	UBAH
	50.	14.45	46,0	46,0	46,0	48,0	48,0	48,0	48,0	48,0	48,0	47,3	
	51.	15.00	46,0	46,0	46,0	48,0	48,0	48,0	48,0	48,0	48,0	47,3	TIDAK
	52.	15.15	46,0	46,0	46,0	48,0	48,0	48,0	48,0	48,0	48,0	47,3	BER
	53.	15.30	46,0	46,0	46,0	48,0	48,0	48,0	48,0	48,0	48,0	47,3	UBAH

HARI KE	No.	WAKTU	SUHU BAGIAN PERMUKAAN			SUHU BAGIAN TENGAH			SUHU BAGIAN BAWAH			SUHU PERKERASAN $\frac{tp + tt + tb}{3}$	KONDISI FISIK ASPAL
			tp1	tp2	tp	tt1	tt2	$\overline{tt}$	tb1	tb2	$\overline{tb}$		
2	54.	15.45	45,0	45,0	45,0	47,0	47,0	47,0	47,0	47,0	47,0	46,3	KERAS
	55.	16.00	45,0	45,0	45,0	46,0	46,0	46,0	46,0	46,0	46,0	45,7	TIDAK
	56.	16.15	44,0	44,0	44,0	45,0	45,0	45,0	45,0	45,0	45,0	44,7	BER
	57.	16.30	43,0	43,0	43,0	44,0	44,0	44,0	44,0	44,0	44,0	43,7	UBAH
	58.	16.45	42,0	42,0	42,0	43,0	43,0	43,0	43,0	43,0	43,0	42,7	
	59.	17.00	41,0	41,0	41,0	42,0	42,0	42,0	42,0	42,0	42,0	41,7	TIDAK
	60.	17.15	40,0	40,0	40,0	41,0	41,0	41,0	41,0	41,0	41,0	40,7	BER
	61.	17.30	40,0	40,0	40,0	41,0	41,0	41,0	41,0	41,0	41,0	40,7	UBAH
3	1.	01.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	KERAS
	2.	01.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	3.	01.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	4.	02.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	5.	02.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	BER
	6.	02.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	UBAH
	7.	02.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	8.	03.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	9.	03.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	BER
	10.	03.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	UBAH
	11.	03.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	12.	06.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	13.	06.15	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	BER
	14.	06.30	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	UBAH
	15.	06.45	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	
	16.	07.00	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	29,0	TIDAK
	17.	07.15	30,0	30,0	30,0	29,0	29,0	29,0	29,0	29,0	29,0	29,3	BER
	18.	07.30	30,0	30,0	30,0	29,0	29,0	29,0	29,0	29,0	29,0	29,3	UBAH
	19.	07.45	31,0	31,0	31,0	29,0	29,0	29,0	29,0	29,0	29,0	29,7	
	20.	08.00	34,0	34,0	34,0	30,0	30,0	30,0	30,0	30,0	30,0	31,3	TIDAK
	21.	08.15	35,0	35,0	35,0	31,0	31,0	31,0	31,0	31,0	31,0	32,0	BER
	22.	08.30	37,0	37,0	37,0	32,0	32,0	32,0	32,0	32,0	32,0	33,7	UBAH
	23.	08.45	38,0	38,0	38,0	34,0	34,0	34,0	34,0	33,0	34,0	35,3	
	24.	09.00	39,0	39,0	39,0	35,0	35,0	35,0	35,0	35,0	35,0	36,3	TIDAK
	25.	09.15	40,0	40,0	40,0	36,0	36,0	36,0	36,0	36,0	36,0	37,3	BER
	26.	09.30	41,0	41,0	41,0	37,0	37,0	37,0	37,0	37,0	37,0	38,3	UBAH

HARI KE	No.	WAKTU	SUHU BAGIAN PERMUKAAN tp1	tp2	$\overline{tp}$	SUHU BAGIAN TENGAH tt1	tt2	$\overline{tt}$	SUHU BAGIAN BAWAH tb1	tb2	$\overline{tb}$	SUHU PERKERASAN $\frac{tp + tt + tb}{3}$	KONDISI FISIK ASPAL
3	27.	09.45	43,0	43,0	43,0	38,0	38,0	38,0	38,0	38,0	38,0	39,7	KERAS
	28.	10.00	43,0	43,0	43,0	39,0	39,0	39,0	39,0	39,0	39,0	40,3	TIDAK
	29.	10.15	44,0	44,0	44,0	40,0	40,0	40,0	40,0	40,0	40,0	41,3	BER
	30.	10.30	44,0	44,0	44,0	41,0	41,0	41,0	41,0	41,0	41,0	42,0	UBAH
	31.	10.45	44,0	44,0	44,0	41,0	41,0	41,0	41,0	41,0	41,0	42,0	
	32.	11.00	45,0	45,0	45,0	42,0	42,0	42,0	42,0	42,0	42,0	43,0	TIDAK
	33.	11.15	45,0	45,0	45,0	44,0	44,0	44,0	44,0	44,0	44,0	44,3	BER
	34.	11.30	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	UBAH
	35.	11.45	45,0	45,0	45,0	46,0	46,0	46,0	46,0	46,0	46,0	45,7	
	36.	12.00	45,0	45,0	45,0	46,0	46,0	46,0	46,0	46,0	46,0	45,7	TIDAK
	37.	12.15	44,0	44,0	44,0	45,0	45,0	45,0	45,0	45,0	45,0	44,7	BER
	38.	12.30	44,0	44,0	44,0	45,0	45,0	45,0	45,0	45,0	45,0	44,7	UBAH
	39.	12.45	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	
	40.	13.00	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	45,0	TIDAK
	41.	13.15	46,0	46,0	46,0	45,0	45,0	45,0	45,0	45,0	45,0	45,3	BER
	42.	13.30	47,0	47,0	47,0	45,0	45,0	45,0	45,0	45,0	45,0	45,7	UBAH
	43.	13.45	47,0	47,0	47,0	46,0	46,0	46,0	46,0	46,0	46,0	46,3	
	44.	14.00	47,0	47,0	47,0	46,0	46,0	46,0	46,0	46,0	46,0	46,3	TIDAK
	45.	14.15	47,0	47,0	47,0	46,0	46,0	46,0	46,0	46,0	46,0	46,3	BER
	46.	14.30	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	UBAH
	47.	14.45	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	
	48.	15.00	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	TIDAK
	49.	15.15	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	BER
	50.	15.30	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	46,0	UBAH
	51.	15.45	45,0	45,0	45,0	46,0	46,0	46,0	46,0	46,0	46,0	45,7	
	52.	16.00	45,0	45,0	45,0	46,0	46,0	46,0	46,0	46,0	46,0	45,7	

III. KESIMPULAN .

Dari hasil Pengukuran Suhu Perkerasan Aspal dan pengamatan Kondisi fisik aspal tersebut diatas menunjukkan :

- Pada suhu perkerasan jalan sampai dengan 48,7°C , aspal keras pen 60 (titik lembek 48°C) tidak mengalami perubahan fisik.

Bandung, Juli 1986.

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