

Transportation Engineering Laboratory (TEL)

Department of Civil Engineering (CED)

UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)

LAHORE – 54890 (PAKISTAN)



Phone: 092-42-9929202 Cable: UNIVENGTECH Fax: 092-42-9922566

Ref.:-----

Date:-----

Mr. M. Zahid Shakir Qureshi
Deputy Director (Maint), PKM M-5,
NHA, Rahim Yar Khan.

Subject: **Testing of Bitumen – AASHTO Standard (M-20)**
Contract No. PM-2021-22-PS-09 km 628+000 to km 609+000 SBC

Dear Sir,

It is with reference to your letter No. DD (MAINT)/NHA/RYK/2024/360-A dated 07-05-2024. Please find below the results of tests conducted on the bitumen sample provided to this laboratory on 30-05-2024 through your representative.

Sr.#	Laboratory Tests	Results
1	Penetration (ASTM D-5)	88 Units
2	Penetration of Residue (ASTM D-5)	79 Units
3	Ductility (ASTM D-113)	Above 100 cm
4	Ductility of Residue (ASTM D-113)	Above 100 cm
5	Softening Point (ASTM D-36)	45.1°C
6	Flash Point (ASTM D-92)	279°C
7	Solubility (ASTM D-2042)	99.75%
8	Specific Gravity Value (ASTM D-70)	1.023
9	Thin Film Oven Test Value (ASTM D-1754)	0.241%
10	Loss on Heating Value (ASTM D-6)	0.215%

If you have further query, please do not hesitate to contact the undersigned.

Best Regards,

Director
Transportation Engineering Laboratory

Note:

1. This test report is based solely on the particular sample(s) supplied by the client and should not be reproduced in parts.
2. Sampling has not been performed by Transportation Engineering Laboratory (TEL), UET and TEL-UET does not accept the responsibility that the sample(s) supplied is/are truly representative sample(s) of any batch or stock or entire project.
3. While TEL-UET agrees to take every reasonable precaution to ensure validity of its test results, it assumes no liability thereof beyond the amount of the fee charged for the analysis or test.
4. The party shall assume full responsibility for the ethical use of the results in the test reports and the TEL-UET shall be held free from any and all claims which may result from the use of such data by client or others.
5. This test report shall not be reproduced wholly or in parts unless negotiated.

Transportation Engineering Laboratory (TEL)

Department of Civil Engineering (CED)

UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)

LAHORE – 54890 (PAKISTAN)



Phone: 092-42-9929202 Cable: UNIVENGTECH Fax: 092-42-9922566

Ref.-----

Date:-----

The Deputy Director (Tech)
Anti-Corruption Establishment,
DACE, HQ. Lahore.

Subject: **Testing of Asphalt Concrete Samples**

Testing of Samples Collected During Site Visit in Connection with Enquiry No. 132/2023 and 133/2023

Dear Sir,

It is with reference to your letter No. DACE-DDT-II/05 dated 03-07-2024.

Please find below the results for the tests conducted on the cores and chunks of asphalt concrete provided to this laboratory on 08-07-2024 through your representative.

BULK SPECIFIC GRAVITY OF COMPACTED ASPHALT (ASTM D2726):

Core	Mean Thickness (cm)	Mean Diameter (cm)	Bulk Specific Gravity
RD 115 + 00 (R/S) ABC	6.897	9.300	2.360
RD 115 + 00 (C/L) ABC	5.417	9.300	2.401
RD 262 + 50 (L/S) ABC	5.617	9.300	2.421
RD 328 + 00 (C/L) ABC	6.080	9.300	2.407

BITUMEN EXTRACTION TEST: (Chunks)

(RD 115+00)

Bitumen Extraction Value (ASTM D-2172)												3.45%
Gradation Analysis												
Sieve No.	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	100	94.99	87.40	71.01	60.48	41.67	27.40	15.73	11.21	7.24	3.68	1.27

(RD 329+00)

Bitumen Extraction Value (ASTM D-2172)												3.42%
Gradation Analysis												
Sieve No.	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	100	94.92	87.35	71.38	61.01	42.73	28.79	16.60	11.98	7.88	4.17	1.57

If you have further query, please do not hesitate to contact the undersigned.

Best Regards,

Director
Transportation Engineering Laboratory

Note:

1. This test report is based solely on the particular sample(s) supplied by the client and should not be reproduced in parts.
2. Sampling has not been performed by Transportation Engineering Laboratory (TEL), UET and TEL-UET does not accept the responsibility that the sample(s) supplied is/are truly representative sample(s) of any batch or stock or entire project.
3. While TEL-UET agrees to take every reasonable precaution to ensure validity of its test results, it assumes no liability thereof beyond the amount of the fee charged for the analysis or test.
4. The party shall assume full responsibility for the ethical use of the results in the test reports and the TEL-UET shall be held free from any and all claims which may result from the use of such data by client or others.
5. This test report shall not be reproduced wholly or in parts unless negotiated.

TEL-UET