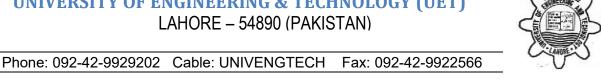
Department of Civil Engineering (CED)

# UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)



Mr. M. Hassan Khan Resident Engineer, NESPAK, Lahore.

Ref.----

Subject: **Testing of Sand for Concrete/Mortar** 

Scheme # 15 Rehabilitation/Improvement/Patch Work on Link Roads UC 24, 26,

27, 28, 31, 40, 41 Shalamar Zone MCL

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SMZ(S-15 & 17)/04/21 dated 16-01-2025. Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 03-02-2025 through your representative.

## 1. Sieve Analysis (ASTM C-136)

Sieve Size	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.63	99.12	98.46	96.49	12.98	2.26

# 2. Fineness Modulus (ASTM C-142)

	<b>-</b>	4 (4	0.02
Fineness	Μo	dulus (%	0.93

## 3. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.64
Specific Gravity (SSD)	2.66
Apparent Specific Gravity	2.70
Water Absorption (%)	0.86

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

Best Regards,

# Note:

### Director

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Department of Civil Engineering (CED)

# **UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)**

LAHORE - 54890 (PAKISTAN)



Ref	Date:

Mr. M. Hassan Khan Resident Engineer, NESPAK, Lahore.

#### **Testing of Sand for Concrete/Mortar** Subject:

- Scheme # 9 Rehabilitation/Improvement of Sher Shah Road Bhogiwal to Tokywala Chowk Shalamar Zone MCL
- Scheme # 10 Rehabilitation/Improvement of Kashmir Road, Sethi Road, Ghorey Shah Darbar to Hazoori Shah/Darbar Road, Ghorey Shah Road from Chowk Shawala to Tezab Ahata Chowk Shalamar Zone MCL Lahore
- Scheme # 14 Rehabilitation/Improvement of Road UC 121, 128, 129, 130, 153, 156, 161, 162, 163, 164 and with 9h Jurisdiction Shalamar Zone MCL

# Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SMZ/04/21 dated 14-01-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 03-02-2025 through your representative.

# 1. Sieve Analysis (ASTM C-136)

Sieve Size	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.47	99.05	98.71	96.54	13.79	2.31

## 2. Fineness Modulus (ASTM C-142)

Fineness Modulus (%) 0.92
---------------------------

## 3. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.65
Specific Gravity (SSD)	2.67
Apparent Specific Gravity	2.70
Water Absorption (%)	0.74

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

Best Regards,

### Director

Transportation Engineering Laboratory

### Note:

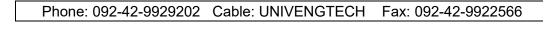
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Department of Civil Engineering (CED)

# **UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)**

LAHORE - 54890 (PAKISTAN)





Date:----

Engr. Ghulam Rasool

Ref.----

Resident Engineer, NESPAK, MCL Nishtar Zone, Lahore.

Subject: <u>Testing of Aggregate</u> (PCC Crush)

Rehabilitation/Improvement of Streets (PCC), Sewerage/Drainage Mekhdooom

Colony UC-270, Nishtar Zone MCL

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/NZ/01/119 dated 14-01-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 28-01-2025 through your representative.

## 1. Sieve Analysis (ASTM C-136)

Sieve Size	3/4"	1/2"	3/8"	#4
%age Passing	100	36.72	11.82	0

# 2. Los Angeles Abrasion Value Test (ASTM C-131/535)

<b>Grading Used</b>	Los Angeles Abrasion Value (%)
В	17.60

# 3. Flakiness & Elongation Index (BS 812: Part 105)

Sieve Size		Individual	Weighted	Individual	Weighted	
Passing (in.)	Retained (in.)	Flakiness Index (%)	Flakiness Index (%)	Elongation Index (%)	Elongation Index (%)	
3/4	1/2	7.03	4.45	7.64	4.83	
1/2	3/8	11.83	2.95	14.32	3.57	
3/8	1/4	6.19	0.73	7.28	0.86	
•	•	Flakiness Inc	dex = 8.13%	<b>Elongation Ind</b>	ex = 9.26%	

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

Best Regards,

### Director

Transportation Engineering Laboratory

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Department of Civil Engineering (CED)

# **UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)**

LAHORE - 54890 (PAKISTAN)



Ref	Date:

Mr. M. Hassan Khan Resident Engineer, NESPAK, Lahore.

#### **Testing of Sand for Concrete/Mortar** Subject:

- Scheme # 9 Rehabilitation/Improvement of Sher Shah Road Bhogiwal to Tokywala Chowk Shalamar Zone MCL
- Scheme # 10 Rehabilitation/Improvement of Kashmir Road, Sethi Road, Ghorey Shah Darbar to Hazoori Shah/Darbar Road, Ghorey Shah Road from Chowk Shawala to Tezab Ahata Chowk Shalamar Zone MCL Lahore
- Scheme # 14 Rehabilitation/Improvement of Road UC 121, 128, 129, 130, 153, 156, 161, 162, 163, 164 and with 9h Jurisdiction Shalamar Zone MCL

# Dear Sir,

It is with reference to your letter No. 4084/103/LDP/SMZ/04/21 dated 14-01-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 03-02-2025 through your representative.

# 1. Sieve Analysis (ASTM C-136)

Sieve Size	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.47	99.05	98.71	96.54	13.79	2.31

## 2. Fineness Modulus (ASTM C-142)

Fineness Modulus (%) 0.92
---------------------------

## 3. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.65
Specific Gravity (SSD)	2.67
Apparent Specific Gravity	2.70
Water Absorption (%)	0.74

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

Best Regards,

### Director

Transportation Engineering Laboratory

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Department of Civil Engineering (CED)

# **UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)**

LAHORE - 54890 (PAKISTAN)



Engr. Ghulam Rasool Resident Engineer, NESPAK, MCL Nishtar Zone, Lahore.

Subject: **Testing of Sand** 

Rehabilitation/Improvement of Streets (PCC), Sewerage/Drainage Mekhdooom

Colony UC-270, Nishtar Zone MCL

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/NZ/01/1123 dated 14-01-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory on 28-01-2025 through your representative.

## 1. Sieve Analysis (ASTM C-136)

Sieve Size	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.91	99.49	99.15	98.28	95.63	14.17	2.25

# 2. Percentage of Fines (ASTM D-1140) Wet Sieving

Silt and	Clay (%)	3.58

## 3. Fineness Modulus (ASTM C-142)

Fineness Modulus	(%)	0.93

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

Best Regards,

Note:

Director

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Department of Civil Engineering (CED)

# **UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)**

LAHORE - 54890 (PAKISTAN)



Mr. Abid Azim Resident Engineer, NESPAK, Ravi Zone.

Subject: <u>Testing of Granular Sub-base Material</u>

Rehabilitation/Improvement of Roads Sadaat Colony, Ali Pura, Sanatha Park, Mian Park, Aleem Colony, Hanif Park & Muhammadia Colony UC 18 Ravi Zone MCL

Dear Sir,

It is with reference to your letter No. 4084/103/LDP/Ravi/04/263 dated 10-03-2025.

Please find below the results for the tests conducted on the aggregate sample provided to this laboratory through your representative.

### 1. Sieve Analysis (ASTM C-136)

Sieve Size	2"	1 ½"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	98.41	80.80	64.93	53.49	45.08	37.98

## 2. Los Angeles Abrasion Value Test (ASTM C-131/535)

Grading Used	Los Angeles Abrasion Value
A	29.33

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

Best Regards,

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### Director

Department of Civil Engineering (CED)

# UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)



The Sub Divisional Officer, Highway Sub Division, Mianwali.

Subject: **Testing of Bitumen** 

> Restoration/Improvement of Road from Harnoli to Musa Khel via Wan Bhachran, Length = 49.13 km District Mianwali (Reach from Harnoli km No. 0.00 to Wan Bhachran 24.00 km) Length = 24.00 km

Dear Sir,

It is with reference to your letter No. 241/SDO/Mwi dated 08-05-2025. Please find below the result of test conducted on the bitumen sample provided to this laboratory on 12-05-2025 through your representative.

Laboratory Test	Result
Penetration (ASTM D-5)	86 Units

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

Best Regards,

Director

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