

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. Waseem Azhar
Assistant Director (Q.C.D),
WASA,
LDA,
Lahore.

Subject: **Testing of Crush** (M/s Al Madinah Pipe Industry)

Dear Sir,

It is with reference to your letter No. QCD/2402 dated 02-12-2024.

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

1. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.81
Specific Gravity (saturated surface dry condition)	2.82
Apparent Specific Gravity	2.84
Water Absorption (%)	0.41

2. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test (gm)	Weight of Fraction After Test (gm)	Percentage Passing Designated Sieve After Test	Weighted Percentage Loss
$1/2'' + 3/8''$	1002.9	990.9	1.20	1.02
	Total = 1.02%			

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

Grading Used	Los Angeles Abrasion Value (%)
B	18.49

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

Best Regards,

Director
Transportation Engineering Laboratory

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Transportation Engineering Laboratory (TEL)

Department of Civil Engineering (CED)

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LAHORE – 54890 (PAKISTAN)



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

Ref.:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA, LDA, Lahore.

Subject: **Testing of Sand (M/s Al Madinah Pipe Industry)**

Dear Sir,

It is with reference to your letter No. QCD/2403 dated 02-12-2024.

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	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.91	99.74	99.37	98.68	83.47	11.46	2.44

2. Percentage of Silt and Clay (ASTM D-1140) Wet Sieving

Silt and Clay (%)	4.20
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	1.07
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.64
Specific Gravity (SSD)	2.68
Apparent Specific Gravity	2.70
Water Absorption (%)	0.80

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA, LDA, Lahore.

Subject: **Testing of (Harrow) Sand (M/s Al Madinah Pipe Industry)**

Dear Sir,

It is with reference to your letter No. QCD/2406 dated 02-12-2024.

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	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.22	96.38	91.50	80.69	64.50	27.44	5.66	1.21

2. Percentage of Silt and Clay (ASTM D-1140) Wet Sieving

Silt and Clay (%)	4.88
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	2.34
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.67
Specific Gravity (SSD)	2.69
Apparent Specific Gravity	2.73
Water Absorption (%)	0.84

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref.:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA,
LDA,
Lahore.

Subject: **Testing of Crush** (M/s Bismillah RCC Pipe Factory)

Dear Sir,

It is with reference to your letter No. 2378 dated 30-11-2024.
Please find below the results for the tests conducted on the aggregate sample provided to this laboratory through your representative.

1. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.86
Specific Gravity (saturated surface dry condition)	2.87
Apparent Specific Gravity	2.89
Water Absorption (%)	0.33

2. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test (gm)	Weight of Fraction After Test (gm)	Percentage Passing Designated Sieve After Test	Weighted Percentage Loss
$1/2'' + 3/8''$	1004.6	991.4	1.31	0.90
	Total = 0.90%			

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

Grading Used	Los Angeles Abrasion Value (%)
B	15.90

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA, LDA, Lahore.

Subject: **Testing of Sand (M/s Bismillah RCC Pipe Factory)**

Dear Sir,

It is with reference to your letter No. QCD/2379 dated 30-11-2024.

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	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.34	98.45	97.98	97.46	81.42	10.51	1.36

2. Percentage of Silt and Clay (ASTM D-1140) Wet Sieving

Silt and Clay (%)	3.69
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	1.15
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.66
Specific Gravity (SSD)	2.68
Apparent Specific Gravity	2.71
Water Absorption (%)	0.78

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

Best Regards,

Director
Transportation Engineering Laboratory

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Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA, LDA, Lahore.

Subject: **Testing of (Harrow) Sand (M/s Bismillah RCC Factory)**

Dear Sir,

It is with reference to your letter No. QCD/2384 dated 30-11-2024.

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	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	100	98.53	93.35	86.53	71.12	51.40	6.17	0.92

2. Percentage of Silt and Clay (ASTM D-1140) *Wet Sieving*

Silt and Clay (%)	1.84
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	1.93
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.68
Specific Gravity (SSD)	2.70
Apparent Specific Gravity	2.74
Water Absorption (%)	0.89

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref.:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA,
LDA,
Lahore.

Subject: **Testing of Crush** (M/s Shezone Pipe Industry)

Dear Sir,

It is with reference to your letter No. QCD/2368 dated 28-11-2024.

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

1. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.78
Specific Gravity (saturated surface dry condition)	2.79
Apparent Specific Gravity	2.82
Water Absorption (%)	0.51

2. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test (gm)	Weight of Fraction After Test (gm)	Percentage Passing Designated Sieve After Test	Weighted Percentage Loss
$1/2'' + 3/8''$	1002.9	989.9	1.30	0.96
	Total = 0.96%			

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

Grading Used	Los Angeles Abrasion Value (%)
B	18.98

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref.:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA, LDA, Lahore.

Subject: **Testing of (Harrow) Sand (M/s Shezone Pipe Industry)**

Dear Sir,

It is with reference to your letter No. QCD/2367 dated 28-11-2024.

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	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.40	98.42	95.65	83.65	66.00	36.04	9.32	1.54

2. Percentage of Silt and Clay (ASTM D-1140) *Wet Sieving*

Silt and Clay (%)	2.74
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	2.12
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.66
Specific Gravity (SSD)	2.68
Apparent Specific Gravity	2.72
Water Absorption (%)	0.75

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref.:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA,
LDA,
Lahore.

Subject: **Testing of Crush** (M/s Allah Hoo Yasir Pipe Factory)

Dear Sir,

It is with reference to your letter No. QCD/2426 dated 03-12-2024.

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

1. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.80
Specific Gravity (saturated surface dry condition)	2.82
Apparent Specific Gravity	2.85
Water Absorption (%)	0.56

2. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test (gm)	Weight of Fraction After Test (gm)	Percentage Passing Designated Sieve After Test	Weighted Percentage Loss
$1/2'' + 3/8''$	1002.9	989.8	1.30	1.13
	Total = 1.13%			

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

Grading Used	Los Angeles Abrasion Value (%)
B	16.62

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

Best Regards,

Director
Transportation Engineering Laboratory

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LAHORE – 54890 (PAKISTAN)



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Ref.:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA, LDA, Lahore.

Subject: **Testing of Sand (M/s Allah Hoo Yasir Pipe Factory)**

Dear Sir,

It is with reference to your letter No. QCD/2427 dated 03-12-2024.

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	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	97.44	92.47	81.52	65.10	27.28	5.39	1.12

2. Percentage of Silt and Clay (ASTM D-1140) Wet Sieving

Silt and Clay (%)	2.70
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	2.31
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.66
Specific Gravity (SSD)	2.68
Apparent Specific Gravity	2.72
Water Absorption (%)	0.82

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref.:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA,
LDA,
Lahore.

Subject: **Testing of Crush** (M/s Lahore RCC Pipe Factory)

Dear Sir,

It is with reference to your letter No. QCD/2440 dated 04-12-2024.

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

1. Specific Gravity & Water Absorption (ASTM C-127)

Specific Gravity (oven dried condition)	2.81
Specific Gravity (saturated surface dry condition)	2.83
Apparent Specific Gravity	2.85
Water Absorption (%)	0.52

2. Sodium Sulphate Soundness (ASTM C-88)

Sieve Size	Weight of Fraction Before Test (gm)	Weight of Fraction After Test (gm)	Percentage Passing Designated Sieve After Test	Weighted Percentage Loss
$1/2'' + 3/8''$	1004.3	992.9	1.14	0.81
	Total = 0.81%			

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

Grading Used	Los Angeles Abrasion Value (%)
B	18.00

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

Best Regards,

Director
Transportation Engineering Laboratory

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Ref.:-----

Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA, LDA, Lahore.

Subject: **Testing of Sand (M/s Lahore RCC Pipe Factory)**

Dear Sir,

It is with reference to your letter No. QCD/2436 dated 04-12-2024.

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	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	99.82	99.43	99.22	98.71	83.37	10.83	2.14

2. Percentage of Silt and Clay (ASTM D-1140) Wet Sieving

Silt and Clay (%)	4.09
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	1.09
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.64
Specific Gravity (SSD)	2.66
Apparent Specific Gravity	2.69
Water Absorption (%)	0.72

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

Best Regards,

Director
Transportation Engineering Laboratory

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Date:-----

Mr. M. Waseem Azhar
Assistant Director (Q.C.D),
WASA, LDA, Lahore.

Subject: **Testing of (Harrow) Sand (M/s Lahore RCC Pipe Factory)**

Dear Sir,

It is with reference to your letter No. QCD/2437 dated 04-12-2024.

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	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	98.94	95.96	90.92	80.21	64.21	27.61	5.46	1.10

2. Percentage of Silt and Clay (ASTM D-1140) Wet Sieving

Silt and Clay (%)	1.80
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3. Fineness Modulus (ASTM C-142)

Fineness Modulus (%)	2.37
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4. Specific Gravity & Water Absorption (ASTM C-128)

Specific Gravity (OD)	2.66
Specific Gravity (SSD)	2.68
Apparent Specific Gravity	2.71
Water Absorption (%)	0.73

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.
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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:-----

Mr. Saeed Afzal
Assistant Executive Engineer,
Pakistan Railways, Narowal.

Subject: **Testing of Base Course Material for Construction of Road Near Narowal Railway Station**

Dear Sir,

It is with reference to your letter No. A/12 dated 28-02-2025.

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	3"	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4
%age Passing	100	97.53	55.28	6.43	0	0	0	0	0

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

Grading Used	Los Angeles Abrasion Value (%)
2	20.68

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

Best Regards,

Director
Transportation Engineering Laboratory

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LAHORE – 54890 (PAKISTAN)



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

Ref.:-----

Date:-----

Mr. Ghulam Rasool Domki
Resident Engineer,
NESPAK,
Gujrat.

Subject: **Testing of Water Bound Macadam (WBM)**
Road Restoration Programme, District Gujrat

Dear Sir,

It is with reference to your letter No. 103/RRP/GRT/GRD/98 dated 13-01-2025.
Please find below the result for the test conducted on the WBM sample provided to this laboratory on 04-03-2025 through your representative.

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

Grading Used	Los Angeles Abrasion Value (%)
1	19.10

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

Best Regards,

Director
Transportation Engineering Laboratory

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