# LOCAL GOVERNMENT ENGINEERING DEPARTMENT

## LABORATORY AT: Kurigram

GRAIN SIZE ANALYSIS (Mechanical) OF COARSE AGGREGATE.

| | |
|---|---|
| Client :Project Manager MJCL -Standard JV | Ref: - 345 Date:-31.08.2025 |
| Scheme :-Con.of Pimary school cum flood Shelter with connecting Road Bridge/culvert Under RIVER Project | |
| Name of Con:MJCL -Standard JV Gulshan-2,Dhaka | Type of Spacimen : Stone Chips (Modhopara Black) |
| Sample By:- DPM MJCL -Standard JV | Date of test : -03.09.2025 |
| Laboratory Register No : | Quantity Represented :- N/A (Not mentioned) |

| | | | |
|---|---|---|---|
| Wt. of Dry Sample + Container ( A ) = | | | kg |
| Wt of Container ( B ) | = | | kg |
| Wt of Dry Sample ( A -B ) | = | **18.284** | kg |

**SIEVE ANALYSIS DATA :**

| Sieve | Standard Opening, mm | Cumulative Weight Retained, Kg | Cumulative% Retained. | % Passing. | Specification |
|---|---|---|---|---|---|
| **1"** | **25.0** | 0.062 | 0.3 | **100** | 100 |
| **3/4"** | **19.5** | 1.721 | 9.4 | **91** | 90 - 100 |
| **3/8"** | **9.5** | 10.665 | 58.3 | **42** | 20 - 55 |
| **# 4** | **4.75** | 16.830 | 92.0 | **8** | 0 - 15 |
| **# 8** | **2.36** | 17.669 | 96.6 | **3** | 0 - 5 |
| | **Pan** | 18.284 | 100.0 | | |

Test Repoting by : SAE LAB

Supervised by : AE

Comments of the Laboratory In charge : The Sample Were Tested Only Supplied Materials.

04.09.25
**SAE LAB**
**LGED, Kurigram**

04.09.25
**Assistant. Engineer**
**LGED, Kurigram**

04-09-25
**Sr. Assistant. Engineer**
**LGED, Kurigram**

# LOCAL GOVERNMENT ENGINEERING DEPARTMENT

**LABORATORY AT: Kurigram**

RESISTANCE TO ABRASION OF COARSE AGGREGATE
BY THE USE OF LOS ANGELES ABRASION TEST (ASTM C-131)

| | |
|---|---|
| Client :Project Manager MJCL -Standard JV | Ref: - 345 Date:-31.08.2025 |
| Scheme :-Con.of Pimary school cum flood Shelter with connecting Road Bridge/culvert Under RIVER Project | |
| Name of Con:MJCL -Standard JV Gulshan-2,Dhaka | Date of test : -03.09.2025 |
| Sample By:- DPM MJCL -Standard JV | Type of Spacimen : Stone Chips (Modhopara Black) |
| Laboratory Register No : | Quantity Represented :- |

| Sieve | | Grading | Wt.of the materials, ( W1 ) gm | Wt. Retained on # 12 (1.70 mm) Sieve.( W2 ) gm | Other Information | Abrasion Value, % (W1-W2)/W1*100 |
|---|---|---|---|---|---|---|
| Passing mm | Retained mm | | | | | |
| 37.5 | 25.0 | | | | | |
| 25.0 | 19.0 | A | | | Grading = B | |
| 19.0 | 12.5 | | 2500 | | No.of Spheres =11 | 27.54 |
| 12.5 | 9.5 | B | 2500 | | Wt.of Spheres = 4586gm | ≅ 27.5 % |
| 9.5 | 6.3 | C | | | Revolation = 500 No. | |
| 6.3 | 4.75 | | | | | |
| 4.75 | 2.36 | D | | | | |
| Total wt. = | | | 5000 | 3623 | | |

Test Repoting by : SAE LAB

Supervised by : AE

Comments of the Laboratory In charge : The Sample Were Tested Only Supplied Materials.

04.09.25
SAE LAB
LGED, Kurigram

04/09/2025
Assistant. Engineer
LGED, Kurigram

04.09.25
Sr. Assistant. Engineer
LGED, Kurigram

# GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
## LOCAL GOVERNMENT ENGINEERING DEPARTMENT
### OFFICE OF THE EXECUTIVE ENGINEER
### DISTRICT : KURIGRAM

## UNIT WIGHT OF AGGREGATE

Ref. No. & Date : 345 Date:31.08.2025

Client : Project Engineer, MJCL-STANDARD JV

Name of scheme : Con.of Pimary school cum flood Shelter Under RIVER Project

Quantity Received : 40 kg (Approximat Quantity represented : Not-informed

Location : Stone chips from Modhopara (Black) Sample No. : 2

Materials description : 20mm Down Graded Date of received 31.08.2025

Name of Contactor : MJCL -STANARD JV Dhaka Sample By :DPM MJCL -STANDARD JV

State of Aggregate : Not mentioned Date of test : 01.09.2025

Method of Compaction : **RODDING**/JIGGING/SHOVEL Water Absorption (SSD Unit Wt.) :

Lab. Registration No. :

**Mould Calibration :**

Wt. Of Water to fill the selected Size of Mold : Kg. Water Temperature :31 0C

Water density : 995.4 kg/$m^3$ Actual Volume of Mould : 0.0093 $m^3$

| Test No. | Wt. of Aggregate + Mould Kg | Wt. of Mould Kg | Wt. of Aggregate in Mould Kg | Unit Wt. of Aggregate, Kg/$m^3$ | Result & Remarks Kg/m3 |
|---|---|---|---|---|---|
| 1 | 22.352 | 7.844 | 14.51 | 1560.0 | |
| 2 | 22.364 | 7.844 | 14.52 | 1561.3 | 1558 |
| 3 | 22.295 | 7.844 | 14.45 | 1553.9 | |

**NOTE :-** - 1 lb/ft3 = 16.018 kg/m3

**NOTE :-** **1 MN** - S.S.D Unit Wt. = Oven dry Unit Wt. ( 1 + Water Absorption / 100 )

- As per ASTM, average of three test 9 as shown above ) is not required.
- mould size required as per ASTM :

| Max. Size of Aggregate, mm (inch) | 12.5 ( 1 / 2 ) | 25 ( 1 ) | 37.5 ( 1.5 ) | 75 ( 3 ) |
|---|---|---|---|---|
| Capacity of Mould required, litre ( $ft^3$ ) | 2.8 ( 1 / 10 ) | 9.3 ( 1 / 3 ) | 14 ( 1 / 2 ) | 28 ( 1 ) |

Tested by : SAE LAB& AE

Comments :

04.09.25
SAE LAB
LGED, Kurigram

04/09/2025
Assistant Engineer
LGED, Kurigram

04.09.25
Senior -Assistant Engineer
LGED, Kurigram

# GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
## LOCAL GOVERNMENT ENGINEERING DEPARTMENT
### OFFICE OF THE EXECUTIVE ENGINEER
### DISTRICT : KURIGRAM

## SPECIFIC GRAVITY & ABSORPTION TEST OF COARSE AGGREGATE (ASTM C-127)

Ref. No. & Date : **345** **Date : 31.08.2025**

Client :**Project Manager,MJCL -Standard JV**

Name of scheme : **Con.of Pimary school cum flood Shelter with connecting Road Bridge/culvert Under RIVER Project Dis:Kurigram**

Quantity Collected from Field :**About 80kg.** Quantity Represented : **Not informed**

Location : : Sampled By : **DPM,MJCL -Standard JV Date: 31.08.2025**

Sample No : Type of Specimen :Stone **chips ( Modhopara)** Test Date : **04.09.2025**

Approximate Capacity of Wire Basket : **6.1 Litre,** Nominal Max. Aggregate Size **: 20 mm,** Sieve for separating Finer **: 4.75mm**

Finer Particles ( If excess amount ) : **Total Specimen tested (since negligible) / ( #4 ) Sieve**

% Coarser Portion ( retained on ( # 4) sieve, $P_1$ : % of Finer Portion, P2 :

Name of Contractor : **MJCL -Standard JV Gulsan-2,Dhaka**

| Description | Test No.-1 | Test No.-2 | Remarks |
|---|---|---|---|
| Weight of SSD Specimen in Air (B), gm | **7244.0** | | |
| Weight of Saturated Specimen in Water (C), gm | **4562.00** | | |
| Weight of Oven-Dried Specimen (A), gm | **7211.0** | | |
| Temperature of Water (T); if other then 23 ± 1.7$^0$C | **29.0** | | |
| Specific Gravity of Water at Temperature T$^0$C ($G_T$) | **0.9960** | | |
| Bulk Specific Gravity, 23/23$^0$C,= A / (B-C) X $G_T/G_{23}$ | **2.68** | | |
| Bulk Specific Gravity (SSD), 23/23$^0$C,= B / (B-C) X $G_T/G_{23}$ | **2.69** | | |
| Apparent Specific Gravity, 23/23$^0$C,= A / (A-C) X $G_T/G_{23}$ | **2.71** | | |
| Water Absorption,= $\frac{(B-A)}{A}$ X 100, % | **0.46** | | |
| Average Specific Gravity, 23/23$^0$C, | ---- | | |
| Average Water Absorption, % | **0.5 %** | | |

NOTE: -- Specific Gravity of Water at 23$^0$C (G23) = 0.9976

-- As per ASTM average of three tests is not necessary, though provision is kept in the data sheet.

-- Unit Wt. = Sp. Gr. X 1000 ( Kg/m$^3$) or Sp. Gr. X 62.4 (lb/cft )

Tested by : **SAE LAB&AE**

Comments :

04.09.25
SAE LAB
LGED, Kurigram

04/09/2025
Assistant Engineer
LGED ,Kurigram

04.09.25
Senior Assistant Engineer
LGED, Kurigram