

REGIONAL LABORATORY
R.W.D., MUZAFFARPUR

GRADATION TEST OF G.S.B Gr. I

NAME OF WORK: Construction of Road from Basa PMGSY to Musalman Tola under MMGSY under Surband Block.

NAME OF DIVISION: - R.W.D. WORKS DIVISION Pupri.

RECEIPT
DATE OF COLLECTION 18.01.20

Agreement No. 31/SBD/2019-20.

NAME OF AGENCY: - Sushil Kr. Jha.

DATE OF TEST 22.01.20

REF.: - Vide L.No. 0/Camp-Pupri/Enclosure/09.12.19 of AE, RWD, WSD - Surband.

Sl. No	Sieve No. m.m	Weight Retained (kg)	% Wt. of Retained	Cumulative % Retained (kg)	% of passing (kg)	Required Limit %	Remarks
1	2	3	4	5	6	7	8
			CH. 450 m.				
			Wt. of Sample - 18.400 Kg.				
	75	NIL	NIL	NIL	100	100	Permissible.
	26.5	7.232	39.30	39.30	60.70	55-75	
	4.75	6.358	34.55	73.85	26.15	10-30	
	0.075	4.610	25.05	98.90	1.10	< 10	

MEMO NO 69

Dt. 22.1.2020

COPY FORWARDED TO - EXECUTIVE ENGINEER

R.W.D., WORKS DIVISION Pupri.

21/01/20
22/01/20
L.A.

22/01/20
A.E.

22/01/20
E.E.

REGIONAL LABORATORY

R.W.D , MUZAFFARPUR

PHYSICAL & GRADATION TEST OF.....WBM Gr. III.....

Name of Work :- Bara PMGSY to Musalman Tola under MMGSY under Surband Block.

Name of Division:- R.W.D Works Division.....Pupri.....

Name Of Agency:- Sushil Kr. Jha.

Date Of Collection /Receipt 18.01.20

Agreement No:- 31 SBD/2019-20

Date Of Test:- 22.01.20

Ref.....A.E.R.W.D Works Sub Div. Surband.....LT.NO. 0/Enclosure/.....DT. 09.12.2019

PHYSICAL TEST

SL.NO	A.I.V		WATER ABSORPTION		REMARKS
	TEST VALUE%	REQUIRED LIMIT%	TEST VALUE%	REQUIRED LIMIT%	
1.	21.38%	40%	0.777%	3%	Permissible.

GRADATION TEST

SI. NO	Sieve No MM	Weight Retained (KG)	% Wt of Retained	Cumulative % Retained	% of passing (KG)	Required limit%	Remarks
		CH. 450 M.					
		Wt. of Sample - 17.980 Kg.					
		" " Screening - 3.596 "					
		Wt. of Stone Metal = 14.384 Kg.					
	63	NIL	NIL	NIL	100	100	Permissible
	53	0.763	5.30	5.30	94.70	95-100	
	45	4.013	27.90	33.20	66.80	65-90	
	22.4	8.431	58.61	91.81	8.19	0-10	
	11.2	1.077	7.49	99.30	0.70	0-5	

Memo No. 69 Date 22-1-2020

Copy To:- E.E.R.W.D Works Div. Pupri

21/01/20
22/01/20
L.A

22/01/20
A.E

22/01/2020
E.E.

कार्यपालक अभियन्ता
शास्त्रीय कार्य विभाग



MS TEST HOUSE

....Substantial Testing for Quality Work

NABL ACCREDITED & ISO 9001:2015 CERTIFIED LABORATORY

(H.D. Office) Abhiyanta Nagar, Z-Sector Polt No.-09, Near R.J. Complex, Ashiana Nagar, Patna-800025

(B.R. Office) Raj Kumar Ganj, Near Poor Home, Darbhanga

Mobile no.: +91-900-6069-267, Email: - mstesthouse@gmail.com

TEST REPORT

Issued To:

Sushil Kumar Jha,
Dhaka, Motihari, East Champaran

Description of Sample: Design Mix

Grade- M-30

Sub:- Mix Design of concrete for the construction of Road and CD works
With Maintenance for Bara PMGSY to Musلمان Tola under MMGSY

Letter No.: Dated: 25.11.2019

Report No: MSTH-25111901500

Date of Receipt: 25.11.2019

Date of Testing: 26.11.19-24.12.19

Date of Report: 24.12.2019

Protocol: IS10262:2009, IS 456:2000

1.	Grade of Concrete	M-30
2.	Characteristic Strength at 28 Days, N/mm ²	30.0 N/mm ²
3.	Targeted Strength at 28 Days, N/mm ²	38.25 N/mm ²
4.	Degree of Quality Control	Good
5.	Exposure Condition	Moderate
6.	Slump required	(75-125) mm
7.	Maximum size of Aggregate	20 mm
8.	Type of Cement	OPC- 43 grade (Birlagold)
9.	Minimum Cement Content	320.0 Kg/m ³ (As per IS 456)
10.	Type of Admixture	Sikkament
11.	Source of Material	
(a)	Aggregate (10 mm & 20 mm)	Mirzachowki
(b)	Fine Aggregate, (Sand)	Koilwar

Test data of ingredients of Cement

1.(i)	Compressive Strength of Cement at 3 Days, N/mm ²	22.6	N/mm ²
(ii)	Compressive Strength of Cement at 7 Days, N/mm ²	28.5	
(iii)	Compressive Strength of Cement at 28 Days, N/mm ²	42.3	

		Cement	Fine Aggregate	Coarse Aggregate		Admixture
				20 mm	10mm	
2.	Fineness, m ² /kg	245	-	-	-	-
3.	Setting Time, minute	-	-	-	-	-
(a)	Initial	150	-	-	-	-
(b)	Final	230	-	-	-	-
4.	Specific Gravity	3.15	2.63	2.76	2.71	1.14
5.	Bulk Density, g/cc	-	1.65	1.50	1.52	-
6.	Water Absorption, %	-	1.32	0.41	0.43	-
7.	Moisture Content, %	-	0.66	Nil	Nil	-
8.	Silt Content, % (by vol.)	-	4.4	-	-	-

Authorized Signatory

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TEST REPORT

9.	Sieve Analysis Material Passing Through IS Sieve	Fine Aggregate	Coarse Aggregate		Mix ratio of Coarse Aggregate
			20 mm	10 mm	62:38
	40 mm	100	100	100	100
	20 mm	100	97.4	100	98.4
	12.5 mm	100	-	100	-
	10 mm	100	19.8	91.6	42.3
	4.75 mm	94.8	2.4	12.7	6.5
	2.36 mm	91.7		2.3	-
	1.18 mm	79.6		-	-
	600 mm	68.4		-	-
	300 micron	22.3		-	-
	150 micron	7.4		-	-

10.	Gradation of Fine Aggregate	Zone-III
11.	Gradation of Coarse Aggregate	Graded
12.	Mix ratio of Coarse Aggregate	62:38
13.	Water cement, kg/m ²	0.48
14.	Cement content, kg/m ²	396.0
15.	Workability (Slump), mm	(80±5)
16.	Admixture	1%

17. Mixed Ratio of ingredients by weight
(For 1m³, M-30)

Trial	Cement	Fine Aggregate	Coarse Aggregate		Water, Ltr	Admixture Ltr
			20 mm	10 mm		1%
1	405	670	711	436	200	4.05
2	400	677	719	440	195	4.00
3	396	683	725	444	190	3.96

Quantity of material for one bag of Cement (50 kgs) is as follows:-

(a)	Cement	50.0 kg
(b)	Fine Aggregate	86.0 kg
(c)	Coarse Aggregate (20 mm)	91.4 kg
	Coarse Aggregate (10 mm)	56.0 kg
(d)	Water	24.0 ltr
(e)	Admixture	0.5 ltr

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TEST REPORT

A. Mix PROPERTIES FOR TRIAL- No- III

Cement	396.0 kg/m ³
Water	190.0 kg/m ³
Fine Aggregate	683.0 kg/m ³
Coarse Aggregate	1169.0 kg/m ³
Water/ Cement	0.48 kg/m ³

Ratio by wt

Cement	1.0
Fine Aggregate	1.72
Coarse Aggregate	2.95
Water/ Cement	0.48

Compressive Strength of the above mix concrete:-

DOC-26.11.2019			DOT-03.12.2019		
A	7 Days	Trial-1	24.5 N/mm ²		
		Trial-2	26.8 N/mm ²		
		Trial-3	28.4 N/mm ²		
DOC-26.11.2019			DOT-24.12.2019		Slump (mm)
B	28 Days	Trial-1	38.3 N/mm ²		collapse
		Trial-2	41.5 N/mm ²		86
		Trial-3	38.7 N/mm ²		79

Remarks: Trial -3 is recommended for the mix Proportion at the site for their workability and strength.

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TEST REPORT



NABL
TC- 7018

Issued To:

Executive Engineer
R.W.D.Work Div.Pupri

Sample Description: C.C. (M-30)

Sample No : 01&02

Report No: MSTH-25121901721

Date of Casting: 27.11.2019

Date of Receipt: 25.12.2019

Agency: Sushil Kumar Jha

Date of Testing: 25.12.2019

Sub: Construction of Road and C.D.works with maintainence for Bara
PMGSY to Muslman Tola Under MMGSY.

Date of Report: 26.12.2019

Reff:, Date: 30.11.2019

Parameters	Units of Measurement	Test Results		Method of test
		Individual	Average	
Compressive Strength after 28 days	N/mm ²	34.2	34.4	IS: 516:1959
		35.4		
		33.7		

End of Report

Sample as Received in the Lab By Agency.

M.S.T.H.
Authorized Signatory