

GRADATION TEST OF GSB Gr.I

Name of Division:-R.W.D , Works Division Papri Date of Collection 08.09.2020

Date of Test 11.09.2020

Package No:- *MMGS7*.....

Ref:-(PIU) A.E, R.W.D, Works Sub Div. Nanpur.....LT. No:- 0/Enclosure/ Dt 10.08.20

Memo No:- 1039 Date:- 11/09/2020

R.W.D , Works Division ...Pupri.....

24 Jan 12
11-9-20
LA

A.E. 11/9/20

$$\frac{y}{x} = \frac{1}{2}$$

R.W.D.

REGIONAL LABORATORY
MUZAFFARPUR

ॐ नमो भगवते वासुदेवाय
 श्रीमद्भागवतं नामं
 श्रीमद्भागवतं नामं
 श्रीमद्भागवतं नामं

REGIONAL LABORATORY

R.W.D, MUZAFFARPUR

PHYSICAL & GRADATION TEST OF W.B.M. Gr. III

Name of Work: Construction of Road from Gaura Math to Lohar Tola under Nanpur Block under 19MGSY.

Name of Division: R.W.D Works Division, Pupri. Date of Collection/ Sample: 28.09.2020

Name of Agency: Dilip Kumar. Date of Test: 11.09.2020

Agreement No: 54/58D/2019-20 Package No: 142567

Ref: (PIU) A.E., R.W.D., Works Sub Div Nanpur LT No: 2/Enclosure/17.10.58.2020

PHYSICAL TEST

SL.NO	A.I.V		WATER ABSORPTION		REMARKS
	TEST VALUE %	REQUIRED LIMIT %	TEST VALUE %	REQUIRED LIMIT %	
1.	21.42%	40%	0.233%	3%	Acceptable

GRADATION TEST

SL.NO	Sieve No. mm	Weight Retained (KG)	% Wt. of Retained	Cumulative % Retained	% of passing (KG)	Required Limit %	Remarks
<u>CH - 550 M.</u>							
<u>Wt. of Sample - 19.710 Kg.</u>							
<u>Wt. of Screening - 4.040 "</u>							
<u>Wt. of Stone Metal - 15.670 Kg.</u>							
	63	NIL	NIL	NIL	100	100	Acceptable
	53	0.771	4.32	4.92	95.08	95-100	
	45	4.448	28.38	33.30	66.70	65-90	
	22.4	8.849	56.47	89.77	10.23	0-10	
	11.2	1.582	10.10	99.87	0.13	0-5	

Memo No: 1034 Date: 11/09/2020

Copy to: E.E., R.W.D, Works Div. Pupri

21/09/20
11.9.20
LA

11/9/20
AE

11/9/20
EE

CHAKIS
MID2408A
11/09/20

REGIONAL LABORATORY

R.W.D , MUZFFARPUR

TEST RESULT OF CONCRETE CUBE

Name of Work :- *Cube Test for CCP-M30.*

Name of Road :- *Gaura Math to Lohar Tola under Nanpur Block under MMGSY.*

Name of Division :- *R.W.D Works Division Purni.* Date of Collection/Receipt. *08.09.20*

Name of Agency :- *Dilip Kumar.* Date of Test :- *11.09.2020*

Agreement No :- *54/SBD/2019-20* Package No :- *MMGSY*

Ref:- (PIU) A.E R.W.D Works Sub Div. *Nanpur* LT No:- *0/Enchswr/DT.10.08.2020*

SL. No	Test after 7 days			Test after 28 days <i>CH-30 M.</i>		
Dt. of Concreting				<i>21.07.20</i>	<i>21.07.20</i>	<i>21.07.20</i>
Dt. Of Test				<i>11.09.20</i>	<i>11.09.20</i>	<i>11.09.20</i>
ID Mark				<i>D1</i>	<i>D2</i>	<i>D3</i>
Area C.M ²				<i>225</i>	<i>225</i>	<i>225</i>
Maximum Load KN				<i>690.00</i>	<i>670.00</i>	<i>700.00</i>
Crushing Strength Kg/CM ²				<i>312.92</i>	<i>303.85</i>	<i>317.46</i>
Remarks				<i>— M30 —</i>		

Remarks :- *M30.*

Memo No. *1034* Date *11/09/2020*

Copy To :- *E.E R.W.D Works Division Purni.*

LA
11.9.20

11/9/20
A.E

11.9.20
E.E
R.W.D

Regional Laboratory
Muzaffarpur

11.09.2020



MS TEST HOUSE

Page 1 of 4

.....Substantial Testing for Quality Work

NABL ACCREDITED & ISO 9001:2015 CERTIFIED LABORATORY

(H.D. Office) Abhiyanta Nagar, Z-Sector Plot 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, 7903542027 Email: mstesthouse@gmail.com

TEST REPORT

Issued To:

Dilip Kumar
Amghatta, Dumra, Sitamarhi

Description of Sample: Design Mix

Grade:- M-30

Sub: - Mix Design of concrete for the construction of Road & CD works with
Maintenance for Gaura Math to Lohar Tola Under MMGSY.

Ref.No., Dated: 30.12.2019

Report No: MSTH-3112192110

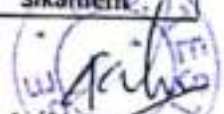
Date of Receipt: 31.12.2019

Date of Testing: 31.12.19-28.01.20

Date of Report: 28.01.2020

The method of concrete mix design consists of selection of optimum proportions of water, cement, fine & coarse aggregate and admixture of produce concrete of specified properties most economically. The proportion of concrete mix is obtained by experimentally evolved relationship between the factors in the choice of mix design. It provides reasonably accurate guide to arrive at optimum proportions of ingredients. The final mix proportions are obtained on the basis of trial mixes. The mix design has been carried out as per stipulation of India standards specification IS: 10262 guidelines keeping in view the recommended mix standard deviations and targeted mean strength. The Recommended mix proportions should be tested at site for their workability & strength before it is adopted.

1. Design Stipulations:		
A	Characteristic Compressive Strength of Concrete required in field after 28 days	30 N/mm ²
B	Target Strength at 28 days N/mm ²	38.25 N/mm ²
C	Maximum size of Aggregates	20 mm
D	Required Slump	75-100 mm
E	Degree of quality control	Medium
F	Type of Exposure	Moderate
2. Test Data For The Materials Used		
A	Type of Cement	OPC 43 Grade (Konark)
B	Consistency, %	29.7
C	Initial Setting Time (Minutes)	148
D	Final Setting Time(Minutes)	255
E	Compressive Strength (3 days) MPa	26.8
F	Compressive Strength (7 days) MPa	36.9
G	Compressive Strength (28 days) MPa	49.7
H	Specific Gravity	3.15
I	Minimum Cement Content	320 Kg/m ³
J	Specific Gravity of Admixture	1.08
K	Type of Admixture	Sikament


Authorized Signatory

- Sample as received in the Laboratory by Agency.
- Result listed refer only to the tested sample & applicable parameters. Endorsement of product is neither inferred nor implied.
- Sample will destroyed after one month from the date of issue of test certificates unless otherwise specified.
- Liability of Laboratory is limited to the invoiced amount only any dispute arising out of this report shall be subject of Bihar Jurisdiction only.
- This Report is not to be reproduced wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without special permission in writing.



TEST REPORT

3. Source Of Material			
A	Coarse Aggregate (20mm & 10 mm)		Mirzachowki
B	Fine Aggregate (Sand)		Kollwar
4. Specific Gravity			
A	Coarse Aggregate (20mm)		2.75
B	Fine Aggregate		2.65
C	Impact Value, % Coarse Aggregate (20mm)		16.2
5. Abrasion Value, %			
A	Coarse Aggregate (20mm)		23.2
6. Water Absorption, %			
A	Coarse Aggregate (20 mm)		0.32
B	Fine Aggregate		1.30
7. Free Moisture Content, %			
A	Coarse Aggregate (20mm)		Nil
8. Bulk Density, Gm/Cc			
A	Coarse Aggregate (20mm)		1.49
B	Fine Aggregate		1.58
9. Sieve Analysis			
(i)	Coarse Aggregate:		
IS: Sieve Size (mm)	Analysis of Aggregate coarse fraction % finer (%)		As Per IS: 383 For Graded Aggregate Of Nominal Size
	20mm	10mm	62:38
40.0	100	100	100
20.0	97.4	100	98.4
12.5	-	100	-
10.0	14.4	91.6	43.7
4.75	1.7	12.4	5.7
2.36	-	2.0	-
(ii)	Fine Aggregate:		
IS : Sieve Size	Cumulative Percentage Passing		Cumulative percentage Finer as per IS: 383-2016 Zone-III
10.0 mm	100		100
4.75 mm	99.2		90-100
2.36 mm	91.7		85-100
1.18 mm	78.4		75-100
600 micron	65.6		60-79
300 micron	21.5		12-40
150 micron	7.9		0-10

Authorized Signatory

- Sample as received in the Laboratory by Agency
- Result listed refer only to the tested sample & applicable parameters. Endorsement of product is neither inferred nor implied.
- Sample will destroyed after one month from the date of issue of test certificates unless otherwise specified
- Liability of Laboratory is limited to the invoiced amount only any dispute arising out of this report shall be subject of Bihar Jurisdiction only
- This Report is not to be reproduced wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without special permission in writing



MS TEST HOUSE

Page 3 of 4



.....Substantial Testing for Quality Work

NABL ACCREDITED & ISO 9001:2015 CERTIFIED LABORATORY

(H.D. Office) Abhiyanta Nagar, Z-Sector Plot 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, 7903542027 Email: mstesthouse@gmail.com

TEST REPORT

10. Determination Of Quantity Of Materials:

Water Cement ratio	0.43
Water:	185.0 Ltr./m ³
Sand content:	683 Kg/m ³
Coarse Aggregate:	1156 Kg/m ³
Cement Content:	429 Kg/m ³
Slump	100 mm

11. Ratio (By Weight)

Cement Content	Water	Fine Aggregate	Coarse Aggregate
1	0.43	1.59	2.69

Mix Proportion By Weight Are As Follows:

Cement Kg/m ³		Water Kg/m ³	Admixture (% by wt. of Cement), Kg/m ³ (0.9) %	Fine Aggregate Kg/m ³ (38%)	Total Coarse Aggregate (20mm) Kg/m ³ (62%)
Trial-1	439	195.0	3.96	669	1133
Trial-2	434	190.0	3.90	676	1145
Trial-3	429	185.0	3.86	683	1156

Mix Proportion By Weight Are As Follows:

Cement Kg/m ³	Water Kg/m ³	Admixture (% by wt. of Cement), Kg/m ³ (0.9)%	Fine Aggregate Kg/m ³ (38%)	Total Coarse Aggregate (20mm) Kg/m ³ (62%)
50	21.5	0.45	79.5	134.5

MSTH


Authorized Signatory

- Sample as received in the Laboratory by Agency.
- Result listed refer only to the tested sample & applicable parameters. Endorsement of product is neither inferred nor implied.
- Sample will destroyed after one month from the date of issue of test certificates unless otherwise specified.
- Liability of Laboratory is limited to the invoiced amount only any dispute arising out of this report shall be subject of Bihar Jurisdiction only.
- This Report is not to be reproduced wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without special permission in writing.



MS TEST HOUSE

Page 4 of 4

Substantial Testing for Quality Work

NABL ACCREDITED & ISO 9001:2015 CERTIFIED LABORATORY

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

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

Mobile No. +91-900-6069-247, 7903542027 Email: mstesthouse@gmail.com

TEST REPORT

12. A. Compressive Strength (7 Days)		DOC - 31.12.2019	DOT- 07.01.2020
S No.	Compressive Strength (N/mm ²)	Average Compressive Strength	
		(N/mm ²)	(Kg/cm ²)
1.	24.5	24.1	241
2.	23.7		
3.	24.2		
B. Compressive Strength (28 Days)		DOC- 31.12.2019	DOT- 28.01.2020
S No.	Compressive Strength (N/mm ²)	Average Compressive Strength	
		(N/mm ²)	(Kg/cm ²)
1.	38.1	38.9	389
2.	39.2		
3.	39.4		

Remarks: -

1. Trial-3 is recommended for the mix proportion at the Site for their Workability and Strength.
2. This mix design has been done at saturated condition.
3. Your material brought at site is dry or wet, than water can be decreased or increased according water Absorption.
4. Tap Water of our lab has been used, if water not supply, water should be pure and clean in concrete mix As Per IS: 456-2000 & IS: 3025
5. Admixture Used Sikament Brand.

MSTH

Authorized Signatory

- Sample as received in the Laboratory by Agency.
- Result report refer only to the tested sample & applicable parameters. Endorsement of product is neither intended nor implied.
- Sample will be destroyed after one month from the date of issue of test certificates unless otherwise specified.
- Liability of Laboratory is limited to the invoiced amount only any dispute arising out of this report shall be subject of Bihar Jurisdiction only.
- This Report is not to be reproduced wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without special permission in writing.

