

REGIONAL LABORATORY
R.W.D, MUZAFFARPUR

GRADATION TEST OF G₁S₅ Gr. I

Name of works:- Construction of Road from Kapileshwar Sah House to Ramchandra Sahni PWD Road Nanpur Godhaul in Bokhara Block under MMGSY.
Name of Division:- R.W.D, Works Division. Pupri. Date of Collection 20-10-2020
Name of Agency :- Amresh Kumar Thakur. Date of Test 23-10-2020
Agreement No :- MMGSY/ /SBD/2020-21 Package No:- MMGSY.
Ref:- (PIU) A.E, R.W.D, Works Sub Div. Bokhara LT. No:- 319/Enc./Dt 24.09.20

SL. No.	Sieve No. mm	Weight Retained (KG)	% Wt. of Retained	Cumulative % Retained	% of passing	Required Limit %	Remarks
1	2	3	4	5	6	7	8
		<u>CH. 30 M.</u>		<u>Wt. of Sample - 24.360 kg.</u>			
	75	NIL	NIL	NIL	100	100	
	26.5	10.770	44.21	44.21	55.79	55-75	
	4.75	7.946	32.62	76.83	23.17	10-30	
	0.075	5.304	21.77	98.60	1.40	< 10	Permissible

Memo No:- 1173 Date:- 23/10/2020

Copy forwarded to - Executive Engineer
R.W.D, Works Division Pupri.

23/10/20
LA

23/10/20
A.E

23/10/2020
E.E
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REGIONAL LABORATORY
MUZAFFARPUR

प्रमाणित अभियंता
जमीन कार्य विभाग
क्षेत्रीय प्रयोगशाला, मुजफ्फरपुर

REGIONAL LABORATORY

R.W.D, MUZAFFARPUR

PHYSICAL & GRADATION TEST OF W.B.M. Gr. IIIName of Work :- Construction of Road from Kapileshwar Sah House to Ram - Chandra Sahani PWD Road Nampur Godhauri in Bokhara Block under MMGSY,Name of Division :- R.W.D Works Division Pupri Date of Collection/ Receipt 20.10.2020Name of Agency :- Ankush Kumar Thakur Date of Test :- 23.10.2020Agreement No :- /S.D/2020-21 Package No :- MMGSYRef: (PIU) A.E, R.W.D, Works Sub Div Bokhara LT No: 319/Enclosure DT 24.09.2020

PHYSICAL TEST

SL.NO	A.I.V		WATER ABSORPTION		REMARKS
	TEST VALUE %	REQUIRED LIMIT %	TEST VALUE %	REQUIRED LIMIT %	
1.	22.41%	40%	0.836%	3%	Permissible

GRADATION TEST

SL.NO	Sieve No. mm	Weight Retained (KG)	% Wt. of Retained	Cumulative % Retained	% of passing (KG)	Required limit %	Remarks
			CH - 30 M.				
		Wt. of Sample — 17.050 kg.					
		Wt. of Screening - 3.376 kg					
		Wt. of Stone Metal - 13.674 kg.					
	63	NIL	NIL	NIL	100	100	
	53	0.711	5.20	5.20	94.80	95-100	Permissible
	45	3.651	26.70	31.90	68.10	65-90	
	22.4	7.927	57.97	89.87	10.13	0-20	
	11.2	1.305	9.54	99.41	0.59	0-5	
			/				

Memo No: 1173 Date: 23/10/2020Copy to: E.E, R.W.D, Works Div. Pupri

23/10/20
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23/10/20
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23/10/20
E.E

प्रमुख अधिकारी
आजीवन कार्य विभाग
भारतीय प्रयोगशाला, मुजफ्फरपुर

REGIONAL LABORATORY

R.W.D , MUZAFFARPUR

TEST RESULT OF CONCRETE CUBE

Name of Work :- Cube Test for CCP-M30.
 Name of Road :- Kapileshwar Sah House to Ramchandam Sahani
 PWD Road Nanpur Godhul in Bokhara Block under
 Name of Division :- R.W.D Works Division Purnia. Date of Collection/Receipt. 20.10.20
 Name of Agency :- Amresh Kumar Thakur. Date of Test :- 22.10.2020
 Agreement No. :- MMGSY/...../SBD/2020-21. Package No :- MMGSY/.....
 Ref:- (PIU) A.E R.W.D Works Sub Div. Bokhara. LT No:- 319/Enc./DT. 24.09.2020.

Sl. No	Test after 7 days	Test after 28 days	CH - 30 M.
DL of Concreting		24.09.20	24.09.20
DL of Test		23.10.20	23.10.20
ID Mark		A ₁	A ₂
Area C.M ²		225	225
Maximum Load KN		700.00	700.00
Crushing Strength Kg/CM ²		317.46	303.85
Remarks		---M30---	

Remarks :-

Memo No. 1173 Date 22/10/2020

Copy To :- E.E R.W.D Works Division Purnia.

21/10/20
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R.W.D

Regional Laboratory
Muzaffarpur

कार्यपालक अभियन्ता
ग्रामीण कार्य विभाग
क्षेत्रीय प्रयोगशाला, मुजफ्फरपुर



MS TEST HOUSE

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Substantial Testing for Quality World

NABL ACCREDITED & ISO 9001:2015 CERTIFIED LABORATORY

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

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

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TEST REPORT

Issued To:

Amresh Kumar Thakur
At-Bahera Jahidpur, Nanpur, Sitamarhi

Description of Sample: Design Mix

Grade:- M-30

Sub:- Mix Design of concrete for the construction of Road & CD works with
Maintenance for Kapileshwar Sah House to Ramchandra Sahni PWD
Road Nanpur Godhaul in Bokhara Block under MMGSY.

Ref.No.-, Dated- 25.08.2020

Report No: MSTH-2608201307

Date of Receipt: 26.08.2020

Date of Testing: 26.08.20-23.09.20

Date of Report: 23.09.2020

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 (Birlagold)
B	Consistency, %	29.5
C	Initial Setting Time (Minutes)	161
D	Final Setting Time(Minutes)	150
E	Compressive Strength (3 days) MPa	27.0
F	Compressive Strength (7 days) MPa	37.5
G	Compressive Strength (28 days) MPa	49.0
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
Kanwarshwar Kumar
(Tech. Manager)

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 certificate unless otherwise specified.
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(B.R. Office) Raj Kumar Ganj, Near Poor Home, Darbhanga
Mobile no.: +91-900-6069-267, Email: - mstesthouse@gmail.com

TEST REPORT

3. Source Of Material			
A	Coarse Aggregate (20mm & 10 mm)		Mirzachowki Koliwar
B	Fine Aggregate (Sand)		
4. Specific Gravity			
A	Coarse Aggregate (20mm)		2.75
B	Fine Aggregate		2.65
C	Impact Value, % Coarse Aggregate (20mm)		15.0
5. Abrasion Value, %			
A	Coarse Aggregate (20mm)		23.4
6. Water Absorption, %			
A	Coarse Aggregate (20 mm)		0.71
B	Fine Aggregate		1.18
7. Free Moisture Content, %			
A	Coarse Aggregate (20mm)		Nil
8. Bulk Density, Gm/Cc			
A	Coarse Aggregate (20mm)		1.59
B	Fine Aggregate		1.67
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	97.3	100	98.3
12.5	-	100	-
10.0	10.8	92.2	41.9
4.75	1.4	9.8	4.6
2.36	-	1.9	-
(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	94.4		90-100
2.36 mm	87.7		85-100
1.18 mm	78.3		75-100
600 micron	63.8		60-79
300 micron	17.7		12-40
150 micron	5.7		0-10

(Signature)

Authorized Signatory
Kanwarshwar Kumar
(Tech. Manager)

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TEST REPORT

10. Determination Of Quantity Of Materials:

Water Cement ratio	0.44
Water:	187.0 Ltr./m ³
Sand content:	684 Kg/m ³
Coarse Aggregate:	1153 Kg/m ³
Cement Content:	420 Kg/m ³
Slump	100 mm

11. Ratio (By Weight)

Cement Content	Water	Fine Aggregate	Coarse Aggregate
1	0.44	1.63	2.75

Mix Proportion By Weight Are As Follows:

Cement Kg/m ³	Water Kg/m ³	Admixture (% by wt. of Cement), Kg/m ³ (0.8) %	Fine Aggregate Kg/m ³ (38%)	Total Coarse Aggregate (20mm) Kg/m ³ (62%)
Trial-1	431	197.0	3.448	670
Trial-2	426	192.0	3.408	677
Trial-3	420	187.0	3.360	684

Mix Proportion By Weight Are As Follows:

Cement Kg/m ³	Water Kg/m ³	Admixture (% by wt. of Cement), Kg/m ³ (0.8)%	Fine Aggregate Kg/m ³ (38%)	Total Coarse Aggregate (20mm) Kg/m ³ (62%)
50	22.0	0.45	81.5	137.5

(Signature)

Authorized Signatory
Kanwarshwar Kumar
(Tech. Manager)

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TEST REPORT

12. A. Compressive Strength (7 Days)		DOC-26.08.2020	DOT-02.09.2020
		Average Compressive Strength	
S No.	Compressive Strength (N/mm ²)	(N/mm ²)	(Kg/cm ²)
1.	23.8	23.8	238
2.	24.2		
3.	23.4		
B. Compressive Strength (28 Days)		DOC-26.08.2020	DOT-23.09.2020
		Average Compressive Strength	
S No.	Compressive Strength (N/mm ²)	(N/mm ²)	(Kg/cm ²)
1.	40.1	39.9	399
2.	39.3		
3.	40.4		

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, then 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.

(Signature)

Authorized Signatory
Kanwarshwar Kumar
(Tech. Manager)

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