MS TEST HOUSE

....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, Email: mstesthouse@gmail.com

MSTH

NABL TC- 7018

TEST REPORT

Issued To:

Executive Engineer
RWD, WD, Pupri

Description of Sample: Granular Sub Base (G.S.B)

Sub: Construction of Road and CD works with Maintenance for Fakira Ray House to PMGSY Road Birauli Khopi Under MMGSY .

Ref. No: Dated: 09.05.2020

Report No: MSTH-100520240
Date of Receipt: 10.05.2020
Date of Testing: 11.05.20-14.05.20
Date of Report: 15.05.2020

SL no.	Test	Result	Test Method	Requirement as per MoRTH Table-400.1,2 GR-I
1.	IS Sieve (mm) Gradation,% passing			
a.	75.00	100.00	IS 2386(P-1)1963	100
b.	53.00	90.3		80-100
c.	26.50	70.6		55-90
d.	9.50	48.8		35-65
e.	4.75	39.3		25-55
f.	2.36	31.2		20-40
g.	0.425	12.4		10-15
h.	0.075	3.1		<5

End of Report

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Authorized Signatory
Kanwareshwar 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 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 .
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TEST REPORT

Issued To:

Executive Engineer
RWD, WD, Pupri

Description of Sample: Water Bound Macadam (W.B.M)
Sub: Construction of Road and CD works with Maintenance for Fakira Ray House to PMGSY Road Birauli Khopi Under MMGSY .
Ref. No: Dated: 09.05.2020

Report No: MSTH-100520242
Date of Receipt: 10.05.2020
Date of Testing: 11.05.20-14.05.20
Date of Report: 15.05.2020

SL no.	Test	Result	Test Method	Requirement as per MoRTH Table-400.6 GR-III
1.	IS Sieve (mm) Gradation % passing			
a.	63.00	100.00	IS 2386(P-1)1963	100
b.	53.00	96.8		95-100
c.	45.00	75.6		65-90
d.	22.4	6.8		0-10
e.	11.2	0.4		0-5

End of Report

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TEST REPORT

Issued To:

Dewesh Kumar Singh

C-53, Ram Nagari More, Ashiyana Digha Road, Indrapuri, Fulwari, Patna

Description of Sample: Design Mix

Grade:- M-30

Sub: - Mix Design of concrete for the construction of Road and C.D work With Maintenance for fakira Ray House to PMGSY Road Birauli Khopi Under MMGSY.

Ref.No.- Dated: 09.05.2020

Report No: MSTH-1005201481

Date of Receipt: 10.05.2020

Date of Testing: 11.05.20-08.06.20

Date of Report: 09.06.2020

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	75-120 mm
E	Degree of quality control	Medium
F	Type of Exposure	Moderate
2.	**Test Data For The Materials Used**	
A	Type of Cement	Grade- OPC 43 (*Prism Champion*)
B	Consistency, %	30.2
C	Initial Setting Time (Minutes)	140
D	Final Setting Time(Minutes)	260
E	Compressive Strength (3 days) MPa	27.4
F	Compressive Strength (7 days) MPa	37.8
G	Compressive Strength (28 days) MPa	50.6
H	Specific Gravity	3.14
I	Minimum Cement Content	320 Kg/m^3
J	Specific Gravity of Admixture	1.0
K	Type of Admixture	

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Kanwareshwar Kumar

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3.	**Source Of Material**	
A	Coarse Aggregate (20mm & 10 mm)	Sheikhpura
B	Fine Aggregate (Sand)	Koilwar
4.	**Specific Gravity**	
A	Coarse Aggregate (20mm)	2.72
B	Fine Aggregate	2.62
C	Impact Value, % Coarse Aggregate (20mm)	13.2
5.	**Abrasion Value, %**	
A	Coarse Aggregate (20mm)	22.5
6	**Water Absorption, %**	
A	Coarse Aggregate (20 mm)	0.69
B	Fine Aggregate	1.18
7.	**Free Moisture Content, %**	
A	Coarse Aggregate (20mm)	Nil
8.	**Bulk Density, Gm/Cc**	
A	Coarse Aggregate (20mm)	1.55
B	Fine Aggregate	1.61
9.	**Sieve Analysis**	
(I)	**Coarse Aggregate:**	

IS: Sieve Size (mm)	Analysis of Aggregate coarse fraction % finer (%)		Requirement Per IS: 383-2016 For Graded Aggregate Of Nominal Size	
	20mm	10mm	61:39	
40.0	100	100	100	100
20.0	94.8	100	96.8	90-100
12.5	-	100	-	-
10.0	11.5	92.2	42.9	25-55
4.75	1.9	9.8	5.0	0-10
2.36	-	1.3	-	-

(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	98.4	90-100
2.36 mm	92.3	85-100
1.18 mm	90.2	75-100
600 micron	65.8	60-79
300 micron	20.6	12-40
150 micron	7.4	0-10

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10. Determination Of Quantity Of Materials:	
Water Cement ratio	0.45
Water:	195.0 Ltr./m^3
Sand content:	677 Kg/m^3
Coarse Aggregate:	1099 Kg/m^3
Cement Content:	437 Kg/m^3
Slump	110 mm

11. Ratio (By Weight)

Cement Content	Water	Fine Aggregate	Coarse Aggregate
1	0.45	1.54	2.46

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 (39%)	Total Coarse Aggregate (20mm) Kg/m^3 (61%)
Trial-1	443	200.0	3.544	670	1088
Trial-2	437	195.0	3.496	677	1099
Trial-3	431	190.0	3.448	684	1111

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 (39%)	Total Coarse Aggregate (20mm) Kg/m^3 (61%)
50	22.5	0.40	77.0	123.0

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12. A.	Compressive Strength (7 Days)	DOC-11.05.2020	DOT-18.05.2020
S No.	Compressive Strength (N/mm^2)	Average Compressive Strength	
		(N/mm^2)	(Kg/cm^2)
1.	24.2	23.4	234
2.	22.6		
3.	23.4		
B.	Compressive Strength (28 Days)	DOC-11.05.2020	DOT-08.06.2020
S No.	Compressive Strength (N/mm^2)	Average Compressive Strength	
		(N/mm^2)	(Kg/cm^2)
1.	40.3	39.8	398
2.	41.2		
3.	37.8		

Remarks: -

1. *Trial-2 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 is Used.*

***

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(Tech. Manager)