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, 7903542027 Email: mstesthouse@gmail.com

TEST REPORT

Issued To:

Mala Sinha

Jagdishpur Kothiya, Tariyani, Sheohar.

Description of Sample: Design Mix

Grade:- M-30

Sub: - Mix Design of concrete for the construction of Road and CD woks With Maintenance Main Road Nunhi Tola Godhaul Kurhar Main Road To Serha Tola Under MMGSY.

Ref.No.-, Dated: 29.02.2020

Report No: MSTH-020320515

Date of Receipt: 02.03.2020

Date of Testing: 02.03.20-30.03.20

Date of Report: 31.03.2020

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, %	29.3
C	Initial Setting Time (Minutes)	151
D	Final Setting Time(Minutes)	262
E	Compressive Strength (3 days) MPa	25.8
F	Compressive Strength (7 days) MPa	36.4
G	Compressive Strength (28 days) MPa	50.3
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.

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, 7903542027 Email: mstesthouse@gmail.com

TEST REPORT

3.	**Source Of Material**	
A	Coarse Aggregate **(20mm & 10 mm)**	**Mirzachowki**
B	Fine Aggregate **(Sand)**	**Koilwar**
4.	**Specific Gravity**	
A	Coarse Aggregate (20mm)	2.74
B	Fine Aggregate	2.66
C	Impact Value, % Coarse Aggregate (20mm)	14.8
5.	**Abrasion Value, %**	
A	Coarse Aggregate (20mm)	22.8
6	**Water Absorption, %**	
A	Coarse Aggregate (20 mm)	0.35
B	Fine Aggregate	1.30
7.	**Free Moisture Content, %**	
A	Coarse Aggregate (20mm)	Nil
8.	**Bulk Density, Gm/Cc**	
A	Coarse Aggregate (20mm)	1.51
B	Fine Aggregate	1.26
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	97.2	100	98.3
12.5	-	100	-
10.0	14.0	91.6	43.4
4.75	1.6	12.4	5.6
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	96.4	90-100
2.36 mm	91.8	85-100
1.18 mm	78.2	75-100
600 micron	67.3	60-79
300 micron	21.2	12-40
150 micron	7.6	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

.....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	0.45
Water:	189.0 Ltr./m^3
Sand content:	684 Kg/m^3
Coarse Aggregate:	1162 Kg/m^3
Cement Content:	421 Kg/m^3
Slump	100 mm

11. Ratio (By Weight)

Cement Content	Water	Fine Aggregate	Coarse Aggregate
1	0.45	1.62	2.76

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	431	199.0	3.87	674	1134
Trial-2	426	194.0	3.83	679	1143
Trial-3	421	189.0	3.78	684	1162

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	22.5	0.45	81.0	138.0

M.S. TEST HOUSE

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.

ISPL Cert IAF

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, 7903542027 Email: mstesthouse@gmail.com

TEST REPORT

12. A.	Compressive Strength (7 Days)	DOC- 02.03.2020	DOT- 09.03.2020
S No.	Compressive Strength (N/mm^2)	Average Compressive Strength (N/mm^2)	Average Compressive Strength (Kg/cm^2)
1.	24.2	23.7	23.7
2.	23.1		
3.	23.8		
B.	Compressive Strength (28 Days)	DOC-02.03.2020	DOT- 30.03.2020
S No.	Compressive Strength (N/mm^2)	Average Compressive Strength (N/mm^2)	Average Compressive Strength (Kg/cm^2)
1.	39.2	39.8	398
2.	39.8		
3.	40.5		

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.*

***

M.S. TEST HOUSE

Authorized Signatory