



**National Accreditation Board for
Testing and Calibration Laboratories**
(A Constituent Board of Quality Council of India)



CERTIFICATE OF ACCREDITATION

M.E. TESTING LABORATORY

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

C-31, Urmila Marg, Hanuman Nagar, Khati Pura Road, Jaipur,
Rajasthan

in the field of

TESTING

Certificate Number TC-6385

Issue Date 06/10/2017

Valid Until 05/10/2019

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL

N. Venkateswaran
Program Director



89076970100030000270

Anil Relia
Chief Executive Officer



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SCOPE OF ACCREDITATION

Laboratory M.E. Testing Laboratory, C-31, Urmila Marg, Hanuman Nagar, Khati Pura Road, Jaipur, Rajasthan

Accreditation Standard ISO/IEC 17025: 2005

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I. BUILDING MATERIAL				
1.	Cement (OPC, PPC & Slag)	Silica (SiO ₂)	IS 4032	10 % to 40 %
		Loss on Ignition	IS 4032	0.1 % to 9 %
		Insoluble residue	IS 4032	0.1 % to 50 %
		Sulphur Trioxide (as SO ₃)	IS 4032	0.1 % to 5 %
		Calcium Oxide (as CaO)	IS 4032	1 % to 70 %
		Magnesia (as MgO)	IS 4032	0.1 % to 10 %
		Alumina (as Al ₂ O ₃)	IS 4032	1.0 % to 15 %
		Iron Oxide (as Fe ₂ O ₃)	IS 4032	1.0 % to 15 %
		Chloride (as Cl)	IS 4032	0.005 % to 1 %
2.	Fly Ash	Sulphide Sulphur (as S)	IS 4032	0.1 % to 1 %
		Silica (as SiO ₂)	IS 1727	5.0 % to 60 %
		(Alumina + Iron oxide)	IS 1727	5.0 % to 40 %
		Magnesia (as MgO)	IS 1727	0.5 % to 20 %
		Total Sulphur (as SO ₃)	IS 1727	0.1 % to 1 %
		Loss On Ignition	IS 1727	0.1 % to 15 %
		Total Alkalies (as Na ₂ O)	IS 4032	0.05 % to 2 %
3.	Admixture	Chloride as Cl	IS 4032	0.005 % to 1 %
		Dry Material Content	IS 9103	11 % to 70 %
		Ash Content	IS 9103	1.0 % to 20 %
		Relative Density	IS 9103	1.00 to 1.500
		Chloride Content	IS 6925	0.001 % to 1 %
		pH Value	IS 9103	2 to 12
4.	Aggregate	Chloride	METL/JPR/SOP/Agg., Mortar, Concrete/CI/2014 Date: 20/12/2014	0.005 % to 1%

Birendra Prasad Murmu
Convenor

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		Sulphate (as SO ₃)	METL/JPR/SOP/Agg., Mortar, Concrete/SO ₃ /2014, Date: 20/12/2014	0.01 % to 5 %
		Potential Alkali Reactivity Dissolved Silica	IS 2386 (Part VII)	10 millimoles/l to 80 millimoles/l
		Potential Alkali Reactivity Reduction in Alkalinity	IS 2386 (Part VII)	10 millimoles/l to 150 millimoles/l
		Organic Impurity	IS 2386 (Part II)	Qualitative
5.	Concrete & Cement Mortar	Chloride as Cl	METL/JPR/SOP/Agg., Mortar, Concrete/Cl/2014, Date: 20/12/2014	0.005 % to 1.0 %
		Sulphate as SO ₃	METL/JPR/SOP/Agg., Mortar, Concrete/SO ₃ /2014, Date: 20/12/2014	0.01 % to 1.0 %
6.	Bitumen	Solubility in Trichloroethylene	IS 1216	80 to 100
II.	METALS & ALLOYS			
1.	Reinforced Steel/ Low Alloy Steel	Carbon	IS 228 (Part 1)	0.1 % to 1 %
		Sulphur	IS 228 (Part 9)	0.01 % to 0.25 %
		Phosphorous	IS 228 (Part 3)	0.01 % to 0.5 %
		Manganese	IS 228 (Part 2)	0.1 % to 1.5 %
		Silicon	IS 228 (Part 8)	0.1 % to 1.0 %
		Nickel	IS 228 (Part 5)	0.1 % to 4 %
		Chromium	IS 228 (Part 6)	0.1 % to 1 %

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III.	METALLIC COATINGS & TREATMENT SOLUTIONS			
1.	Metallic Coating	Zinc Coating	IS 6745	5 g/m ² to 1000 g/m ²
IV.	WATER			
1.	Construction Water	Acidity as NaOH	IS 3025 (Part 22)	1 mg/L to 100 mg/L
		Alkalinity as H ₂ SO ₄	IS 3025 (Part 23)	1 mg/L to 1000 mg/L
		Inorganic Solids	IS 3025 (Part 16)	10 mg/L to 20000 mg/L
		Suspended Solids	IS 3025 (Part 17)	10 mg/L to 20000 mg/L
		Organic Solids	IS 3025 (Part 18)	4 mg/L to 2000 mg/L
		pH	IS 3025 (Part 11)	2 to 12
		Sulphate	IS 3025 (Part 24)	2 mg/L to 2000 mg/L
		Chloride	IS 3025 (Part 32)	4 mg/L to 5000 mg/L
		Calcium	APHA 22 nd Edition	4 mg/L to 500 mg/L
		Iron	IS 3025 (Part 53)	0.01 mg/L to 10 mg/L
	Magnesium	APHA 22 nd Edition	2 mg/L to 500 mg/L	
	Potassium	IS 3025 (Part 45)	5 mg/L to 100 mg/L	
	Sodium	IS 3025 (Part 45)	5 mg/L to 200 mg/L	
2.	Drinking Water	Residual Chlorine	IS 3025 (Part 26)	0.001 mg/L to 5 mg/L
		Chloride	IS 3025 (Part 32)	4 mg/L to 2000 mg/L
		Fluoride	APHA 22 nd Edition	0.1 mg/L to 10 mg/L
		pH	IS 3025 (Part 11)	2 to 12
		Arsenic	IS 3025 (Part 37)	0.01 mg/L to 25 mg/L
		Colour	IS 3025 (Part 4)	2 Hazen to 50 Hazen
		Odour	IS 3025 (Part 5)	Qualitative
	Hardness	IS 3025 (Part 21)	4 mg/L to 3000 mg/L	
V.	POLLUTION & ENVIRONMENT			
1.	Waste Water	COD	IS 3025 (Part 58)	12 mg/L to 4000 mg/L
		BOD	IS 3025 (Part 44)	6 mg/L to 800 mg/L
		Oil & Grease	IS 3025 (Part 39)	4 mg/L to 100 mg/L
		Dissolved Oxygen	IS 3025 (Part 38)	1 mg/L to 12 mg/L

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		pH	IS 3025 (Part 11)	2 to12

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MECHANICAL TESTING

I. MECHANICAL PROPERTIES OF METALS				
1.	Reinforcement Steel	Ultimate Tensile strength	IS 1608	250 N/mm ² to 800 N/mm ²
		% Elongation	IS 1608	10 % to 40 %
		Yield stress	IS 1608	250 N/mm ² to 700 N/mm ²
		Bend	IS 1599	Qualitative (Mandrel dia. 24, 30, 36, 48, 60, 100 mm)
		Rebend	IS 1786	Qualitative (Mandrel dia 40, 50, 84, 112, 140, 175mm)
		Mass/meter	IS 1786	0.001 kg to 15 kg
II. BUILDING MATERIALS				
1.	Cement (OPC, PPC & Slag)	Fineness by Air Permeability	IS 4031 (Part 2)	100 m ² /kg to 500 m ² /kg
		Consistency	IS 4031 (Part 4)	20 % to 40 %
		Setting Time Initial	IS 4031 (Part 5)	5 minutes to 300 minutes
		Setting Time Final	IS 4031 (Part 5)	30 minutes to 600 minutes
		Soundness by Le-Chateller's	IS 4031 (Part 3)	0.5 mm to 10 mm
		Soundness by Autoclave	IS 4031 (Part 3)	0.02 % to 4 %
		Compressive Strength	IS 4031 (Part 6)	10 MPa to 70 MPa
		Density	IS 4031 (Part 11)	1 g/cc to 3.5 g/cc
2.	Fly Ash	Density	IS 1727	1 g/cc to 3.5 g/cc
		Fineness by air permeability apparatus	IS 1727	100 m ² /kg to 700 m ² /kg
		Compressive strength	IS 1727	10 MPa to 70 MPa

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3.	Bricks	Compressive Strength	IS 3495 (Part 1)	5 MPa to 50 MPa
		Water absorption	IS 3495 (Part 2)	1 % to 50 %
		Efflorescence	IS 3995 (Part 3)	Qualitative
		Dimension: Length	IS 1077	4500 mm to 4800 mm
		Dimension: Width		2000 mm to 2500 mm
		Dimension: Height		1200 mm to 1600 mm
4.	Fine Aggregate	Sieve Analysis	IS 2386 (Part 1)	0.075 mm to 10.0 mm
		Deleterious Material	IS 2386 (Part 1 & Part 2)	Upto 10 %
		Specific Gravity	IS 2386 (Part 3)	1 to 3
		Water Absorption	IS 2386 (Part 3)	0.1 % to 5 %
		Soundness	IS 2386 (Part 5)	0.1 % to 20 %
		Bulk Density	IS 2386 (Part 3)	1 kg/ltr to 3 kg/ltr
		Bulking of sand	IS 2386 (Part 3)	1.0 % to 25.0 %
5.	Coarse Aggregate	Sieve Analysis	IS 2386 (Part 1)	4.75 mm to 125 mm
		Crushing Value	IS 2386 (Part 4)	10 % to 50 %
		Impact Value	IS 2386 (Part 4)	10 % to 50 %
		Abrasion Value	IS 2386 (Part 4)	10 % to 50 %
		10% fine value	IS 2386 (Part 4)	5 tones to 30 tones
		Bulk Density	IS 2386 (Part 3)	1.0 kg/ltr to 3.0 kg/ltr
		Water Absorption	IS 2386 (Part 3)	0.1 % to 5 %
		Elongation Index	IS 2386 (Part 1)	1 % to 50 %
		Flakiness Index	IS 2386 (Part 1)	1 % to 50 %
		Total Deleterious Materials	IS 2386 (Part 1 & Part 2)	Upto 20 %
		Specific Gravity	IS 2386 (Part 3)	1 to 3
6.	Hardened Concrete	Moisture Content	IS 2386 (Part 3)	0.1 % to 10 %
		Soundness	IS 2386 (Part 5)	0.1 % to 20 %
		Compressive Strength	IS 516	7.5 N/mm ² to 60 N/mm ²
7.	Admixture	Permeability	DIN-1048	0.5 mm to 30 mm
		Initial Setting Time	IS 8142	80 minutes to 300 minutes
		Final Setting Time	IS 8142	100 minutes to 1400 minutes

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8.	Bentonite	Moisture	IS 6186	0.1 % to 20 %
		Sand Content	IS 6186	0.1 % to 10 %
9.	Concrete Tiles & Paver Blocks	Compressive Strength	IS 15658	1 MPa to 60 MPa
		Water Absorption	IS 15658	0.1 % to 20 %
		Abrasion Resistance	IS 15658	0.4 mm to 4.5 mm
10.	Concrete	Flexural Strength	IS 516	2.0 N/mm ² to 12 N/mm ²
11.	Ceramic Tiles	Water Absorption	IS 13630 (Part 2)	0.1 % to 30 %
12.	Building Stones	Compressive Strength	IS 1121 (Part 1)	10 MPa to 100 MPa
		Specific Gravity	IS 1122	1.0 to 3.5
		Water Absorption	IS 1124	0.1 % to 10 %
13.	Flush Door	Glue Adhesion	IS 4020 (Part 15)	Qualitative
		End Emersion	IS 4020 (Part 13)	Qualitative
		Knife	IS 4020 (Part 14)	Qualitative
14.	Timber	Moisture Content	IS 1706	1.0 % to 25.0 %
		Density	IS 1708	25 kg/m ³ to 1000 kg/m ³
III.	SOIL & ROCK			
1.	Soil	Light compaction	IS 2720 (Part 7)	
		Maximum Dry Density		1.5 g/cc to 2.5 g/cc
		Optimum Moisture Content		1.0 % to 18.0 %
		Heavy Compaction	IS 2720 (Part 8)	
		Maximum Dry Density		1.5 g/cc to 2.5 g/cc
		Optimum Moisture Content		1.0 % to 18.0 %
		Grain Size Analysis	IS 2720 (Part 4)	0.075 mm to 75 mm
		Plastic limit	IS 2720 (Part 5)	0.1 % to 30 %
	Liquid limit	IS 2720 (Part 5)	0.1 % to 50 %	
	California Bearing Ratio	IS 2720 (Part 16)	2 % to 50 %	

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