

Laboratory

Maa Narmada Testing & Research Laboratories, JVR Tower,
Maharajpur, Jabalpur, Madhya Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5201

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Validity 29.12.2017 to 28.12.2019

Last Amended on --

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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MECHANICAL TESTING

I.	BUILDING MATERIALS			
1.	Aggregate (Fine)	Sieve Analysis	IS 2386 (Part 1)	0.1 % to 100 % (75 micron to 4.75mm)
		Water Absorption	IS 2386 (Part 3)	0.1 % to 10 %
		Specific gravity	IS 2386 (Part 3)	2 to 4
		Bulk Density	IS 2386 (Part 3)	1.2 kg/litre to 2.5 kg/litre
		Organic Impurities	IS 2386 (Part 2)	Qualitative
2.	Aggregate (Coarse)	Sieve Analysis	IS 2386 (Part 1)	0.1 % to 100 % 4.75 mm to 80 mm
		Water Absorption	IS 2386 (Part 3)	0.1 % to 10 %
		Specific Gravity	IS 2386 (Part 3)	2 to 4
		Bulk Density	IS2386 (Part 3)	1.2 kg/litre to 2.5 kg/litre
		Flakiness Index	IS 2386 (Part 1)	5 % to 50 %
		Elongation Index	IS 2386 (Part 1)	5 % to 50 %
		Crushing Value	IS 2386 (Part 4)	5 % to 50 %
		Impact Value	IS 2386 (Part 4)	5 % to 50 %
		10% Fines Value	IS 2386 (Part 4)	5 Ton to 40 Ton
		Soundness	IS 2386 (Part 5)	0.1% to 10 %
		Organic Impurities	IS 2386 (Part 2)	Qualitative
3.	Cement (OPC/PPC)	Consistency	IS 4031 (Part 4)	10 % to 40 %
		Initial Setting Time	IS 4031 (Part 5)	30 Min to 300 Min.
		Final Setting Time	IS 4031 (Part 5)	100 Min. to 600 Min.
		Compressive Strength	IS 4031 (Part 6)	10 N/mm ² to 70 N/mm ²
		Soundness by Le-Chatilier method	IS 4031 (Part 3)	0.1 mm to 10 mm
		Fineness by Blain's Air Permeability	IS 4031 (Part 2)	100 m ² /kg to 500 m ² /kg
		Density	IS 4031 (Part 11)	2.50 g/cc to 4.0 g/cc

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4.	Concrete Flooring Tiles	Water absorption	IS 1237	0.1% to 20 %
		Resistance to wear	IS 1237	0.1 mm to 50 mm
5.	Paver Block	Water Absorption	IS 15658 Annexure C	1 % to 20%
		Compressive Strength	IS 15658 Annexure D	150 Kg/cm ² to 750 Kg/cm ²
		Abrasion Resistance	IS 15658 Annexure E	50 to 50000mm ³ /5000mm ²
6.	Bricks-Common Burnt Clay / Flyash	Water Absorption	IS 3495 (Part 2)	1 % to 25%
		Compressive Strength	IS 3495 (Part 1)	20 kg/cm ² to 400 kg/cm ²
		Efflorescence	IS 3495 (Part 3)	Qualitative
		Dimensions	IS 1077	L:3000mm to 5000mm
				W:1500mm to 2500mm
H: 500mm to 2000mm				
7.	Autoclaved Cellular Aerated Concrete Blocks	Compressive Strength	IS 6441 (Part 5)	0.5 N/mm ² to 10 N/mm ²
		Block Density	IS 6441 (Part 1)	400 kg/ m ³ to 1500 kg/ m ³
		Dimensions	IS 2185 (Part 3)	L:50mm to 700mm
				W:50mm to 400mm
H:50 mm to 300mm				
8.	Bituminous Mix	Marshall Stability	ASTM D 6927-15	0.4 kN to 30 kN
		Marshall Flow	ASTM D 6927-15	1 mm to 6.0 mm
		Binder Content	ASTM D 2172-11	1 % to 7 %
9.	Hardened Concrete (Cube)	Compressive Strength	IS 516	10 N/mm ² to 88 N/mm ²
10.	Fly Ash	Residue on 45 micron	IS 1727	5 % to 50 %
		Specific Gravity	IS 1727	1 to 3
		Fineness by Blaine's Air permeability	IS 1727	100 m ² /kg to 600 m ² /kg
II.	SOIL AND ROCK			

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1.	Soil	Grain Size Analysis	IS 2720 (Part 4)	0.1 to 100% (75 micron to 4.75mm)
		Liquid Limit	IS 2720 (Part 5)	20% to 80%
		Plastic Limit	IS 2720 (Part 5)	10% to 40%
		Free Swell Index	IS 2720 (Part 40)	10 % to 90%
		Specific Gravity	IS 2720 (Part 3) Section 1 & 2	1.0 to 3.0
		Light Compaction	IS 2720 (Part 7)	MDD: 1.0 to 3.00 g/cc OMC: 1 to 25%
		Heavy Compaction	IS 2720 (Part 8)	MDD: 1.0 to 3.00 g/cc OMC: 1 to 20%
		CBR Value	IS 2720 (Part 16)	1% to 60%
		Moisture Content	IS 2720 (Part 2)	0.1% to 35%
III.	MECHANICAL PROPERTIES OF METALS			
1.	High Strength Deformed Steel Bars for Concrete Reinforcement	Mass per Meter	IS 1786	0.1 kg/m to 9.5 kg/m
		Tensile Strength	IS 1608	100 N/mm ² to 800 N/mm ²
		Yield Stress	IS 1608	100 N/mm ² to 800 N/mm ²
		Elongation	IS 1608	10% to 40 %
		Bend Test	IS 1599	Mandrel diameter (mm) 16, 20, 24, 32, 50, 60, 64, 80, 140, 175, 240, 280 & 320
		Rebend Test	IS 1786	Mandrel diameter (mm) 16, 20, 24, 32, 50, 60, 64, 80, 140, 175, 240, 280 & 320