

Laboratory Premier Technical Consultants, Plot No. 10, Dara Bendre Nagar Cross Road, V Nagappa Layout, Cantonment, Ballari, Karnataka

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6447

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Validity 30.10.2017 to 29.10.2019

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**

<b>I.</b>	<b>BUILDING MATERIAL</b>			
<b>1.</b>	<b>Aggregate</b>			
<b>a.</b>	<b>Fine Aggregate</b>	Sieve Analysis	IS 2386 (Part 1)	75 microns to 4.75 mm
		Silt Content	IS 2386 (Part 1)	0.1 % to 10 %
		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/L to 2.5 kg/L
<b>b.</b>	<b>Coarse Aggregate</b>	Sieve Analysis	IS 2386 (Part 1)	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
		Flakiness Index	IS 2386 (Part 1)	1 % to 50 %
		Elongation Index	IS 2386 (Part 1)	1 % to 50 %
		Crushing Value	IS 2386 (Part 4)	1 % to 50 %
		Impact Value	IS 2386 (Part 4)	1 % to 50 %
		Los Angeles Abrassion Value	IS 2386 (Part 4)	1 % to 35 %
<b>2.</b>	<b>Concrete</b>			
<b>a.</b>	<b>Hardened Concrete</b>	Compressive Strength	IS 516	10 N/mm <sup>2</sup> to 88 N/mm <sup>2</sup>
		Flexural Strength	IS 516	1 N/mm <sup>2</sup> to 10 N/mm <sup>2</sup>
		Accelerated Cured Comp. Strength	IS 9013	10 N/mm <sup>2</sup> to 85 N/mm <sup>2</sup>
<b>b.</b>	<b>Hollow Concrete Block &amp; Solid Concrete Block</b>	Dimension	IS 2180	L: 200 mm to 450 mm W: Up to 200 mm H: 100 mm to 250 mm
		Water Absorption	IS 2185 (Part 1)	1 % to 50 %
		Compressive Strength	IS 2185 (Part 1)	1 N/mm <sup>2</sup> to 35 N/mm <sup>2</sup>
<b>3.</b>	<b>Bitumen</b>	Penetration	IS 1203	10 divisions to 390 divisions (1 Division = 1/10 <sup>th</sup> mm)
		Ductility	IS 1208	5 to 100 cm

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		Flash Point	IS 1206	200 °C to 300 °C
		Softening Point	IS 1205	35 °C to 100 °C
4.	Cement (OPC/PPC)	Normal Consistency	IS 4031 (Part 4)	20 % 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
		Finess by dry	IS 4031 (Part 1)	0.1 % to 20 %
		Soundness by Le Chattelier Method	IS 4031 (Part 3)	0.1 mm to 10 mm
		Compressive Strength	IS 4031 (Part 6)	10 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
		Density	IS 4031 (Part 11)	2.8 g/cc to 3.3 g/cc
II.	<b>SOIL AND ROCK</b>			
1.	Soil	Grain size Analysis	IS 2720 (Part 4)	20 mm to 75 micron
		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)	1 % to 90 %
		Specific Gravity	IS 2720 (Part 3/Sec-1 & 2)	1.0 to 3.0
		Light Compaction	IS 2720 (Part 7)	MDD: 1.0 g/cc to 3.00 g/cc OMC: 1 % to 25 %
		Heavy Compaction	IS 2720 (Part 8)	MDD: 1.0 g/cc to 3.00 g/cc OMC: 1 % to 20 %
		Direct Shear	IS 2720 (Part 13)	C= Up to 1 kg/cm <sup>2</sup> Ø=5° to 40 °
		Moisture Content	IS 2720 (Part 2)	0.1 % to 35 %
		California Bearing Ratio	IS 2720 (Part 6)	2 % to 45 %
	Shrinkage Limit	IS 2720 (Part 6)	20 % to 60 %	
III.	<b>MECHANICAL PROPERTIES OF METALS</b>			
1.	Ferrous Materials, Alloys & Products: Reinforcement - Structural Steel	Ultimate Tensile Strength	IS 1608	100 N/mm <sup>2</sup> to 700 N/mm <sup>2</sup>
		Yield Stress	IS 1608	100 N/mm <sup>2</sup> to 700 N/mm <sup>2</sup>
		Elongation %	IS 1608	5 % to 50 %
		Mass per meter	IS 1786	0.01 kg/m to 20 kg/m

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		Bend Test	IS 1599	(Mandrel Size: 8, 10, 12, 16, 18, 22, 24, 28, 32, 40, 48, 56, 60, 64, 80, 84, 100, 112, 125, 140, 160 mm)
		Re-Bend Test	IS 1786	(Mandrel Size: 16, 18, 22, 24, 28, 32, 40, 48, 56, 60, 64, 80, 84, 100, 112, 125, 140, 160, 175, 195, 225 mm)