

Laboratory Index Lab & Consultants, B-11, Navlakha Complex, Agrasen Square, Indore, Madhya Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7366 (in lieu of T-3961)

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Validity 19.05.2018 to 18.05.2020

Last Amended on 06.06.2018

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 MATERIAL			
1.	Burnt Clay Bricks & Fly Ash Bricks	Compressive strength	IS 3495 (Part 1)	3.5 N/mm ² to 50 N/mm ²
		Efflorescence	IS 3495 (Part 3)	Qualitative
		Water absorption	IS 3495 (Part 2)	2 % to 25 %
		Dimensions	IS 1077	L=3720 mm to 3880 mm
				W=1760 mm to 1840 mm
				H=1760 mm to 1840 mm
2.	Aggregates (Coarse)	Sieve analysis	IS 2386 (Part 1)	4.75 mm to 125 mm (0.1 % to 100.0 %)
		Flakiness Index	IS 2386 (Part 1)	2 % to 40 %
		Elongation Index	IS 2386 (Part 1)	2 % to 40 %
		Specific Gravity	IS 2386 (Part 3)	1.50 to 4.00
		Water absorption	IS 2386 (Part 3)	0.5 % to 10 %
		Crushing Value	IS 2386 (Part 4)	1 % to 60 %
		Soundness by Na ₂ SO ₄	IS 2386 (Part 5)	0.05 % to 30%
		Impact Value	IS 2386 (Part 4)	1 % to 50 %
		Los Angeles abrasion value	IS 2386 (Part 4)	1 % to 60 %
		Bulk Density	IS 2386 (Part 3)	1.0 kg/l to 2.5 kg/l
		10 % Fines Value	IS 2386 (Part 4)	5 tons to 50 tons
3.	Aggregates (Fine)	Sieve analysis	IS 2386 (Part 1)	75 µm to 125 mm (0.1 % to 100.0 %)
		Bulking of Sand	IS 2386 (Part 3)	1 % to 25 %
		Specific Gravity	IS 2386 (Part 3)	1.50 to 4.00
		Water absorption	IS 2386 (Part 3)	0.5 % to 10 %
		Bulk Density	IS 2386 (Part 3)	1.0 kg/l to 2.5 kg/l
		Soundness by Na ₂ SO ₄	IS 2386 (Part 5)	0.05 % to 30 %
4.	Bitumen	Softening Point	IS 1205	40 °C to 60 °C
		Penetration	IS 1203	25 to 100 (1/10mm)

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		Specific gravity	IS 1202	0.99 to 1.1
		Flash & Fire Point	IS 1209	175 °C to 300 °C
5.	Bituminous Mix	Marshall Stability	ASTM D 1559	0.1 kN to 25 kN
		Marshall Flow	ASTM D 1559	2 mm to 6.0 mm
		Binder Content	ASTM D 2172	2 % to 7 %
6.	Cement (OPC/ PPC)	Consistency	IS 4031 (Part 4)	25 % to 40 %
		Initial Setting Time	IS 4031 (Part 5)	30 minute to 250 minute
		Final Setting time		30 minute to 700 minute
		Compressive strength	IS 4031 (Part 6)	5 N/mm ² to 85 N/mm ²
		Soundness by Le-Chatalier's method	IS 4031 (Part 3) Clause No. 5	0.05 mm to 10 mm
		Soundness by Autoclave method	IS 4031 (Part 3) Clause No.6	0.02 % to 2.0 %
		Fineness by dry sieving (% retained)	IS 4031 (Part 1) Clause No.5	0.1 % to 10%
		Fineness by Blain's air permeability	IS 4031 (Part 2)	100 m ² /kg to 500 m ² /kg
7.	Concrete	Compressive strength	IS 516	5 N/mm ² to 85 N/mm ²
		Flexural strength	IS 516	0.5 N/mm ² to 10 N/mm ²
		Compressive strength of cubes (Accelerated cured concrete)	IS 9013	5 N/mm ² to 85 N/mm ²
8.	Paver Block	Slump Test	IS 1199	5 mm to 300 mm
		Dimensions	IS 15658 (Annex.-B)	L=1 mm to 500 mm W=1 mm to 300 mm H=1 mm to 300 mm
		Water absorption	IS 15658 (Annex.-C)	1 % to 25 %
		Compressive Strength	IS 15658 (Annex.-D)	5 N/mm ² to 75 N/mm ²
		Flexural strength	IS 15658	0.1 N/mm ² to 15 N/mm ²
9.	Hollow/ Solid Block	Compressive Strength	IS 2185 (Part 1)	5 N/mm ² to 45 N/mm ²
		Water Absorption	IS 2185 (Part 2)	0.10 % to 15 %
		Block density	IS 2185 (Part 1): 2005	100 kg/m ³ to 3000 kg/m ³

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10.	Ceramic Tiles	Water absorption	IS 13630 (Part 2)	0.1 % to 25 %
11.	Cement Concrete Tiles	Water absorption	IS 1237	0.1 % to 25 %
II.	SOIL & ROCK			
1.	Soil	Moisture content	IS 2720 (Part 2)	1 % to 40 %
		Grain size analysis	IS 2720 (Part 4)	75 μ m to 40 mm (0.1 % to 100.0 %)
		Liquid Limit	IS 2720 (Part 5)	25 % to 120 %
		Plastic Limit	IS 2720 (Part 5)	15 % to 40 %
		Specific Gravity	IS 2720 (Part 3)	2.0 to 4.0
		Shrinkage Limit	IS 2720 (Part 6)	5 % to 40 %
		Light compaction	IS 2720 (Part 7)	MDD: 1.2 gm/cc to 2.10 gm/cc OMC: 5 % to 40.0 %
		Heavy compaction	IS 2720 (Part 8)	MDD: 1.4 g/cc to 2.60 g/cc OMC: 2 % to 30.0 %
		California Bearing ratio	IS 2720 (Part 16)	1 % to 60 %
		Free Swell Index	IS 2720 (Part 15)	10 % to 150 %
		Tri Axial Shear Test with pore pressure	IS 2720 (Part 12)	C= 0 to 4 kg/cm ² ϕ = 5° to 25°
		Direct Shear Test	IS 2720 (Part 39)	C= 0 to 4 kg/cm ² ϕ = 5° to 25°
III.	MECHANICAL PROPERTIES OF METALS			
1.	Ferrous & Non Ferrous Metals & Alloys of Bar	Ultimate Tensile Strength	IS 1608	400 N/mm ² to 800 N/mm ²
		Yield Stress	IS 1608	300 N/mm ² to 700 N/mm ²
		% Elongation	IS 1608	5 % to 40 %
		Mass Per Meter	IS 1786 Amd: 2013	0.222 kg/m to 9.86 kg/m

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		Bend Test	IS 1599 Amd: 2013	Qualitative Mandrel (Dia in mm: 16, 20, 24, 30, 32, 36, 40, 48, 60, 64, 75, 80, 84, 96, 100, 112, 125, 128, 140, 160)
		Rebend Test	IS 1786Amd: 2013	Qualitative Mandrel (Dia in mm: 32, 40, 50, 72, 84, 96, 112, 120, 140, 150, 168, 175, 192, 196, 224)

Malancha Das
Convenor

N. Venkateswaran
Program Director