Laboratory	**Kautilya Institute of Technology & Engineering (Laboratory Division), ISI-16, RIICO Institutional Area, Sitapura, Jaipur, Rajasthan**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-8129** **Page 1 of 4**
Validity	**26.11.2018 to 25.11.2020** **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

MECHANICAL TESTING

I.	**BUILDING MATERIALS**			
1.	**Aggregate (Coarse)**	Grading (Sieve Analysis)	IS 2386 (Part 1)	0 to 100 % (4.75 mm to 125 mm)
		Flakiness Index	IS 2386 (Part 1)	5 % to 50 %
		Elongation Index	IS 2386 (Part 1)	5 % to 50 %
		Impact Value	IS 2386 (Part 4)	5 % to 60 %
		Water Absorption	IS 2386 (Part 3)	0.1 % to 5.0 %
		Specific Gravity	IS 2386 (Part 3)	2 to 4
		Stripping Value	IS 6241	Qualitative
2.	**Fine Aggregate**	Grading (Sieve Analysis)	IS 2386 (Part 1)	0 to 100 % (75 micron to 4.75 mm)
		Bulk Density	IS 2386 (Part 3)	1.0 kg/l to 3.0 kg/l
		Specific Gravity	IS 2386 (Part 3)	2 to 4
		Water absorption	IS 2386 (Part 3)	0.20 % to 10.0 %
		Materials finer than 75 µm	IS 2386 (Part 1)	0.1 % to 5 %
3.	**Cement (PPC/OPC)**	Consistency of Standard Cement Paste	IS 4031 (Part 4)	10 % to 45 %
		Fineness (Dry)	IS 4031 (Part 1)	1 % to 10 %
		Setting time IST	IS 4031 (Part 5)	20 min to 200 min
		FST	IS 4031 (Part 5)	10 min to 600 min
		Density	IS 4031 (Part 11)	2 g/cc to 4 g/cc
		Soundness (Le-Chatelier Method)	IS 4031 (Part 3)	0.5 mm to 10 mm
		Compressive Strength of Cement	IS 4031 (Part 6)	10 N/mm^2 to 70 N/mm^2
		Compressive Strength for cubes	IS 516	10 N/mm^2 to 60 N/mm^2
		Bitumen extraction test	IRC SP11	0 to 100 %

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4.	**Brick**	Water absorption	IS 3495 (Part 2)	5 % to 40 %
		Compressive Strength	IS 3495 (Part 1)	1 N/mm^2 to15 N/mm^2
		Dimensions	IS 1077 IS 12894 IS 13757	**Length:** 4500 mm to 4700 mm **Width:** 2100 mm to 2300 mm **Height:** 1300 mm to 1500 mm
		Efflorescence	IS 3495 (Part 3)	Qualitative
5.	**Bitumen (Polymer Modified Industrial/ Paving)**	Softening Point	IS 1205	5 °C to 100 °C
		Penetration Test	IS 1203	10 to 100
		Ductility Test	IS 1208	10 cm to 100 cm
		Bitumen extraction test	IRC SP 11	0 to 100 %
II.	**MECHANICAL PROPERTIES OF METALS**			
1.	**Steel- TMT**	Yield Stress	IS 1608 IS 1786	200 N/mm^2 to 800 N/mm^2
		Ultimate Tensile Strength	IS 1608 IS 1786	250 N/mm^2 to 1000 N/mm^2
		% Elongation	IS 1608 IS 1786	5 % to 40 %
III.	**SOIL & ROCK**			
1.	**Soil**	Specific Gravity	IS 2720 (Part 3)	1 to 4
		Grain Size distribution (Wet Sieving)	IS 2720 (Part 4)	0 to 100 %
		Grain Size Analysis by Hydrometer Test	IS 2720 (Part 4)	2 µm to 75 µm
		Liquid Limit	IS 2720 (Part 5)	20 % to 60 %
		Plastic Limit	IS 2720 (Part 5)	10 % to 40 %
		Shrinkage Limit	IS 2720 (Part 6)	5 % to 30 %
		Water Content	IS 2720 (Part 2)	Upto 40 %

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		Direct Shear Test	IS 2720 (Part 13)	C = 0 to 5 kg/cm² Φ = 0° to 50°
		Consolidation Test	IS 2720 (Part 15)	mV = 1×10^{-3} cm^2/kg to 10×10^{-3} cm^2/kg Cv = 5 mm^2/min to 60 mm^2/min
		Compaction test- Light compaction MDD OMC	IS 2720 (Part 7)	 1 g/cc to 3 g/cc 0.1 % to 25 %
		Compaction test - Heavy compaction MDD OMC	IS 2720 (Part 8)	 1 g/cc to 3 g/cc 0.1 % to 25 %
		Free Swell Index	IS 2720 (Part 40)	1 % to 200 %
		California Bearing Ratio (CBR)	IS 2720 (Part 16)	1 % to 40 %
		Permeability (Falling Head)	IS 2720 (Part 17)	10^{-1} cm/s to 10^{-8} cm/s

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		NON - DESTRUCTIVE TESTING		
I.	**BUILDING MATERIALS- REINFORCED CONCRETE STRUCTURES**			
1.	**Hardened Concrete**	Rebound Hammer	IS 13311 (Part 2)	10 Rh to 55 Rh (10 MPa to 70 MPa)

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