

Laboratory **Marshal Test Labs (I) Pvt. Ltd., Shop 6-7, Fourth Floor, Dawa Bazar, 13-14, R.N.T Marg, Indore, Madhya Pradesh**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-7541 (in lieu of T-2172)**

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Validity **30.06.2018 to 29.06.2020**

Last Amended on **04.07.2018**

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.	MECHANICAL PROPERTIES OF METALS			
1.	Steel TMT Bar	Tensile Test	IS 1786	10 kN to 600 kN
		-UTS		
		-Yield Strength		
		-Elongation		5 % to 40%
		Dimension	IS 1786	6 mm to 32 mm
		Mass per Meter	IS 1786	1 kg/m to 10 kg/m
		Bend	IS 1786	Qualitative (Mandrel Diameter: 24mm, 32mm, 36mm, 48mm, 60mm, 60mm, 100mm, 112mm, 125mm, 128mm)
		Rebend	IS 1786	Qualitative (Mandrel Diameter: 40mm, 50mm, 70mm, 84mm, 196mm, 224mm)
II.	BUILDING MATERIALS			
1.	Coarse Aggregates	Sieve Analysis	IS 2386 (Part 1)	4.75 mm to 63 mm (0.1 % to 100 %)
		Specific Gravity	IS 2386 (Part 3)	2 to 4
		Water Absorption	IS 2386 (Part 3)	0.1% to 5 %
		Bulk Density (Loose and Rodded)	IS 2386 (Part 3)	1000 g/cc to 2500 g/cc
		Flakiness Index	IS 2386 (Part 1)	1 % to 50 %
		Elongation Index	IS 2386 (Part 1)	1 % to 50 %
		Aggregate Impact Value	IS 2386 (Part 4)	5 % to 50 %

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2.	Cement (OPC, PPC)	Standard consistency	IS 4031 (Part 4)	20 % to 40 %
		Setting time	IS 4031 (Part 5)	5 min. to 300 min.
		- Initial		
		-final		100 min. to 700 min.
		Fineness by dry sieving	IS 4031 (Part 1)	0.1% to 20%
3.	Bitumen Mix	Bitumen Extraction	IRC SP 11	0.1 % to 10 %
4.	Bricks	Compressive Strength	IS 3495 (Part 1)	0.25 N/mm ² to 50 N/mm ²
		Water absorption	IS 3495 (Part 2)	1 % to 25 %
5.	Fine Aggregates	Sieve analysis	IS 2386 (Part 1)	75 µm to 4.75 mm
		Specific gravity	IS 2386 (Part 3)	2 to 4
		Material Finer than 75 microns	IS 2386 (Part 1)	0.1 % to 20 %
		Bulk Density (Loose and Rodded)	IS 2386 (Part 3)	1 g/cc to 3 g/cc
6.	Hardened Concrete	Compressive Strength	IS 516	10 N/mm ² to 60 N/mm ²
III.	SOIL AND ROCK			
1.	Soil	Natural Moisture Content	IS 2720 (Part 2)	0.1 % to 25 %
		Specific Gravity	IS 2720 (Part 3)	2 to 4
		Liquid Limit	IS 2720 (Part 5)	20 % to 100 %
		Plastic Limit	IS 2720 (Par 5)	1 % to 50%
		Particle Size Analysis (Sieve Analysis)	IS 2720 (Part 4)	75 µm to 19 mm
		Heavy Compaction Test	IS 2720 (Part 8)	
		OMC :		6 % to 40 %
		MDD :		1.04 g/cc to 2.5 g/cc
	Free Swell Index	IS 2720 (Part 40)	0.1 % to 100 %	
	California Bearing Ratio (Lab CBR)	IS 2720 (Part 16)	0.1 % to 80 %	