

Laboratory **Geostruct Engineering and Testing Services, 8, Sahajanand Industrial Estate, Munjmahuda, Padra Road, Vadodara, Gujarat**

Accreditation Standard **ISO/IEC 17025: 2017**

Certificate Number **TC-7243**

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Validity **03.06.2019 to 28.04.2020**

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
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**MECHANICAL TESTING**

<b>I.</b>	<b>MECHANICAL PROPERTIES OF METALS</b>			
<b>1.</b>	<b>Steel Reinforcement</b>	Ultimate Tensile Strength	IS 1608	200 N/mm <sup>2</sup> to 800 N/mm <sup>2</sup> (20 to 1000 kN load)
		Yield Strength	IS 1608	200 N/mm <sup>2</sup> to 750 N/mm <sup>2</sup> (20 to 1000 kN load)
		Elongation	IS 1608	5 % to 40 %
		Mass Per Meter	IS 1786	0.3 kg/m to 10 kg/m
<b>II.</b>	<b>SOIL &amp; ROCK</b>			
<b>1.</b>	<b>Soil</b>	Water Content	IS 2720 (Part 2)	1 % to 50 %
		Liquid Limit	IS 2720 (Part 5)	10 % to 80 %
		Plastic Limit	IS 2720 (Part 5)	1 % to 80 %
		Shrinkage Limit	IS 2720 (Part 6)	5 % to 50 %
		Specific Gravity	IS 2720 (Part 3 & Sec. 1)	1.50 to 3.00
		Grain Size Analysis	IS 2720 (Part 4)	75 mm to 75 micron Passing (0 to 100 %)
		Free Swell Index	IS 2720 (Part 40)	5 % to 100 %
		Unconfined compressive strength	IS 2720 (Part 10)	0.01 N/Sqmm to 0.6 N/Sqmm (0.1 to 6 kg/sqcm)
		Water content-dry density relation using light compaction	IS 2720 (Part 7)	1.0 g/cc to 2.20 g/cc 1 % to 40 %
		Water content-dry density relation using Heavy compaction	IS 2720 (Part 8)	1.0 g/cc to 2.5 g/cc 1 % to 40 %
		California Bearing Ratio test	IS 2720 (Part 16)	0.5 % to 50 %

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III.	<b>BUILDING MATERIAL</b>			
1.	<b>Concrete Cubes</b>	Compressive Strength	IS 516	10 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
2.	<b>Paver Block</b>	Water Absorption	IS 15658	0.5 % to 15 %
		Compressive Strength	IS 15658	5 N/mm <sup>2</sup> to 70 N/mm <sup>2</sup>
3.	<b>Bricks</b>	Water Absorption	IS 3495 (Part 2)	10 % to 40 %
		Compressive Strength	IS 3495 (Part 1)	2 N/mm <sup>2</sup> to 15 N/mm <sup>2</sup>
4.	<b>Fine Aggregate</b>	Sieve Analysis	IS 2386 (Part 1)	75 Micron to 10 mm passing/retain (0 to 100 %)
		Specific Gravity	IS 2386 (Part 3)	2.0 to 3.0
		Water Absorption	IS 2386 (Part 3)	0.5 % to 5 %
		Bulk Density (loose/compacted)	IS 2386 (Part 3)	1.2 kg/lit to 2 kg/lit
5.	<b>Coarse Aggregate</b>	Sieve analysis	IS 2386 (Part 1)	4.75 mm to 125mm passing / retain (0 to 100%)
		Specific Gravity	IS 2386 (Part 3)	2.0 to 3.0
		Water Absorption	IS 2386 (Part 3)	0.05 % to 5 %
		Bulk Density (loose/compacted)	IS 2386 (Part 3)	1.2 kg/lit to 3.0 kg/lit
		Crushing Value	IS 2386 (Part 4)	5 % to 60 %
		Impact Value	IS 2386 (Part 4)	5 % to 60 %
		Los Angeles Abrasion Value	IS 2386 (Part 4)	5 % to 60 %
		Flakiness Index	IS 2386 (Part 1)	1 % to 60 %
		Elongation Index	IS 2386 (Part 1)	1 % to 50 %
6.	<b>Cement</b>	Consistency	IS 4031 (Part 4)	25 % to 35 %
		Initial setting time	IS 4031 (Part 5)	25 min. to 250 min.
		Final setting time	IS 4031 (Part 5)	100 min. to 600 min.
		Comp. strength	IS 4031 (Part 6)	10 N/sqmm to 70 N/sqmm