

Laboratory **Horizon Infradesigns Pvt. Ltd., Plot NO.6, Vasundhara Colony, Tonk Road, Jaipur, Rajasthan**

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

Certificate Number **TC-6375**

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Validity **06.10.2017 to 05.10.2019**

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
<b><u>MECHANICAL TESTING</u></b>				
<b>I.</b>	<b>SOIL AND ROCK</b>			
<b>1.</b>	<b>Soil</b>	Moisture Content	IS 2720 (Part 2)	0.5 %to 50 %
		Grain size analysis Dry Sieve Analysis	IS 2720 (Part 4)	0.1 %to 100 % (4.75mm– 75 micron)
		Liquid Limit	IS 2720 (Part 5)	5%to 100 %
		Plastic Limit	IS 2720 (Part 5)	1 %to 50 %
		Specific gravity	IS 2720 (Part 3/section-1)	1 to 4
		Free Swell index	IS 2720 (Part 40)	1%to 200%
		Compaction test- Light compaction Maximum Dry Density Optimum Moisture Content	IS 2720 (Part 7)	1 to 4 g/cm <sup>3</sup> 5 to 30%
		Compaction test - Heavy compaction Maximum Dry Density Optimum Moisture Content	IS 2720 (Part 8)	1 to 4 g/cm <sup>3</sup> 5 to 30%
		Triaxial shear test	IS 2720 (Part 11)	C = 0 to 7 kg/cm <sup>2</sup> Φ = 0° to 50°
		Direct shear test	IS 2720 (Part 13)	C = 0 to 5 kg/cm <sup>2</sup> Φ = 0° to 50°
<b>II.</b>	<b>BUILDING MATERIAL</b>			
<b>1.</b>	<b>Cement (PPC/OPC)</b>	Consistency of Standard Cement Paste	IS 4031 (Part 4)	10 %to 40 %
		Fineness Blaine Air Method	IS 4031 (Part 2)	100 m <sup>2</sup> /kg to 550 m <sup>2</sup> /kg
		Setting time Initial Setting Time	IS 4031 (Part 5)	10 minutes to 300 minutes

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		Final Setting Time	IS 4031 (Part 5)	10 minutes to 600 minutes
		Specific Gravity test	IS 4031 (Part 11)	1 to 4
		Soundness test	IS 4031 (Part 3)	0.5 mm to 10 mm
		Compressive Strength of Cement	IS 4031 (Part 6)	10 N/mm <sup>2</sup> to 70 N/mm <sup>2</sup>
2.	<b>Fine Aggregate (sand)</b>	Specific Gravity	IS 2386 (Part III)	1 to 4
		Particle Size Distribution	IS 2386 (Part I)	0.1 % to 100 % (150 microns to 10mm)
		Bulk Density	IS 2386 (Part III)	1 kg/L to 4 kg/L
		Water absorption	IS 2386 (Part III)	0.1% to 10%
		Material finer than 75 microns	IS 2386 (Part I)	0.03% to 10%
3.	<b>Coarse Aggregate</b>	Specific Gravity	IS 2386 (Part III)	1 to 4
		Particle Size Distribution	IS 2386 (Part I)	0.1 % to 100 % (2.36 mm to 125 mm)
		Flakiness Index	IS 2386 (Part I)	1% to 50%
		Elongation Index	IS 2386 (Part I)	1% to 50%
		Soundness	IS 2386 (Part V)	0.3 % to 20%
		Bulk density	IS 2386 (Part III)	1 kg/L to 5 kg/L
		Crushing value	IS 2386 ((Part IV)	5 % to 60 %
		Impact Value	IS 2386 (Part IV)	5 % to 60%
		Water Absorption	IS 2386 (Part I)	0.1 % to 5%
		Material finer than 75 microns	IS 2386 (Part I)	0.03% to 10%

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4.	Concrete	Compressive Strength of hardened concrete	IS 516-1959	10 N/mm <sup>2</sup> to 75 N/mm <sup>2</sup>
5.	Brick	Water absorption	IS 3495 (Part 2)	0.1 % to 50%
		Compressive Strength	IS 3495 (Part 1)	0.5 N/mm <sup>2</sup> to 15 N/mm <sup>2</sup>
		Dimensions Length Width Height	IS 107, IS 12894 & IS 13757	4400 mm to 4700 mm 2100 mm to 2300 mm 1300 mm to 1500 mm
		Efflorescence	IS 3495 (Part 3)	Qualitative

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<b><u>NON-DESTRUCTIVE TESTING</u></b>				
I.	<b>BUILDING MATERIAL</b>			
1.	<b>Reinforced Cement Structure</b>	Ultrasonic Pulse Velocity Test	IS 13311 (Part 1)	1.5 km/sec to 5.5 km/sec
		Rebound Hammer Test	IS 13311 (Part 2)	10 MPa to 70 MPa