

Laboratory e-Cube Concrete Consultants LLP, 18, Vardhman Industrial Premises,  
Gokul Nagar, LBS Marg, Thane (W), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6362

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Validity 12.04.2019 to 26.09.2019

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
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**MECHANICAL TESTING**

<b>I. BUILDING MATERIALS</b>				
<b>1.</b>	<b>Aggregates (Coarse)</b>	Sieve Analysis	IS 2386 (Part 1)	50 mm to 75 $\mu$
		Elongation Index	IS 2386 (Part 1)	5 % to 75 %
		Flakiness Index	IS 2386 (Part 1)	5 % to 75 %
		Specific gravity	IS 2386 (Part 3)	0.5 to 4.0
		Water Absorption	IS 2386 (Part 3)	0.1 % to 10 %
		Aggregate Impact Value	IS 2386 (Part 4)	5 % to 70 %
		Aggregate Crushing Value	IS 2386 (Part 4)	5 % to 70 %
		Material Finer than 75 Mic	IS 2386 (Part 1)	0.1 % to 20 %
		Bulk Density (Loose & Rodded)	IS 2386 (Part 3)	0.5 g/cm <sup>3</sup> to 2.5 g/cm <sup>3</sup>
		Los Angeles Abrasion Value	IS 2386 (Part 4)	0.5 % to 60 %
<b>2.</b>	<b>Aggregates (Fine)</b>	Sieve Analysis	IS 2386 (Part 1)	50 mm to 75 $\mu$
		Specific gravity	IS 2386 (Part 3)	0.5 to 4.0
		Water Absorption	IS 2386 (Part 3)	0.1 % to 10 %
		Organic Impurities	IS 2386 (Part 1)	Qualitative
		Material Finer than 75 Mic	IS 2386 (Part 1)	0.1 % to 20 %
	Bulk Density (Loose & Rodded)	IS 2386 (Part 3)	0.5 g/cm <sup>3</sup> to 2.5 g/cm <sup>3</sup>	
<b>3.</b>	<b>Concrete Admixture</b>	Dry Material Content	IS 9103	0.5 % to 50 %
		Relative Density	IS 9103	0.5 g/cc to 2.50 g/cc
		pH	IS 9103	1 to 12
<b>4.</b>	<b>Cement (OPC/PPC/ PSC)</b>	Standard consistency	IS 4031 (Part 4)	10 % to 40 %
		Setting time (Initial)	IS 4031 (Part 5)	30 min. to 300 min.
		Setting time(Final)	IS 4031 (Part 5)	100 min. to 600 min.

Iti Saxena  
Convenor

Alok Jain  
Program Manager

Laboratory

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		Compressive strength	IS 4031 (Part 6)	2 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
		Fineness by Blaine's Air permeability method	IS 4031 (Part 2)	100 m <sup>2</sup> /kg to 500 m <sup>2</sup> /kg
		Density	IS 4031 (Part 11)	0.5 gm/cc to 3.5 gm/cc
5.	Concrete	Compressive Strength	IS 516	1 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
6.	Pozzolonic materials	Fineness by Blaine's Air permeability	IS 1727	100 m <sup>2</sup> /kg to 600 m <sup>2</sup> /kg
		Bulk Density	IS 1727	0.1 kg/l to 1.6 kg/l
		Particles retained on 45 Microns	IS 1727	5 % to 50 %
		Specific gravity	IS 1727	2.0 to 3.0
		Moisture content	IS 1727	0.1 % to 10 %
6.	Fresh Concrete	Workability : Slump	IS 1199	10 mm to 250 mm
		Workability : Flow	IS 9103	250 mm to 600 mm
		Density	IS 1199	2200 kg/m <sup>3</sup> to 2600 kg/m <sup>3</sup>
7.	Hardened Concrete	Flexural Strength	IS 516	2 N/mm <sup>2</sup> to 20 N/mm <sup>2</sup>
		Split tensile strength	IS 5816	2 N/mm <sup>2</sup> to 15 N/mm <sup>2</sup>
		Initial Surface Water Absorption test	BS 1881 (Part 208)	0.02 ml/m <sup>2</sup> /sec to 2.0 ml/m <sup>2</sup> /sec
		Water permeability Test	EN-12390 (Part 8)	Nil to 100 mm
		E-Value of concrete	ASTM C 469-2014	15 GPa to 60 GPa
8.	Paver Block	Compressive Strength	IS 15658	5.0 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
9.	Ceramic Tiles	Water Absorption	IS 13630 (Part 2)	0.10 % to 20 %
		Modulus of Rupture	IS 13630 (Part 6)	0.1 N/mm <sup>2</sup> to 50 N/mm <sup>2</sup>
		Dimension	IS 13630 (Part 9)	1 mm to 1000 mm
		Hardness by MOH's Scale	IS 13630 (Part 7 & Part 8)	1 to 9
10.	Hydraulic Binder Mortar/ Grout	Density of fresh mortar	BS EN 1015 (Part 6)	1200 kg/m <sup>3</sup> to 2400 kg/m <sup>3</sup>
		Compressive Strength	IS 4031 (Part 7)	0.5 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
		Flexural Strength	IS 4031 (Part 8)	0.5 N/mm <sup>2</sup> to 20 N/mm <sup>2</sup>

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**NON – DESTRUCTIVE TESTING**

<b>I. BUILDING MATERIALS - REINFORCED CONCRETE STRUCTURES</b>				
<b>I.</b>	<b>Reinforced Concrete Structure</b>	Rebound Hammer	IS 13311 (Part 2)	20 to 55
		Ultrasonic Pulse Velocity	IS 13311 (Part 1)	1 km/sec to 6.2 km/sec
		Half Cell Potential Reading	ASTM C 876	(-) 1 mV to (-) 999 mV
		Carbonation Depth	BS EN 14630: 2006	Qualitative
		Cover Thickness	BS 1881-204	5 mm to 80 mm

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