

Laboratory

Capital Consultancy Engineering Research Laboratory, E-103,
Electronic Estate, G.I.D.C., Sector-26, Gandhinagar, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7589 (in lieu of T-4068)

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Validity 03.08.2018 to 02.08.2020

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

I.	SOIL & ROCK			
1.	Soil	Grain Size Analysis	IS 2720 (Part 4):1985, (RA 2015)	Upto 100% (4.75mm to 0.075 mm)
		Liquid Limit	IS 2720 (Part 5):1985, (RA 2015)	15.00 % to 120.00 %
		Plastic Limit	IS 2720 (Part 5):1985, (RA 2015)	12.00 % to 40.00 %
		Light Compaction	MDD OMC IS 2720 (Part 7):1980 (RA 2011)	1.40 g/cc to 2.50 g/cc 5.00 % to 26.00 %
		Heavy Compaction	MDD OMC IS 2720 (Part 8):1983 (RA:2015)	1.45 g/cc to 2.50 g/cc 4.00 % to 24.00 %
		Specific gravity	IS 2720 (Part 3, Sec-1): 1980, (RA 2011)	1.8 to 2.8
II.	BUILDING MATERIALS			
1.	Fine Aggregate	Specific gravity	IS 2386 (Part 3):1963 (RA 2016)	2.00 to 3.00
		Material Finer Than 75 micron	IS 2386 (Part 1):1963 (RA 2016)	0.1 % to 15 %
		Sieve Analysis	IS 2386 (Part 1):1963 (RA 2016)	Upto 100% (150 μ to 10 mm)
		Water absorption	IS 2386 (Part 3):1963 (RA 2016) Cl. No. 02	0.1 % to 10.00 %
2.	Coarse Aggregate	Sieve analysis	IS 2386 (Part 1):1963 (RA 2016)	Upto 100% (4.75 mm to 100 mm)
		Specific gravity	IS 2386 (Part 3):1963 (RA 2016)	2.00 to 3.00
		Water absorption	IS 2386 (Part 3):1963 (RA 2016) Cl. No. 02	0.1 % to 10.00 %

Venugopal C
Convenor

N. Venkateswaran
Program Manager

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		Impact Test	IS 2386 (Part 1):1963, (RA 2016)	1.0 % to 60 %
		Crushing Value	IS 2386 (Part 4)-1963, (RA 2016)	1.0 % to 60 %
		Los Angles Abrasion Value	IS:2386 (Part 4)-1963 (RA 2016)	1.0 % to 60 %
		Flakiness Index	IS 2386 (Part 1):1963 (RA 2016) Cl. 04	1.00 % to 50 %
		Elongation Index	IS 2386 (Part 1):1963, (RA 2016) Cl. 05	1.00 % to 50 %
3.	Hardened Concrete	Compressive strength	IS 516:1959 (RA 2013)	5 N/mm ² to 85 N/mm ²
4.	Fresh Concrete	Slump Test	IS 1199:1959 (RA 2013)	10 mm to 300 mm
5.	Bricks	Dimension	IS 1077:1992 (RA 2011)	Length: 3800 mm to 5000 mm Width: 1800 mm to 2200 mm Height: 1300 mm to 1700 mm
		Water absorption	IS 3495 (Part 2):1992 (RA 2011)	0.1 % to 40 %
		Compressive strength	IS 3495 (Part 1):1992 (RA 2011)	5 N/mm ² to 20 N/mm ²
		Efflorescence	IS 3495 (Part 3):1992 (RA 2011)	Qualitative (Visual Assessment)
6.	Cement	Consistency	IS 4031 (Part 4):1988 (RA 2014)	20 % to 40 %
		Initial setting times	IS 4031 (Part 5):1988, (RA 2014)	5 minutes to 300 minutes
		Final setting times		30 minutes to 600 minutes
		Compressive strength	IS 4031 (Part 6):1988, (RA 2014)	9 N/mm ² to 65 N/mm ²

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		Fineness by blaine air permeability	IS 4031 (Part 2):1999 (RA 2013)	150 m ² /kg to 600 m ² /kg
		Soundness by Le-chatelier methods	IS 4031 (Part 3):1988 (RA 2014)	0.01 mm to 0.02 10 mm
III.	MECHANICAL PROPERTIES OF METALS			
1.	Steel (High Yield Strength Deformed/TMT Bars)	Tensile Strength	IS 1608:2005 (RA 2011)/ IS 1786:2008 (RA 2013)	150 N/mm ² to 800 N/mm ² (up to 600kN)
		Yield stress/ 0.2 Proof Stress	IS 1608:2005 (RA 2011)/ IS 1786:2008 (RA 2013)	150 N/mm ² to 700 N/mm ² (Upto 600kN)
		Elongation	IS 1608:2005 (RA 2011)	8 % to 35 %
		Bend	IS 1599:2012 (RA 2015)	Qualitative (Mandrel Dia. in mm Ø24, 30, 32, 36, 40 48, 60, 64, 80, 100, 125 mm)
		Re-bend	IS 1786:2008 (RA 2013)	Qualitative (Mandrel Dia. in mm Ø32, 40, 50, 60, 72, 80, 96, 100, 120, 125, 150 mm)
		Weight per meter	IS 1786:2008 (RA 2013)	500 g/m to 4000 g/m
		Diameter	IS 1786:2008 (RA 2013)	6 mm to 25 mm