

Laboratory

Soiltech India Pvt. Ltd., Plot No. 119/39, Ramtekdi Industrial Area,  
Hadapsar, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6357 (In lieu of T-2670)

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Validity 14.10.2017 to 13.10.2019

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 &amp; ROCK</b>			
<b>1.</b>	<b>SOIL</b>	Moisture Content	IS 2270 (Part 2): 1973 (RA 2015, Amd.1)	1% to 80 %
		Liquid Limit	IS 2720 (Part 5): 1985 (RA 2015)	20 % to 350 %
		Plastic Limit	IS 2720 (Part 5): 1985 (RA 2015)	15 % to 80 %
		Specific Gravity	IS 2720 (Part 3/Sec 2): 1980 (RA 2016)	1.5 to 3
		Grain Size Analysis	IS 2720 (Part 4): 1985 (RA 2015)	
		Sieve Analysis	Clause 4.0	75 µm to 4.75 mm
		Wet Sieve Analysis	Clause 4.3	75 µm to 4.75 mm
		Hydrometer Analysis	Clause 5.2	0.002 mm to 75 µm
		Free Swell Index	IS 2720 (Part 40): 1977 (RA 2016)	1 % to 400 %
		Swelling Pressure	IS 2720 (Part 15): 1965 (RA 2016)	0.05 kg/cm <sup>2</sup> to 2.0 kg/cm <sup>2</sup>
		Consolidation	IS 2720 (Part 15): 1965 (RA 2016)	0.1 kg/cm <sup>2</sup> to 8.0 kg/cm <sup>2</sup>
		Standard Proctor Compaction	IS 2720 (Part 7): 1980 (RA 2016, Amd.2)	MDD: 1.40 g/cc to 2.3 g/cc OMC: 3 % to 20 %
		Modified Proctor Compaction	IS 2720 (Part 8): 1983 (RA 2010)	MDD: 1.40 g/cc to 2.8 g/cc OMC: 3 % to 20 %
		CBR	IS 2720 (Part 16) ): 1987 (RA 2016)	1% to 50 %
		Tri Axial UU	IS 2720 (Part 11): 1991 (RA 2016)	c=Upto 10 kg/cm <sup>2</sup> φ=Upto 60°
		Tri Axial CU	IS 2720 (Part 12): 1981 (RA 2016) (Rev.1)	c=Upto 10 kg/cm <sup>2</sup> φ=Upto 60°
		Tri Axial UCS	IS 2720 (Part 10): 1991 (RA 2015, Rev. 2)	0.05 kg/cm <sup>2</sup> to 20 kg/cm <sup>2</sup>

Nikhil Kumar  
Convenor

N. Venkateswaran  
Program Director

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		Shrinkage Limit	IS 2720 (Part 6): 1972 (RA 2016, Rev 1)	5 % to 50 %
2.	Rock	Water Absorption/ Content	IS 13030: 1991 (RA 2016)	0.02 % to 10%
		Porosity	IS 13030: 1991(RA 2016)	0.1 % to 50 %
		Point Load Index	IS 8764: 1998 (RA 2014, Amd.2)	10 kg/cm <sup>2</sup> to 150 kg/cm <sup>2</sup>
		Unconfined Compressive Strength	IS 9143: 1979 (RA 2016)	50 kg/cm <sup>2</sup> to 3000 kg/cm <sup>2</sup>
		Tensile Strength	IS 10082: 1981 (RA 2016)	20 kg/cm <sup>2</sup> to 300 kg/cm <sup>2</sup>
		Modulus of Elasticity	IS 9221: 1979 (RA 2016)	509 kg/cm <sup>2</sup> to 5000000 kg/cm <sup>2</sup>
		Rock Tri-Axial	IS 13047: 1991 (RA 2016)	c: Upto 450 Mpa φ: Upto to 80°
		Hardness of Rock	IS 12608: 1989 (RA 2015)	Upto 100 Schmidt Hardness Value
		Cerchar Abrasivity Index	ASTMD7625-10	0.1 to 6
3.	Natural Stone	Rock Direct Shear	IS 12634: 1989 (RA 2015)	1 MPa to 50 MPa
		True Specific Gravity	IS 1122: 1974 (RA 2013)	2 to 3
II.	<b>BUILDING MATERIALS</b>			
1.	Concrete	Compressive Strength	IS 516: 1959 (RA 2013 Amd. 2)	10 MPa to 70 MPa
		Flexural Strength	IS 516 : 1959 (RA 2013 Amd.-2)	2 MPa to 10 MPa
2.	Paver Block	Water Absorption	IS 15658: 2006 (RA 2017 Amd.-2)	1% to 20 %
		Compressive Strength	IS 15658: 2006 (RA 2017 Amd.-2) (Annex D)	20 N/mm <sup>2</sup> to 55 N/mm <sup>2</sup>
		Dimensional Analysis Length Width Thickness	IS 15658: 2006 (RA 2017 Amd.-2) (Annex B)	110 mm to 300 mm 100 mm to 300 mm 50 mm to 100 mm

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3.	Bricks	Flexural Strength / Breaking Load	IS 15658: 2006 (RA 2017 Amd.-2) (Annex G)	1 N/mm <sup>2</sup> to 9 N/mm <sup>2</sup>
		Water Absorption	IS 3495 (Part 2): 1992 (RA 2016)	5 % to 40 %
		Compressive Strength	IS 3495 (Part 1): 1992 (RA 2016)	3.5 MPa to 35 MPa
		Efflorescence	IS 3495 (Part 3): 1992 (RA 2016)	Qualitative
		Dimensional Analysis Length Width Thickness	IS 1077: 1992 (RA 2011 Amd.1) IS 12894: 2002 (RA 2017 Amd.1)	3720 mm to 4680 mm 1760 mm to 2240 mm 1360 mm to 1840 mm
4.	Cement	Consistency	IS 4031 (Part 4): 1988 (RA 2014 Amd.2)	25 % to 35 %
		Fineness by Dry Sieving	IS 4031 (Part 1): 1988 (RA 2016)	0.1 % to 10 %
		Soundness by Le-Chatelier's Apparatus	IS 4031 (Part 3): 1988 (RA 2014 Amd.2)	0.1 mm to 4 mm
		Initial Setting Time	IS 4031 (Part 5): 1988 (RA 2014 Amd.2)	5 minute to 600 minute
		Final Setting Time	IS 4031 (Part 5): 1988 (RA 2014 Amd.2)	5 minute to 600 minute
		Compressive Strength	IS 4031 (Part 6): 1988 (RA 2014 Amd.2)	10 MPa to 60 MPa
5.	Fly Ash	Consistency	IS 1727: 1967 (RA 2013 Amd.2)	25 % to 40 %
		Fineness by wet sieving	IS 1727: 1967 (RA 2013 Amd.2)	0.1 % to 34 %
		Soundness by Le Chatelier's	IS 1727: 1967 (RA 2013 Amd.2)	0.1 mm to 10 mm
		Initial setting time	IS 1727: 1967 (RA 2013 Amd.2)	30 minute to 300 minute
		Final setting time	IS 1727: 1967 (RA 2013 Amd.2)	90 minute to 900 minute

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6.	Fine Aggregate	Compressive Strength	IS 1727: 1967 (RA 2013 Amd.2)	10 MPa to 60 MPa
		Sieve Analysis	IS 2386 (Part 1): 1963 (RA 2014 Amd. 4)	150 µm to 10 mm
		Material Finer than 75 microns	IS 2386 (Part 2): 1963 (RA 2011 Amd.1)	0.1% to 20 %
		Specific Gravity	IS 2386 (Part 3): 1963 (RA 2011)	2.2 to 3
		Water Absorption	IS 2386 (Part 3): 1963 (RA 2011)	0.1% to 5 %
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2011)	1.2 kg/l to 3 kg/l
7.	Coarse Aggregate	Sieve analysis	IS 2386 (Part 1): 1963 (RA 2016 Amd.4)	2.36 mm to 63 mm
		Crushing Value	IS 2386 (Part 4): 1963 (RA 2016 Amd.3)	1% to 45 %
		Specific Gravity	IS 2386 (Part 3): 1963 (RA 2016)	2.2 to 3.1
		Water Absorption	IS 2386 (Part 3): 1963 (RA 2016)	0.1% to 5 %
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2016)	1.2 kg/l to 2.0 kg/l
		Flakiness Index	IS 2386 (Part 1): 1963 (RA 2016 Amd.4)	1% to 50 %
		Elongation Index	IS 2386 (Part 1): 1963 (RA 2016 Amd.4)	1 % to 50 %
		Ten Percent Fines Value	IS 2386 (Part 4): 1963 (RA 2011 Amd.3)	50 kN to 500 kN
		Impact Value	IS 2386 (Part 4): 1963 (RA 2016 Amd.3)	5 % to 35 %
		Abrasion Value	IS 2386 (Part 4): 1963 (RA 2016 Amd.3)	5 % to 35 %

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III.	<b>MECHANICAL PROPERTIES OF MATERIALS</b>			
1.	<b>Reinforced Steel Bar for Concrete</b>	Weight Per Meter	IS 1786: 2008 (RA 2013 Amd.2)	0.3 kg/m to 6.5 kg/m
		Re-Bend		Qualitative (Mandrel Diameter: 32 mm to 320 mm)
		Ultimate Tensile Strength	IS 1608: 2005 (RA 2012) IS 1786: 2008 (RA 2013 Amd.2)	500 MPa to 1000 MPa
		0.2% Proof Stress		400 MPa to 700 MPa
		Yield Stress		400 MPa to 700 MPa
		Percent Elongation		10 % to 40 %
	Bend	IS 1599: 2012 (RA 2015)	Qualitative (Mandrel Diameter: 16 mm to 242 mm)	