

Laboratory Anandjiwala Technical Consultancy, (Soil and Material Testing Laboratory), 9, Shivranjani Shopping Centre, 132 Feet Ring Road, Satellite, Ahmedabad, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7840

Page 1 of 6

Validity 11.09.2018 to 10.09.2020

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
-----	----------------------------	-------------------------	---	--

CHEMICAL TESTING

I.	WATER			
1.	Water for Construction Purpose	pH	IS 3025 (Part 11): 1983 (RA 2017)	2 to 12
		Sulphates as SO ₃	IS 3025 (Part 24): 1986 (RA 2014)	5.0 mg/l to 1000 mg/l
		Chlorides as Cl	IS 3025 (Part 32): 1988 (RA 2014)	2.0 mg/l to 1500 mg/l

Venugopal C
Convenor

N. Venkateswaran
Program Manager

Laboratory **Anandjiwala Technical Consultancy, (Soil and Material Testing Laboratory), 9, Shivranjani Shopping Centre, 132 Feet Ring Road, Satellite, Ahmedabad, Gujarat**

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

Certificate Number **TC-7840**

Page 2 of 6

Validity **11.09.2018 to 10.09.2020**

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
-----	----------------------------	-------------------------	---	--

MECHANICAL TESTING

I.	BUILDING MATERIALS			
1.	Hardened Concrete	Compressive strength (Cube & Core)	IS 516:1959 (RA 2013)	10 N/mm ² to 85 N/mm ²
2.	Fresh Concrete	Slump	IS 1199:1959 (RA 2013)	1 mm to 300 mm
3.	Burnt clay bricks and Fly ash bricks	Dimensions	IS 1077:1992 (RA 2016)	L=4520 to 4680mm W=1800 to 3000mm H=500 to 1800mm
		Water absorption	IS 3495 (Part 2): 1992 (RA 2016)	0.1 % to 20 %
		Compressive strength	IS 3495 (Part 1): 1992 (RA 2016)	3 N/mm ² to 35 N/mm ²
4.	Aggregates (Fine Aggregate)	Sieve Analysis	IS 3495 (Part 1): 1992 (RA 2016)	0.1 % to 100 % (4.75 mm to 75 micron)
		Specific Gravity	IS 2386 (Part 3): 1963 (RA 2016)	1.50 to 4.00
		Water Absorption	IS 2386 (Part 3): 1963 (RA 2016)	1 % to 6 %
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2016)	1.0 kg/L to 3 kg/L
5.	Aggregates (Coarse Aggregate)	Sieve Analysis (Coarse)	IS 3495 (Part 1): 1992 (RA 2016)	0.1 % to 100 % (40 mm to 4.75 mm)
		Specific gravity	IS 2386 (Part 3): 1963 (RA 2016)	1.50 to 4.00
		Flakiness index	IS 3495 (Part 1): 1992 (RA 2016)	5 % to 60 %
		Elongation index	IS 3495 (Part 1): 1992 (RA 2016)	5 % to 60 %
		Water absorption	IS 2386 (Part 3): 1963 (RA 2016)	1 % to 6 %

Venugopal C
Convenor

N. Venkateswaran
Program Manager

Laboratory

Anandjiwala Technical Consultancy, (Soil and Material Testing Laboratory), 9, Shivranjani Shopping Centre, 132 Feet Ring Road, Satellite, Ahmedabad, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7840

Page 3 of 6

Validity 11.09.2018 to 10.09.2020

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
		Impact value	IS 2386 (Part 4): 1963 (RA 2016)	1 % to 45 %
		10% Fines Value	IS 2386 (Part 4): 1963 (RA 2016)	1 kN to 300kN
		Crushing Value	IS 2386 (Part 4): 1963 (RA 2016)	1.0 % to 50.0 %
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2016)	1 kg/l to 4 kg/l
6.	Ferrous Materials, Alloys & Products (Reinforcement Steel)	Ultimate Tensile Strength	IS 1608:2005 (RA 2010)	200 N/mm ² to 745 N/mm ²
		Elongation (%)	IS 1608:2005 (RA 2010)	1.0 % to 40.0 %
		Mass / Meter	IS 1786:2008 (RA 2013)	1 to 10 kg
		Yield stress	IS 1786:2008 (RA 2013)	200 N/mm ² to 600 N/mm ²
		Bend Test	IS 1599:1985 (RA 2012)	Qualitative (Mandrel diameter (mm): 24, 30, 32, 36, 40, 48, 60, 64, 80, 100, 112, 125, 128, 140, 160)
		Re-bend test	IS 1786:2008 (RA 2013)	Qualitative (Mandrel diameter (mm): 40, 50, 84, 112, 140, 175, 196, 224)
7.	Cement (OPC/PPC)	Normal Consistency	IS 4031 (Part 4): 1988 (RA 2014)	20 % to 35 %
		Initial setting times	IS 4031 (Part 5): 1988 (RA 2014)	10 minute to 200 minute
		Final setting times		50 minute to 600 minute
		Compressive strength	IS 4031 (Part 6): 1988 (RA 2014)	10 N/mm ² to 85 N/mm ²
		Soundness (Le-Chatelier)	IS 4031 (Part 3): 1988 (RA 2014)	0.1 mm to 10 mm

Venugopal C
Convenor

N. Venkateswaran
Program Manager

Laboratory

Anandjiwala Technical Consultancy, (Soil and Material Testing Laboratory), 9, Shivranjani Shopping Centre, 132 Feet Ring Road, Satellite, Ahmedabad, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7840

Page 4 of 6

Validity 11.09.2018 to 10.09.2020

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
		Fineness (Blain Air Permeability)	IS 4031 (Part 2): 1999 (RA 2012)	50 m ² /kg to 600 m ² /kg
8.	Autoclaved Cellular (Aerated) Concrete Blocks	Dimensions	IS 2185 (Part 3): 1984 (RA 2015)	L=100 mm to 1000 mm W=50 mm to 500 mm H=50 mm to 500 mm
		Block Density (Oven Dry Condition)	IS 6441 (Part 1): 1972 (RA 2017)	250 kg/m ³ to 1500 kg/m ³
		Compressive Strength	IS 6441 (Part 5): 1972 (RA 2017)	1.0 N/mm ² to 40 N/mm ²
		Thermal Conductivity	IS 3346:1980 (RA 2004)	0.001 W/mk to 1.00 W/mk
		Drying Shrinkage	IS 6441(Part 2): 1972 (RA 2017)	0.001 % to 2.00 %
9.	Paver Block	Dimensions	IS 15658:2006 (RA 2017)	L=100 mm to 600 mm W=100 mm to 300 mm H=50 mm to 200 mm
		Water Absorption	IS 15658:2006 (RA 2017)	1 % to 10 %
		Compressive Strength	IS 15658:2006 (RA 2017)	10 N/mm ² to 100 N/mm ²
II.	SOIL & ROCK			
1.	Soil	Particle Size Distribution (Wet & Dry Analysis)	IS 2720 (Part 4): 1985 (RA 2015)	0.1 % to 100 % (4.75 mm to 75 micron)
		Liquid Limit	IS 2720 (Part 5): 1985 (RA 2015)	1 % to 80 %
		Plastic Limit	IS 2720 (Part 5): 1985 (RA 2015)	1 % to 50 %
		Light Compaction		
		MDD	IS 2720 (Part 7): 1980 (RA 2016)	1.50 g/cc to 2.50 g/cc
		OMC		7 % to 30.0 %
		Heavy Compaction		
		MDD	IS 2720 (Part 8): 1980 (RA 2015)	1.7 g/cc to 2.50 g/cc
		OMC		5 % to 30.0 %

Venugopal C
Convenor

N. Venkateswaran
Program Manager

Laboratory **Anandjiwala Technical Consultancy, (Soil and Material Testing Laboratory), 9, Shivranjani Shopping Centre, 132 Feet Ring Road, Satellite, Ahmedabad, Gujarat**

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

Certificate Number **TC-7840**

Page 5 of 6

Validity **11.09.2018 to 10.09.2020**

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
		California Bearing Ratio	IS 2720 (Part 16): 1987 (RA 2016)	1 % to 90 %
		Unconfined Compressive Strength	IS 2720 (Part 10): 1991 (RA 2015)	0.1 kg/cm ² to 4.0 kg/cm ²
		Free Swell Index	IS 2720 (Part 40): 1977 (RA 2016)	5 % to 300 %
		Specific Gravity	IS 2720 (Part 3): 1980 (Section 1 and 2) (RA 2011)	0.50 to 3.00
		Shrinkage Limit	IS 2720 (Part 6): 1972 (RA 2016)	2 % to 50 %
		Direct Shear (Undrained)	IS 2720 (Part 13): 1986 (RA 2016)	C: 0.01 to 4 kg/cm ² Φ: 0° to 45°
		Swelling pressure	IS 2720 (Part 41): 1977 (RA 2016)	0.01 kg/cm ² to 2 kg/cm ²

Venugopal C
Convenor

N. Venkateswaran
Program Manager

Laboratory Anandjiwala Technical Consultancy, (Soil and Material Testing Laboratory), 9, Shivranjani Shopping Centre, 132 Feet Ring Road, Satellite, Ahmedabad, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7840

Page 6 of 6

Validity 11.09.2018 to 10.09.2020

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
-----	----------------------------	-------------------------	---	--

NON - DESTRUCTIVE TESTING

I.	BUILDING MATERIALS- REINFORCED CONCRETE STRUCTURES			
1.	Reinforced Concrete Structures	Ultrasonic Pulse Velocity Test	IS 13311 (Part 1): 1992 (RA 2013)	0.1 km/s to 5 km/s
		Rebound Hammer Test	IS 13311 (Part 2): 1992 (RA 2013)	10 R to 70 R

Venugopal C
Convenor

N. Venkateswaran
Program Manager