

Laboratory Vinayak Consultancy, 22, Omshantinagar Soc., Bhavnagar Road,  
Botad, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6619

Page 1 of 4

Validity 26.11.2018 to 25.11.2020

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)	4.0 to 12.0
		Sulphate (as SO <sub>3</sub> )	IS 3025 (Part-24) (Gravimetric Method)	10 mg/1 to 1000 mg/1
		Choride	IS 3025 (Part-32) (Titration Method)	10 mg/1to 1000 mg/l
		Suspended Soild	IS 3025 (Part -17)	10 mg/1 to 1000 mg/l

---

Venugopal C  
Convenor

---

N. Venkateswaran  
Program Manager

Laboratory Vinayak Consultancy, 22, Omshantinagar Soc., Bhavnagar Road,  
Botad, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6619

Page 2 of 4

Validity 26.11.2018 to 25.11.2020

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
<b><u>MECHANICAL TESTING</u></b>				
<b>I.</b>	<b>BUILDING MATERIALS</b>			
<b>1.</b>	<b>Cement</b>	Consistency	IS 4031 (Part 4)	25 % to 40 %
		Initial Setting Time	IS 4031 (Part 5)	30 Min. to 250 Min.
		Final Setting Time	IS 4031 (Part 5)	100 Min. to 600 Min.
		Compressive Strength	IS 4031 (Part 6)	10 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
		Fineness by Blain'S Method	IS 4031 (Part 2)	1000 to 5000 cm <sup>2</sup> /g
		Soundness by Le-Chatilier method	IS 4031 (Part 3)	0.5 mm to 10 mm
<b>2.</b>	<b>Hardened Concrete Cube</b>	Compressive Strength	IS 516-1959, RA 2013	10 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
<b>3.</b>	<b>High Strength Deformed Steel Bars for Concrete Reinforcement</b>	Mass per meter	IS 1786	0.1 kg/m to 9.5 kg/m
		Tensile Strength	IS 1608	Nominal Dia (8 mm to 25 mm) 100 N/mm <sup>2</sup> to 800 N/mm <sup>2</sup>
		Yield Stress	IS 1608	100 N/mm <sup>2</sup> to 800 N/mm <sup>2</sup>
		Elongation	IS 1608	10% to 40 %
		Bend Test	IS 1599	Mandrel diameter in mm 24, 32
<b>4.</b>	<b>Brick Clay/ Fly Ash Bricks / Fly Ash Lime Bricks</b>	Compressive Strength	IS 3495 (Part 1)	3.5 N/mm <sup>2</sup> to 30 N/mm <sup>2</sup>
		Water Absorption	IS 3495 (Part 2)	2 % to 25 %
		Efflorescence	IS 3495 (Part 3)	Qualitative
		Dimension	IS 1077	Length - 4520 mm to 4680 mm Width- 2160 mm to 2240 mm Height- 1360 mm to 1440 mm

Laboratory **Vinayak Consultancy, 22, Omshantinagar Soc., Bhavnagar Road, Botad, Gujarat**

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

Certificate Number **TC-6619**

Page 3 of 4

Validity **26.11.2018 to 25.11.2020**

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
5.	Coarse Aggregate	Sieve Analysis	IS 2386 (Part 1)	4.75mm to 125mm
		Bulk Density	IS 2386 (Part 3)	1 to 3 kg/l
		Flakiness Index	IS 2386 (Part 1)	2% to 40 %
		Elongation Index	IS 2386 (Part 1)	2% to 40 %
		Impact value	IS 2386 (Part 4)	1.0% to 60 %
		Crushing Value	IS 2386 (Part 4)	1% to 60 %
		Loss Angles Abrasion Value	IS 2386 (Part 4)	1% to 60 %
		Specific Gravity	IS 2386 (Part 3)	2.5% to 3.5
		Water Absorption	IS 2386 (Part 3)	1% to 10 %
6.	Fine Aggregate	Sieve Analysis	IS 2386 (Part 1)	75 micron to 10 mm
		Bulk Density	IS 2386 (Part 3)	1 kg/l to 3 kg/l
		Specific Gravity	IS 2386 (Part 3)	2.5 to 3.5
		Water Absorption	IS 2386 (Part 3)	0.5% to 10 %
7.	Concrete Paver Block	Compressive Strength	IS 15658	5 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>
		Water Absorption	IS 15658	0.5 % to 20 %
8.	Bitumen	Specific Gravity	IS 1202	0.99 to 1.102
		Ductility	IS 1208	25 cm to 100 cm
		Penetration	IS 1203	50 to 100
		Softening Point	IS 1205	40 <sup>0</sup> C to 55 <sup>0</sup> C
		Absolute Viscosity	IS 1206 (Part-2)	500 Poise to 2600 Poise
		Kinematics Viscosity	IS 1206 (Part-3)	300 cSt to 400 cSt
9.	Bituminous Mix	Binder Content	ASTM D 2172	1% to 10%
		Marshal Stability	ASTM D 6927	0.1 kN to 25 kN
		Flow Test	ASTM D 6927	1 mm to 10 mm
		Density	ASTM D 2041	2 g/cc to 3 g/cc
II.	SOIL & ROCK			
1.	Soil	Grain Size analysis (Dry analysis)	IS 2720 (Part 04)	75 micron to 40 mm
		Liquid limit	IS 2720 (Part 5)	25 % to 80 %
		Plastic Limit	IS 2720 (Part 5)	5 % to 50 %
		Specific Gravity	IS 2720 (Part 3)	2.4 to 3.0

**Laboratory** Vinayak Consultancy, 22, Omshantinagar Soc., Bhavnagar Road,  
Botad, Gujarat

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

**Certificate Number** TC-6619

Page 4 of 4

**Validity** 26.11.2018 to 25.11.2020

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
		Shrinkage Limit	IS 2720 (Part 6)	7.0% to 25 %
		Free Swell Index	IS 2720 (Part 40)	10% to 100 %
		Light Compaction	IS 2720 (Part 7)	MDD: 1 g/cc to 2.1g/cc OMC 5% to 40%
		Heavy Compaction	IS 2720 (Part 8)	MDD:1.4 g/cc to 2.6g/cc OMC 5%to 40%
		California Bearing Ratio	IS:2720 (Part 16)	1% to 60 %
		Direct Shear Test (UU)	IS 2720 (Part 13)	0 to 0.4 kg/cm <sup>2</sup> Φ 5° to 50
		Consolidation Test	IS 2720 (Part 15)	Cc 0.0 to 0.5
		Hydrometer Analysis	IS 2720 (Part 4)	Silt % to 20% to 80% Clay % to 20% to 80%
		Grain Size analysis (Wet)	IS 2720 (Part 4)	75 micron to 40mm