

Laboratory Civil Tech Gujarat, 59-60, Shree Rang Society, Palanpur Patiya,
Rander Road, Surat, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-8357

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Validity 21.02.2019 to 20.02.2021

Last Amended on --

"In view of the transition for ISO/IEC 17025:2017, the validity of this accreditation certificate will cease on 30.11.2020"

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
<u>CHEMICAL TESTING</u>				
I.	METALS & ALLOYS			
1.	Ferrous Alloy			
A	Carbon steel (Low Carbon, Medium Carbon and High Carbon) and Low Alloy Steel	Carbon	IS 8811	0.03 % to 1.2 %
		Silicon		0.02 % to 1.8 %
		Manganese		0.2 % to 2 %
		Phosphorus		0.008 % to 0.08 %
		Sulfur		0.008 % to 0.08 %
		Chromium		0.01 % to 3 %
		Nickel		0.01 % to 4 %
		Molybdenum		0.008 % to 0.5 %
		Copper		0.01 % to 0.3 %
		Vanadium		0.007 % to 0.5 %
		Niobium		0.02 % to 0.25 %
	Titanium	0.005 % to 0.05 %		
B.	Stainless steel	Carbon	IS 9879	0.008 % to 0.45 %
		Silicon		0.03 % to 2 %
		Manganese		0.03 % to 2 %
		Phosphorus		0.008 % to 0.1 %
		Sulfur		0.008 % to 0.1 %
		Chromium		3 % to 25 %
		Nickel		3 % to 20 %
		Molybdenum		0.02 % to 4 %
	Copper	0.008 % to 0.5 %		

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<u>MECHANICAL TESTING</u>				
I.	MECHANICAL PROPERTIES OF METALS			
1.	Ferrous Metals High Strength Deform Bar			
A.	Ferrous Metals & HSDB Bar	Mass per meter	IS 1786	0.1 kg/m to 9.5 kg/m
		Tensile strength	IS 1608 (Part 1)	100 N/mm ² to 800 N/mm ²
		0.2 % Proof Stress/ Yield Stress	IS 1608 (Part 1)	100 N/mm ² to 800 N/mm ²
		Elongation	IS 1608 (Part 1)	5 % to 40 %
		Bend Test Rebend Test	IS 1599 IS 1786	Qualitative {Mandrel Diameters: (20,16, 24, 30, 36,112, 60,125,150,160,140, 64, 50, 40, 32) mm}
II.	BUILDING MATERIALS			
1.	Paver Block	Compressive Strength	IS 15658	5 N/mm ² to 80 N/mm ²
		Water Absorption	IS 15658	1 % to 10 %
		Flexural Strength	IS 15658	2 N/mm ² to 8 N/mm ²
2.	AAC Block	Density	IS 6441 (Part 1)	450 g/cc to 1000 g/cc
		Moisture Content	IS 6441 (Part 1)	5 % to 25 %
		Dimension	IS 2185 (Part 3)	80 mm to 700 mm
		Compressive Strength	IS 6441 (Part 5)	1 N/mm ² to 10 N/mm ²
3.	Cement	Consistency	IS 4031 (Part 4)	20 % to 40 %
		Initial Setting Time	IS 4031 (Part 5)	30 Minutes to 400 Minutes

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		Final Setting	IS 4031 (Part 5)	60 Minutes to 600 Minutes
		Compressive Strength	IS 4031 (Part 6)	10 N/mm ² to 80 N/mm ²
		Soundness by Le-Chatelier Method	IS 4031 (Part 3)	0.1 mm to 10 mm
		Fineness by dry sieving	IS 4031 (Part 1)	0.1 % to 10 %
		Fineness by blain air permeability	IS 4031 (Part 2)	2000 cm ² /g to 5000 cm ² /g
		Specific gravity	IS 4031 (Part 11)	2.8 to 3.4
4.	Concrete cubes/ Concrete core/	Compressive Strength	IS 516	5 N/mm ² to 70 N/mm ²
5.	Clay / Fly Ash Bricks	Dimension	IS 1077 IS 13757	L: 200mm to 250mm W:100mm to 125mm H: 60mm to 80mm
		Compressive Strength	IS 3495 (Part 1)	1 N/mm ² to 40 N/mm ²
		Water Absorption	IS 3495 (Part 2)	0.5 % to 40 %
		Efflorescence	IS 3495 (Part 3)	Qualitative
6.	Coarse Aggregate	Sieve Analysis	IS 2386 (Part 1)	2.36 mm to 40 mm
		Flakiness Index	IS 2386 (Part 1)	Upto 50 %
		Elongation Index	IS 2386 (Part 1)	Upto 50 %
		Water absorption	IS 2386 (Part 3)	0.1 % to 5 %
		Specific Gravity	IS 2386 (Part 3)	2.0 to 3.0
		Bulk Density	IS 2386 (Part 3)	1.2 g/cc to 2.5 g/cc
		Impact Value	IS 2386 (Part 4)	5 % to 55 %
		Crushing Value	IS 2386 (Part 4)	5 % to 55 %
		Abrasion Value	IS 2386 (Part 4)	5 % to 55 %
7.	Fine Aggregate	Sieve Analysis	IS 2386 (Part 1)	75 μ to 10 mm
		Finer Than 75 μ	IS 2386 (Part 1)	0.1 % to 50 %
		Specific Gravity	IS 2386 (Part 3)	2.0 to 3.0
		Water Absorption	IS 2386 (Part 3)	0.1 % to 10 %
		Bulk Density	IS 2386 (Part 3)	1.2 g/cc to 2.5 g/cc

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III.	SOIL AND ROCK			
1.	Soil	Water Content	IS 2720 (Part 2)	1 % to 50 %
		Grain size Analysis	IS 2720 (Part 4)	20 mm to 0.001 mm
		Liquid Limit	IS 2720 (Part 5)	0.5 % to 80 %
		Plastic Limit	IS 2720 (Part 5)	0.5 % to 80 %
		Shrinkage Limit	IS 2720 (Part 6)	1 % to 50 %
		Free Swelling Index	IS 2720 (Part 40)	1 % to 200 %
		Light Compaction	IS 2720 (Part 7)	1.4 g/cc to 2.5 g/cc
		Heavy Compaction	IS 2720 (Part 8)	1.5 g/cc to 2.5 g/cc
		Consolidation Test	IS 2720 (Part 15)	1 kg-cc to 8 kg-cc

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AT-SITE				
I.	SOIL AND ROCK			
1.	Soil Field Test	Sand replacement Method	IS 2720 (Part 28)	1.4 g/cc to 2.5 g/cc
		Core Cutter	IS 2720 (Part 29)	1.4 g/cc to 2.5 g/cc

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<u>NON-DESTRUCTIVE TESTING</u>				
I.	NDT			
1.	Non-Destructive Testing	Rebound hammer test	IS 13311 (Part 2)	10 N/mm ² to 60 N/mm ²
		Ultrasonic Pulse Velocity	IS 13311 (Part 1)	1.0 Km/sec. to 5.0 Km/sec.