

Laboratory AES Laboratories Pvt. Ltd., B-118, Phase-II, Noida, Uttar Pradesh
Accreditation Standard ISO/IEC 17025: 2005
Discipline Mechanical Testing **Issue Date** 24.10.2014
Certificate Number T-0410 **Valid Until** 23.10.2016
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. BUILDING MATERIALS				
1.	Structural Steel/ High Strength Deformed Bars	Mass per meter	IS 1786: 2008 IS 1608: 2005	0 to 30 kg (LC : 0.001 kg)
		Tensile strength	IS 1786: 2008 IS 1608: 2005	0 to 1000 kN (LC : 0.5 kN)
		Yield Stress	IS 1786: 2008 IS 1608: 2005	0 to 1000 kN (LC : 0.5 kN)
		Percent elongation	IS 1786: 2008 IS 1608: 2005	0 to 100% (LC : 0.05 mm)
		Bend Test	IS 1599: 1985	Qualitative (Mandrel diameter: 24 mm to 180 mm)
		Rebend Test	IS 1786: 2008	Qualitative (Mandrel diameter: 32 mm to 252 mm)
2.	Cement	Setting Time Initial Final	IS 4031 (Part 5): 1988	5 minute to 800 minute
		Fineness (Blaine)	IS 4031 (Part 2): 1999	10 m ² /kg to 600 m ² /kg
		Soundness (Le-Chatelier)	IS 4031(Part 3): 1988	0.5 mm to 100 mm
		Soundness (Autoclave)	IS 4031(Part 3): 1988	0.01 % to 3 %
		Compressive Strength	IS 4031(Part 6): 1988	0.5 Mpa to 70 Mpa (LC : 0.1 kN)
		Consistency	IS 4031 (Part 4): 1988	0 to 50 %

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3.	Aggregates	Grading (Sieve Analysis)	IS 2386 (Part 1): 1963	0 to 100 %
		Deleterious Substances	IS 2386 (Part 2): 1963	Upto 50 %
		Clay lumps	IS 2386 (Part 2): 1963	Upto 50 %
		Finer than 75u	IS 2386 (Part 1): 1963	Upto 100 %
		Coal & Lignite	IS 2386 (Part 2): 1963	Upto 50 %
		Soft Materials	IS 2386 (Part 2): 1963	0 to 100 %
		Unit weight of Voids (Bulk Density)	IS 2386 (Part 3): 1963	0 to 3.5 g/cc
		Soundness	IS 2386 (Part 5): 1963	0 to 100 %
		Surface moisture, Total moisture	IS 2386 (Part 3): 1963	0 to 100 %
		Specific gravity	IS 2386 (Part 3): 1963	0 to 3.5 g/cc
		Flakiness Index	IS 2386 (Part 1): 1963	2 % to 100 %
		Water Absorption	IS 2386 (Part 3): 1963	0.2 % to 100 %
		Elongation Index	IS 2386 (Part 1): 1963	5 % to 100 %
		Crushing Value	IS 2386 (Part 4): 1963	5 % to 100 %
		Abrasion Value	IS 2386 (Part 4): 1963	5 % to 100 %
		Impact Value	IS 2386 (Part 4): 1963	5 % to 100 %
		10% Fines Value	IS 2386 (Part 4): 1963	1 Ton to 100 Ton
Silt Content	CPWD Specification IS 2720 (Part 4):1985	1 % to 100 %		
4.	Concrete	Compressive Strength	IS 516: 1959	2 MPa to 80 MPa
		Permeability	IS 3085: 1965	0 to 50 mm
5.	Bricks	Compressive Strength	IS 3495: 1992	2 MPa to 80 MPa
		Water Absorption	IS 3495: 1992	5 % to 100 %
		Efflorescence	IS 3495: 1992	Qualitative
		Dimensions	IS 3495: 1992	1 m to 5.0 m (LC : 1.0 mm)

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6.	Bitumen	Softening Point	IS 1205: 1978	Upto 100 °C
		Flash Point	IS 1209: 1978	90 °C to 400 °C
		Penetration	IS 1203: 1978	5 mm to 40 mm
		Specific gravity	IS 1202: 1978	0.5 to 5
		Ductility	IS 1208: 1978	0.5 cm to 100 cm
		Bitumen Content of Bituminous Paving Mix	CPWD Specification (Vol. 2) Clause 17.9.9.12.2	1 % to 30 %
		Absolute Viscosity at 60°C	IS 1206 (Part 2): 1978	200 poise to 3000 poise
		Kinematic Viscosity at 135°C	IS 1206 (Part 3): 1978	1 cSt to 500 cSt
		Solubility in Trichloroethylene	IS 1216: 1978	0.1 % to 100 %
		Tests on residue from thin film oven tests / RTFOT		
		Viscosity Ratio at 60°C	IS 1206 (Part 2) : 1978	1 to 2.5
Ductility at 25°C After thin film oven test	IS 1208: 1978	1 cm to 100 cm		
7.	Steel Tube	Mass per meter	IS 1608: 2005	0.5 kg to 30 kg
		Ultimate Tensile strength	IS 1608: 2005	10 to 1000
		Yield Stress	IS 1608: 2005	20 to 1000
		Percent elongation	IS 1608: 2005	2 % to 100 %

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	Steel Tube	Flattening test	IS 2328:2005	Qualitative
		Crushing test	IS 3601:2006	Qualitative
8.	Refractory Materials	Cold Crushing Strength	IS 1528 (Part 4): 1974	50 kN to 2000 kN (LC : 0.1 kN)
		Apparent porosity	IS 1528 (Part 8): 1974	0 to 50 %
9.	Timber	Moisture content	IS 1708 (Part 1): 1986	0 to 100 %
		Specific gravity	IS 1708 (Part 2): 1986	Min 1.0
10.	CRCA Tubular Section	Tensile Test	IS 1608: 2005	0 to 1000 kN (LC : 0.5 kN)
		Mass per meter	IS 1786: 2005	0. 5 kg to 30 kg (LC : 0.001 kg)
		Ultimate Tensile strength	IS 1608: 2005	10 to 1000 kN (LC : 0.05 kN)
		Yield Stress	IS 1608: 2005	5 kN to 1000 kN (LC : 0.05 kN)
		Percent elongation	IS 1608: 2005	5 % to 100 %
		Weight per meter	IS 4923:1997	5 kg to 30 kg
		Dimensions	IS 4923:1997	0.5 mm
		Geometrical properties	IS 4923:1997	0.5 mm
11.	Concrete	Water Content	IS 2386 (Part 3): 1963	20 % to 100 %

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	Admixtures			
		Slump	IS 1199: 1959	0 to 300 mm
		Time of Setting	IS 8142: 1976	10 minute to 1200 minute
		Compressive Strength	IS 516: 1959	2 MPa to 80 Mpa (LC : 0.1 kN)
		Flexural Strength	IS 516: 1959	2 MPa to 30 Mpa (LC : 0.05 kN)
		Length Change	IS 1199: 1959	0 to 50 %
		Bleeding	IS 2386 (Part 3): 1963 IS 9103: 1999 (Annex-D)	0 to 10 %
		Relative Density	IS 9103: 1999 (Annex-E)	1 to 2.5
		Air Content	IS 1199: 1959	0.5 % to 10 %
		Flow	IS 9103: 1999 (Annex-C)	0 to 700 mm (LC : 1 mm)
		Loss of workability on standing	IS 9103: 1999	0 to 300 mm (LC : 1 mm)
12.	Integral Waterproofing Compounds	Permeability to water	IS 2645: 2003 (Annex-B)	0 to 100 %
		Setting Time	IS 4031 (Part 5): 1988	5 Minute to 15 Hours
		Compressive Strength	IS 4031 (Part 6): 1988	0.5 MPa to 70 Mpa (LC : 0.1 kN)
13.	Soil	Water content	IS 2720 (Part 2): 1973	1 % to 100 %

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		Specific gravity	IS 2720 (Part 3): 1980	Min 0.5
		Grain size analysis	IS 2720 (Part 4): 1985	0.15 mm to 4.75 mm
		Atterberg's limits	IS 2720 (Part 5): 1985	Min. 0.5
		Permeability test	IS 2720 (Part 17): 1986	Upto 100 cm/s
		Dry Density	IS 2720 (Part 29): 1975	1 g/cc to 4 g/cc
		Procter Density (MDD/OMC)	IS 2720 (Part 7 & 8): 1983	1 g/cc to 3 g/cc
		California Bearing Ratio (C.B.R.)	IS: 2720 (Part 16):1987	0 to 200 %
14.	Granite	Moisture Content	IS 13030: 1991	0.05 % to 100 %
		Dry Density	IS 13030: 1991	1 g/cc to 4 g/cc
		Specific Gravity	IS 1122: 1974	Min 1
		Water Absorption	IS 1124: 1974	0 to 100 %
		Porosity	IS 1124: 1974	0 to 50 %
	Granite	Compressive Strength	IS 1121 (Part 1): 1974	0 to 2000 kN (LC : 0.1 kN)
15.	Paper and Allied Products	Bursting strength	IS 1060 (Part 1): 1966	0 to 35 kg/cm ²

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