

Laboratory Deep Testing Laboratories, Plot No.- 338, Sector-58, Ballabhgarh, Faridabad, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Discipline Mechanical Testing **Issue Date** 05.12.2013

Certificate Number T-1648 **Valid Until** 04.12.2015

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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
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I. MECHANICAL PROPERTIES OF MATERIALS

1.	Ferrous-Non Ferrous	UTS, Ys, Elongation% Reduction Area%	IS 1608-2005	Upto 600 kN / 30N 1% to 60% 1% to 80%
		Hardness HV5	IS 1501-2002	100 to 700 HV5
		Hardness HRC	IS 1586-2000	20 to 70 HRC
		Hardness HRB	IS 1586-2000	20 to 100 HRB
		Hardness BHN	IS 1500-2005	50 to 400 HBW
		Bend Test	IS 1599-1986, (RA 2006)	Mandrel Size: 12, 16, 25, 32, 40, 44, 48, 50, 60, 100, 112, 125, 140, 150 mm
2.	Ferrous	Izod Impact test	IS 1598-1977, (RA 2003)	0 to 168 J
		Charpy Impact Test (at Room Temp.)	IS 1757-1988, (RA 2003)	0 to 300 J
3.	Steel	Jominey Hardenability Test	IS 3848-1991, (RA 2003)	Qualitative
4.	Ferrous Material	Rebend Test	IS 1786-2008	Mandrel Size: 32, 40, 48, 50, 60, 96, 112, 140, 150, 160, 175, 196, 210, 224 mm

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II. METALLOGRAPHY TEST

1.	Steel	Grain Size	ASTM E-112-2007 IS 6416:1988	Upto ASTM No. 10/ ASTM No.
		Determination of Case Depth by Microscopic Method	IS 6416-1988	0.1 to 1.6 mm

III. BUILDING MATERIALS

1.	Brunt Clay Bricks	Water Absorption	IS 3495 (Part-2) 1992, (RA 2002)	1.40%
		Compressive Strength	IS 3495 (Part-1) 1992, (RA 2002)	0.4 to 40 N/mm ²
		Efflorescence	IS 3495 (Part-3) 1992, (RA 2002)	Qualitative
		Dimensions: Width, Length, Depth/ Height	IS 1077-1992, (RA 2002)	Upto 3000 mm Upto 6000 mm Upto 2000 mm
2.	Aggregate (Coarse/ Fine)	Flakiness Index	IS 2386 (Part-1) 1986, (RA 2002)	1 to 60%
		Elongation Index	IS 2386 (Part-1) 1986, (RA 2002)	1 to 60%
		Sieve Analysis	IS 2386 (Par-1) 1986, (RA 2002)	Fine: 75 micron to 4.75 mm Coarse: 4.75 mm to 75 mm
		Water Absorption	IS 2386 (Part-3) 1986, (RA 2002)	1 to 25%
		Specific Gravity	IS 2386 (Part-3) 1986, (RA 2002)	2.3 to 3.5

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	Aggregate (Coarse/ Fine)	Bulk Density	IS 2386 (Part-3) 1963, (RA 2002)	0.1 to 3.0 g/cc
		Material Finer than 75 micron	IS 2386 (Part-1) 1986, (RA 2002)	01 to 6%
		Impact Value	IS 2386 (Part-4) 1963, (RA 2007)	10 to 80%
		Crushing Value	IS 2386 (Part-4) 1963, (RA 2007)	10 to 80%
		10% Fine Value	IS 2386 (Part-4) 1963, (RA 2007)	10 to 180 kN
		Loss Angles Abrasion Value	IS 2386 (Part-4) 1963, (RA 2007)	10 to 80%
3.	Timber Testing	Moisture Content	IS 287-1993, (RA 2001)	0.5 to 25%
4.	Cement	Consistency	IS 4031 (Part-4) 1988, (RA 2005)	10 to 35%
		Setting Time	IS 4031 (Part-5) 1988, (RA 2005)	10 min to 300 min 30 min to 600 min
		Fineness (Blains)	IS 4031 (Part-2) 1999, (RA 2004)	100 to 700 m ² /kg
		Soundness Le-Chatelier	IS 4031 (Part-3) 1988, (RA 2005)	0.5 to 20 mm
		Soundness Autoclave	IS 4031 (Part-3) 1988, (RA 2005)	0.02 to 4%
		Compressive Strength	IS 4031 (Part-6) 1988, (RA 2005)	10 to 70 MPa
5.	Concrete	Compressive Strength	IS 516:1959 Edition 1.2 (1991-07), (RA 2004)	10 N/mm ² to 50 N/mm ²

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IV. SOIL & ROCK TESTING

1. Soil Testing	Liquid Limit		IS 2720 (Part-5) 1985, (RA 2001)	10 to 90%
	Plastic Limit		IS 2720 (Part-5) 1985, (RA 2001)	10 to 50%
	California Bearing Ratio		IS 2720 (Part-16) 1987, (RA 2001)	2 to 80%
	Grain Size Analysis		IS 2720 (Part-4) 2001	0.075 to 4.75 mm
	Water Content		IS 2720 (Part-2) 1973, (RA 2006)	0.1 to 40%
	Light Compaction		IS 2720 (Part-7) 1980, (RA 2002)	MDD: 1.1 to 2.00 g/cc OMC: 10 to 20%
	Heavy Compaction		IS 2720 (Part-8) 2005, (RA 2005)	MDD: 1.1 to 2.50 g/cc OMC: 10 to 20%
	Direct Shear Test		IS 2720 (Part-13) 1986, (RA 2002)	C: 0 to 1.0 kg/cm ² & φ: 20 to 50

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