

Laboratory	Testings Concern, 158/12, Belilious Road, 1st Floor, Howrah, West Bengal		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	08.07.2014
Certificate Number	T-0906	Valid Until	07.07.2016
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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
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I. MECHANICAL PROPERTIES OF MATERIALS

1.	Ferrous (Steel & Cast Iron) & Non-Ferrous (Copper & Copper Base Alloys and Aluminium and Aluminium Base Alloys)	Tensile Test (YS, 0.2, & 0.5 % Proof Stress, Tensile, % E & % RA) & Breaking load	IS: 1608: 2005 RA 2010, ASTM-A – 370/10	0.1 to 400 kN 0.1 to 40 kN 0.25 to 100 kN 0.5 to 200 kN 1.0 to 400 kN
2.	Ferrous & Non-Ferrous (Copper & Copper base Alloys, and Aluminium & Aluminium Base Alloys)	Bend Test	IS: 1599: 2012	1 mm to 35 mm thickness Angle of Bend 180 ° Mandrel size: 2,3,4,5,6,7,8,12,15,18,24, 30,32,36,40,48,50,60,75, 80
3.	Deformed Steel Bars and Wires	Rebend Test	IS: 1786: 2008 RA 2013	6 to 35 mm dia. Bend Angle:135/157.5
4.	Metallic Materials	Brinell Hardness Test	IS: 1500 - Part -I – 2013	100 to 500 HBW, 10/3000 & 5/750
		Rockwell Hardness Test	IS: 1586 Part -I - 2012	20 to 70 HRC 20 to 100 HRB 20 to 88 HRA
		Vickers Hardness	IS: 1501: 1984 (Part-1) ,RA 1996	35 to 750 HV 5 , HV 10 HV 30

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5.	Metallic Wires (Steel, Aluminium & Aluminium Alloys and Copper & Copper Alloys)	Wrapping Test	IS: 1755: 1983 RA 2010	1mm to 5 mm diameter
6.	Metallic Rivets & Bolts	Shear Test	IS: 5242: 1979 RA 2010	2.5 to 20 mm diameter
7.	Metallic Tubes (Steel, Aluminium & Aluminium Alloy and Copper & Copper Alloy)	Flattening Test	IS: 2328: 2005, RA-2010	20 to 300 mm OD 0.5 to 45 mm thick
8.	Single Coil Rectangular Section Spring Washer (Steel)	Compression Load/Permanent Set Test	IS: 3063: 1994 RA 2010	0.1 to 400 kN
		Twist Test	IS: 3063: 1994 RA 2010	2 to 36 mm diameter
9.	Metallic Tubes (Steel, Aluminium & Aluminium Alloys and Copper & Copper Alloys)	Drift Expanding Test	IS: 2335: 2005, RA-2010	20 to 100 mm OD 0.3 to 10 mm thickness

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10.	a) Bolts (Carbon Steel, Alloy Steel and Stainless Steel)	Proof Load Test, Tensile & Breaking Load	IS: 1367 (Part 3): 2002 RA 2007 ISO 898-1:1999 IS: 1367 (Part 14):2002 RA 2007 IS: 1608: 2005 RA 2010	0.1 to 400 kN M8, M10, M12, M14, M16, M18, M20, M22, M24, M26, M30
	b) Nuts (Carbon Steel, Alloy Steel and Stainless Steel)	Proof Load Test	IS: 1367 (Part 6): 1994 RA 2010 ISO 898-2:1992 IS: 1367 (Part 14): 2007	0.1 to 400 kN M8, M10, M12, M14, M16, M18, M20, M22, M24, M26, M30.
11.	Copper Tubes ('o' condition i.e. annealed)	Doubling Over Test	IS: 2501: 1995 RA 2006	20 to 200 mm OD 1 to 10mm Thickness
12.	Metallic Helical Spring	Compression Test	IS: 7906 (PART 2) 1975 RA 2009 (By UTM Machine)	10 to 200 mm coil dia. & length 50 to 600 mm with a deflection of 1 to 190 mm
13.	Insulator Electrical Fittings (Galvanised M.S. Forged & welded Pins) Less than & including 1000 volts & greater than 1000 Volts.	Verification of Dimension	IS: 7935/75 RA 2011, IS: 2486 Part 1/93 RA 2008, Part 2/89 RA 2009	Thread Gauge (12,16,20), vernier caliper (0 to 150 mm) & steel tape (5m)
		Checking of Threads on Head	IS: 7935/75 RA 2011, IS: 2486 Part 1/93 RA 2008, Part 2/89 RA 2009	Thread Gauge (12,16,20), for 11kv, 22 kv, 33kv & It pin
		Mechanical Strength Test	IS: 7935/75 RA 2011, IS: 2486 Part 1/93 RA 2008, Part 2/89 RA 2009	0.1 to 400 kN

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14.	Galvanised M.S. Hardware Fittings for L.T. Shackle Electrical Insulator	Verification of Dimension	IS: 7935/75 RA 2011	0.5 to 400 mm
		Mechanical Strength Test	IS: 7935/75 RA 2011	0.1 to 400 kN
15.	Galvanised L.T & H.T Steel Stay Sets	Verification of Dimension	BS – 16/1974	0.5 mm to 3000mm
		Mechanical Breaking Load Test	BS – 16/1974	0.1 to 400 kN
16.	Metal Electrical Fittings (MS Rod Type/GI Pipe Type Earthing Sets)	Verification of Dimension	N/A	0.5 to 5000 mm
		Wrapping Test of GI Wire	IS: 1755/ 83 RA 2010	0.5 to 5 mm dia.
		Mechanical Breaking Load Test	IS: 1608: 2005 RA 2011	0.1 to 400 kN
17.	Insulator fittings for overhead power lines with normal voltage greater than 1000 V	Verification of Dimension	IS: 2486:1993 Part 1, RA 2008; IS: 2486:1989 Part 2, RA 2009; IS: 2486:1974 Part 3, RA 2011;	Plug gauge (go & not go type, 16 & 20 mm), Ring gauge(go & not go type, 16 & 20 mm), thread gauge(12,16,20).
		Slip Strength Test	IS: 2486:1981 Part 4, RA 2011	0.1 to 400 kN
		Mechanical Test		0.1 to 400 kN
		Operation Test		100 to 1000 N
18.	Electric Power Connectors	Verification of Dimension	IS: 5561: 1970 RA 2007	0.5 mm to 600 mm
		Tensile Load Test		0.1 to 400 kN

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19.	Helically formed fittings for overhead lines upto 33 KV	Verification of Dimension		1 mm to 5000 mm
		Tensile Strength Test		0.1 to 400 kN
		Slip Strength Test		0.1 to 400 kN
		Resilience Test		-
20.	Conductors & Earth wire Accessories for overhead power lines	Verification of Dimension	IS: 2121:1981 Part 1 &2, RA 2007;	0.1mm to 5000 mm
		Slip Strength Test	IS: 2121:1992 Part 3, RA 2007;	0.1 to 400 kN
		Mechanical Load Test	IS: 2121:1991 Part 4, RA 2007;	0.1 to 400 kN
21.	Metallic Wires	Torsion Test	IS: 1717: 2012	0.5 mm to 05 mm

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