

Laboratory	Chennai Mettex Lab Private Limited, Chennai		
Accreditation Standard	ISO/IEC 17025:2005	Issue Date	16.06.2009
Field	Mechanical Testing	Valid Until	15.06.2011
Certificate Number	T-0437		
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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 Operation / Limits of Detection
1.	Metals and Alloys	Tensile Test a. Tensile Strength b. Yield Strength c. Elongation d. Reduction Area e. 0.2% Proof Stress	IS 1608 – 2005 ASTM A 370-08a ASME SEC.IX – 2007 [QM150 & 160] ASTM - E8/E8M-08	1 – 30 mm dia 0.5 to 25 mm thickness
2.	Metals and Alloys	Bend Test Rebend test Requirement for Bond (Mean projected Area)	IS 1599 – 1985 [R06] ASTM A 370 – 08a ASME SEC.IX – 2007 IS:1786 – 2008	0.5 – 25 mm
3.	Metals and Alloys - Tube	Crushing test as tube	IS 3601 – 1984 [R95] IS 3074 - 2005	10 – 50 mm
4.	Metals and Alloys - Tube	Flattening Test as tube Drift Expansion test	IS 2328 – 1983 [R01] ASTM A 370 – 08a	50 – 400 mm
5.	Metals and Alloys	Hardness test Rockwell	IS 1586 – 2000 ASTM A 370 – 08a ASTM E18 – 08a	60 – 90 HRA 30 – 100 HRB 20 – 65 HRC
6.	Metals and Alloys	Brinell Hardness	IS 1500 – 2005 ASTM E10-07a	3000 kgf load / 10 mm dia ball [100-400], 250 kgf load / 5 mm dia ball [100-150], 750kgf load / 5 mm dia ball [150-300], 250 kgf load / 2.5 mm dia ball [200 – 400]

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7.	Metals and Alloys	Hardness – Vickers	IS 1501– 2002 ASTM E384-08a ASTM E92- 82 [R03]	HV5 [100 - 300], HV10 [450 – 500], HV20 [700 – 800] HV30 [600 – 800] HV50 [400 – 500]
		Micro Hardness	IS 1501– 2002	HV 0.1 [100 - 700] HV 0.2 [300 – 400] HV 0.2 [600 – 700] HV 0.3 [300 – 400] HV 0.5 [700 – 800] HV 0.5 [100 – 200] HV 1 [200 - 800]
8.	Metals and Alloys	Determining the mechanical properties of externally threaded fasteners 1.Axial Tensile Load 2.Wedge Test 3.Proof load for Nuts 4.Proof load for Bolts & Studs	IS:1367 Part 3 & 6-2005, EN 898 – 1- 1999, ASTM F 606 - 07	M8 – M32 Bolt M8 – M32 Nut M8 – M24 Bolt M8 – M24 Nut
9.	Metals and Alloys	Total & effective Case depth measurement By Hardness Traverse Method	IS:13691 – 1993 IS 6416 – 1988 [R03] ASTM - B 934 – 04a	10 gf – 1 kgf 0.01 mm – 10 mm
10.	Metals and Alloys	Impact Test Izod Charpy	IS: 1598 – 1977 [R03] IS: 1757 – 1988 [R03] IS: 1499 – 1977 [R03] ASTM A 370 – 08a ASME SEC.IX – 2007	2 - 168 Joules 2 - 300 Joules [RT to (-)40°] on ready machined

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11.	Metals and Alloys	Microstructure analysis	ASM Hand Book Vol. IX -1995 ASTM A800 / 800M-01 [R06]	50 - 1000 X
12.	Metals and Alloys	Avg. of grain size	IS 4748 – 1988 [R03], (Comparison Method) ASTM E 112 – 96 [R04]	100 X
13.	Cast Iron & its alloys	Microstructure of graphite	IS 7754 – 1975 [R03] ASTM A247 – 67 [R98]	50 X – 1000 X
14.	Metals and Alloys	Measuring Case Depth	IS 6416 – 1988 [R03] (Microscopic Method)	100 X
15.	Metals and Alloys	Measuring Decarburized depth	IS 6396 – 2000 (Microscopic Method) ASTM E1077 – 01 [R05]	100 X
16.	Metals and Alloys	Macro etch test	IS 11371 – 1985 [R03] ASTM A 604/A604M-07, ASTM E 381 – 01 [R06] ASTM E 340 – 00 [R06] ASME SEC.IX – 2007 ASM Hand Book Vol. IX	Visual examination (<10 X Magnification)
17.	Metals and Alloys	Inclusion Rating	IS:4163-2004 ASTM E 45 – 05	100 X
18.	Metals and Alloys	Coating Thickness measurement	IS:3203-1982 [R98]	-

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19.	Stainless Steel Wrought / Cast Products	Inter Granular Corrosion (IGC)	ASTM A 262 - 02a [2008] Practice - A Practice - B Practice - C Practice - E Practice - F	250 X, 500 X - - < 20 X Magnification -
20.	Rubber & its Products	Hardness	ASTM D 2240-05	10 - 95 Points
		Tensile test	IS 3400 Pt.1 - 1987, [R98] ASTM - D412-98a [R02]	10N - 350 N
		Ageing test	IS 3400 Pt.4 - 1987 [R98] ASTM - D573 -04	Heating in Air 70°C - 250°C
		Density	IS 3400 Pt.9 - 2003	0.5 to 3 gm/cc
		Resistance to liquids	IS 3400 Pt.6 - 1983 [R96]	0.2 to 90% 10N - 2500 N
		Tear Strength	IS 3400 Pt.17 - 1974 [R93]	Up to 2500 N
		Compression set	IS 3400 Pt.10 - 1977 ASTM - D395 - 03(R08)	NA
21.	Noise	Noise Level	IS 9000 Pt. 21 - 1985 [Reaff : 2004]	30 - 130 db

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