

Laboratory **Indiana Test, Calibration And Certification Services (A Division of Indiana Ferro Alloys), D-151, Industrial Area Phase-VII, Mohali, Punjab**

Accreditation Standard **ISO/IEC 17025:2005**

Discipline **Mechanical Testing** **Issue Date** **09.07.2015**

Certificate Number **T-2590** **Valid Until** **08.07.2017**

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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.				
1.	Ferrous Products & Non- Ferrous Products (Aluminium & Copper)	Tensile Strength Yield Stress 0.2% Proof Stress 0.5% Proof Stress % Elongation % Reduction in Area	ASTM A-370: 2014 IS 1608: 2005 (RA 2011) ASME (Sec IX): 2013 IS 3600-3: 2009 IS 3600 (Part 4): 1984 (RA 2006) AWS D1.1/D1.1M:2010 ISO 898-1: 2013 ISO 898 -2: 2012	5 kN to 600 kN (Least Count 0.001 kN) 100 MPa to 2000 MPa 50 MPa to 1600 MPa 50 MPa to 1600 MPa 50 MPa to 1600 MPa 2 % to 90 % 5% to 90 %
2.	Ferrous Products & Welded Specimens	Bend Test/Root Bend Bend Test/Face Bend Bend Test/Side Bend	BS EN ISO 5173: 2012 IS 1599: 2012 ASME (Sec IX): 2013 IS 3600-5: 1983 (RA 2006) IS 3600-7: 1985 (RA 2003) AWS D1.1/D1.1 M:2010	Qualitative Mandrel sizes (mm) (8,10,14,16, 20, 24, 28, 32, 36, 40, 50, 60,70, 80, 90, 100,110,150, 180, 200, 225)
3.	Reinforcement Bar	Re-Bend Test	IS 1786: 2008 (RA 2013)	Qualitative Mandrel sizes (mm) (8,10,14,16, 20, 24, 28, 32, 36, 40, 50, 60, 70, 80, 90,100,110,150, 180, 200, 225)
4.	Ferrous Products & Non ferrous Products (Aluminum & Copper) (Tubes & Pipes)	Flattening Test Drift Expansion Test	IS 2328: 2005 (RA 2011) ISO 8493: 1998 (RA 2004)	Qualitative OD: 10mm to 500 mm Qualitative OD : 10 mm to 150 mm Cone Angle: 60 °

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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
5.	Fasteners (Nuts/Bolts)	Proof Load Test	IS 1367 (Part 3): 2002 (RA 2013) IS 1367 (Part 6): 1994 (RA 2013) IS 1367 (Part 14): 2002 (RA 2013) ISO 898-1: 2013 ISO 898 -2: 2012 ISO 3500-1: 2009 (RA 2013) ASTM A-370: 2014 ASTM F606M: 2014	5 kN to 600 kN (Least Count 0.001 kN) Extension Measurement: 1 mm Nominal sizes: (M6, M8, M10, M12, M14, M16, M20, M22, M24, M27)
6.	Fasteners (Bolts/Screw/ Studs)	Wedge Load Proof Test	ISO 898-1: 2013 ISO 898 -2: 2012 IS 1367 (Part 3): 2002 (RA 2013) IS 1367 (Part 6): 1994 (RA 2013) ATM A-370: 2014 ASTM F606M: 2014	5 kN to 600 kN (Least Count 0.001 kN) Mandrel sizes (mm) (M6, M8, M10, M12, M14, M16, M20, M22, M24, M27)
7.	Ferrous & Non-Ferrous Products	Brinell Hardness	IS 1500 (Part 1): 2013 ASTM E-10: 2014	100 to 650 HBW10/3000 100 to 650 HBW 5/750
		Rockwell Hardness (Scale A, B & C)	IS 1586 (Part 2): 2012 ASTM E-18: 2012	20 HRA to 88 HRA 50 HRB to 100 HRB 20 HRC to 70 HRC

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