

Laboratory	Dee Development Engineers Ltd. (Quality Control Lab), Village – Tatarpur, Palwal, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	04.10.2014
Certificate Number	T-1803	Valid Until	03.10.2016
Last Amended on	-	Page	1 of 2

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. MECHANICAL PROPERTIES OF MATERIALS				
1.	Ferrous Materials	Tensile Strength	IS 1608 : 2005 (RA 2010) ASTM A 370 : 2014	5 N/mm ² to 750 N/mm ² (Up to 1000 kN)
		Yield Stress/Proof Stress	IS 1608 : 2005 (RA 2010) ASTM A 370 : 2014	5 N/mm ² to 600 N/mm ² (Up to 1000 kN)
		% Elongation	IS 1608 : 2005 (RA 2010) ASTM A 370 : 2014	0.5% to 90%
		% Reduction in Area	IS 1608 : 2005 (RA 2010) ASTM A 370 : 2014	0.5% to 90%
		Charpy Impact (V-Notch) (20°C to -50°C)	IS 1757 : 1988 (RA 2009) ISO 148 PT1 : 2010 ASTM E 23 : 2014	2 J to 300 J
		Bend Test	IS 1599 : 2012 ASTM A 370 : 2014	Qualitative test (Mandrel dia : 5mm, 7mm, 8mm, 9mm, 10mm, 11mm, 12mm, 22mm, 32mm, 40mm to 100 mm)
		Rockwell Hardness	IS 1586 : 2012 E 18 : 2014	(30 to 99) HRBW
		Vicker Hardness (HV)	IS 1501 : 2002 ISO 6507 : 1997	30HV to 800 HV (5kgf) 30HV to 800 HV (10kgf) 30HV to 800 HV (20kgf) 30HV to 800 HV (30kgf) 30HV to 800 HV (50kgf)
		Flattening Test	IS 2328 : 2005 (RA 2010) ASTM A 370 : 2014	Qualitative (Dia : 50mm to 200 mm)

Laboratory **Dee Development Engineers Ltd. (Quality Control Lab), Village – Tatarpur, Palwal, Haryana**

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

Discipline **Mechanical Testing** **Issue Date** **04.10.2014**

Certificate Number **T-1803** **Valid Until** **03.10.2016**

Last Amended on **-** **Page** **2 of 2**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Austenitic Steels	Intergranular Corrosion	ASTM A 262 : 2013 (Practice B & E)	Qualitative
II. METALLOGRAPHY TEST				
1.	Metallographic Examination of Ferrous Steel & Stainless Steels	Macro Examination	ASTM E 340 : 2013 IS 11371 : 1985 (RA 2007) ASM Handbook Vol. 9 : 2004	Qualitative (7X to 45X)
		Micro-structure Analysis	ASM Handbook Vol. 9 : 2004	Qualitative (100X, 200X, 400X, 500X)
		Replica Micro Structure	ASTM E 1351-1 : 2012	Qualitative (100X, 200X, 400X, 500X)

-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-