

Laboratory Western Heat & Forge Pvt. Ltd., J 2 'S' Block, MIDC, Telco Road, Bhosari, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Mechanical Testing **Issue Date** 26.10.2015

Certificate Number T-2545 **Valid Until** 23.05.2017

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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. MECHANICAL PROPERTIES OF MATERIALS				
1.	Ferrous Material	Tensile Strength	ASTM A 370: 2014	8 kN to 400 kN
		Yield Strength	IS 1608: 2010	8 kN to 360 kN
		0.2 % Proof Test		8 kN to 360 kN
		% Elongation		0.5 % to 80 %
		% Reduction in Area		10 % to 80 %
		Charpy 'V' Impact Test	ASTM E 23: 2012 C IS 1757: 2009	2 J to 300 J Room temperature to (-) 80 °C
		Hardness by Brinell Method	ASTM E10: 14 IS 1500: 2013	5 mm/750 kg Load 10 mm/3000 kg Load (125 HBW to 485 HBW)
		Hardness by Rockwell Method (C Scale)	ASTM E 18: 2014a IS 1586: 2012	C Scale: 20 HRC to 62 HRC
II. METALLOGRAPHY TEST				
		Microstructure Analysis	ASM Metals Handbook Volume 9	Qualitative (Magnification 100 x to 1000 x)
		Estimation of Grain Size by Microscopic Method	ASTM E 112-3 IS 4748: 2009 Comparison Method	Qualitative (100 x Grain Size 1 to 8)
		Determination of Inclusion Rating	ASTM E 45: 2013 IS 4163: 2004 Type 'A' Method	Qualitative (A, B, C, D (0.5 to 3.0) 100 X)
		Macro Examination	ASTM E 381: 2012	Qualitative

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