

<b>Laboratory</b>	<b>BSL Spectro Lab &amp; Metallurgical Testing Centre, Plot No. 263, Sector 24, Faridabad, Haryana</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>27.08.2016</b>
<b>Certificate Number</b>	<b>T-1453</b>	<b>Valid Until</b>	<b>26.08.2018</b>
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<b>S. No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>I. MECHANICAL PROPERTIES OF METALS</b>				
<b>1.</b>	<b>Metallic Material (Ferrous/ Non Ferrous)</b>	Tensile Strength Yield Strength 0.2% Proof Stress % Elongation % Reduction Area	IS 1608: 2005 ASTM A 370: 2015	12 kN to 600 kN  Upto 80 % Upto 80 %
		Rockwell Hardness Scale B Rockwell Hardness Scale C	IS 1586 (Part 1): 2012 ASTM A 370: 2015	40 HRBW to 100 HRBW 20 HRC to 65 HRC
		Brinell Hardness	IS 1500: 2005 ASTM A 370: 2015	100 HBW to 400 HBW (10/3000)
		Vickers Hardness	IS 1501 (Part 1): 2013 ASTM A 370: 2015	90 HV <sub>5</sub> to 650 HV <sub>5</sub> 150 HV <sub>10</sub> to 500 HV <sub>10</sub>
<b>2.</b>	<b>Metallic Material (Ferrous)</b>	Bend Test	IS 1599: 2012	Qualitative (Thickness Upto 25 mm) Mandrel dia in mm (20, 30, 40, 50, 60)
		Charpy Impact "V" Notch & "U" Notch	IS 1757: 2003 IS 1499: 2003	2 J to 300 J (Room Temp.To-50° C)
<b>II. METALLOGRAPHY TEST</b>				
<b>1.</b>	<b>Metallic Material (Steel, Grey Cast Iron, Ductile Iron Al &amp; its alloys)</b>	Microstructure Examination	ASM Hand Book Vol. 9: 2007	Qualitative
<b>2.</b>	<b>Steel</b>	Grain Size Microscopic Method	IS 4748: 2009	Qualitative (Grain Size No.1 to 10)
		Inclusion Rating	IS 4163: 2004	Qualitative (Upto rating 3.0, A, B, C & D Type Thin & Thick Series)

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	<b>Steel</b>	Case Depth Microscopic Method	IS 6416: 1988 (RA 2003)	0.01 mm to 1 mm
		De-Carburization Depth Microscopic Method	IS 6396: 2000 (RA 2003)	0.01 mm to 1 mm
		Salt Spray Test (Neutral)	IS 9844: 1981	Qualitative
		Macro Examination	ASM Hand Book Vol. 9: 2007	Qualitative

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