

Laboratory	Sunflag Laboratory, Sunflag Iron & Steel Co. Ltd., Bhandara Road, Distt. Bhandara, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	05.04.2014
Certificate Number	T-1238	Valid Until	04.04.2016
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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
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I. MECHANICAL PROPERTIES OF MATERIALS

1. Ferrous a) Round b) Wire Rod c) Flat d) RCS e) Hexagons f) Rib Bar	Tensile Testing	IS 1608-2005	Upto 400 kN (0.1 kN) Upto 600 kN (0.1 kN)
	a) Yield point/Proof stress		
	b) Ultimate Tensile stress		
	c) % Elongation		
	d) % Reduction of Area		
	Brinell Hardness Test	IS 1500-2005	100 to 350 HBW (10/3000)
	Rockwell Hardness Test	IS 1586-2012 ASTM E 18-12	60 to 100 HRB 20 to 70 HRC
	Bend Test	IS 1599-1985 (RA 2006)	Upto 180°C Angle Single Bend Max. Thickness. 25 mm Mandel Dia.: 3 mm to 25 mm
	Impact Test	IS 1757-1988 (RA 2003) (-80°C) to Room Temp. IS 1598-1977 (RA 2003)	Charpy 'V' Notch: 300 J (Max) L.C.: 2.0 J Izod 'V' Notch: 170 J (Max)

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II. METALLOGRAPHY TEST

1.	Ferrous a) Round b) Wire Rod c) Flat d) RCS e) Hexagons f) Rib Bar	Macro Structural Analysis	ASTM E 340-2013 ASTM E 381-2012	Magnification: Upto 15 X
		Micro Structural Analysis	ASM Handbook Volume 9 (ASTM E 3-2001, ASTM E 407- 2007) SEP 1520-98	Magnification: 100 X to 1000 X
		Estimation of Grain Size by Microscopic Examination	ASTM E 112-2012 (Comp. Method) IS 4748-2009 (Comp. Method)	1 to 10 No.
		Determination of Inclusion Rating	ASTM E 45 -2013 (Method A) IS 4163-2004 (Method A)	0.5 to 5 Rating
		Decarb depth (Microscopic Method)	IS 6396-2000 (RA 2007)	0.01 to 1.5 mm
		End quench test for Hardenability of steel	IS 3848-1981 (RA 2003) ASTM A 255-02	Upto 50 mm

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