

Laboratory Metallurgical Testing Centre (A Unit of Joneja Bright Steels Pvt. Ltd.), Plot No. 239, Sector-24, Faridabad, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6208 (in lieu of T-2070 & T-2071)

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Validity 29.09.2017 to 28.09.2019

Last Amended on --

Sl.	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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CHEMICAL TESTING

I.	METALS AND ALLOYS			
1.	Low Alloy Steel and Plain Carbon Steel	Carbon (C)	ASTM E 415:2015	0.020 % to 1.500 %
		Sulphur (S)		0.003 % to 0.350 %
		Phosphorus (P)		0.005 % to 0.100 %
		Manganese (Mn)		0.100 % to 2.500 %
		Silicon (Si)		0.020 % to 2.500 %
		Chromium (Cr)		0.050 % to 5.000 %
		Nickel (Ni)		0.020 % to 5.000 %
		Molybdenum (Mo)		0.020 % to 2.500 %
		Aluminum (Al)		0.020 % to 0.200 %
		Boron (B)		0.0005 % to 0.0035 %
2.	Stainless Steel	Lead (Pb)	ASTM E 1086:2014	0.100 % to 0.350 %
		Titanium (Ti)		0.020 % to 0.2500 %
		Carbon (C)		0.020 % to 0.500 %
		Sulphur (S)		0.003 % to 0.350 %
		Phosphorus (P)		0.010 % to 0.100 %
		Manganese (Mn)		0.100 % to 10.000 %
		Silicon (Si)		0.020 % to 2.500 %
		Chromium (Cr)		0.050 % to 20.000 %
		Nickel (Ni)		0.020 % to 10.000 %
		Molybdenum (Mo)		0.020 % to 2.000 %
3.	Tool & Die Steel	Vanadium (V)	ASTM E 1086:2014	0.020 % to 1.500 %
		Copper (Cu)		0.020 % to 1.000 %
		Aluminium (Al)		0.020 % to 0.200 %
		Cobalt (Co)		0.020 % to 0.500 %
		Titanium (Ti)		0.020 % to 1.000 %
		Niobium (Nb)		0.100 % to 1.000 %
		Carbon (C)		0.020 % to 1.500 %

Prachi Kukreti
Convenor

N. Venkateswaran
Program Director

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		Sulphur (S)		0.003 % to 0.350 %
		Phosphorus (P)		0.010 % to 0.100 %
		Manganese (Mn)		0.100 % to 10.000 %
		Silicon (Si)		0.020 % to 2.500 %
		Chromium (Cr)		0.050 % to 20.000 %
		Nickel (Ni)		0.020 % to 10.000 %
		Molybdenum (Mo)		0.020 % to 2.000 %
		Vanadium (V)		0.020 % to 1.500 %
		Copper (Cu)		0.020 % to 1.000 %
		Aluminium (Al)		0.020 % to 0.200 %
		Cobalt (Co)		0.020 % to 0.500 %
		Titanium (Ti)		0.020 % to 1.000 %
		Niobium (Nb)		0.100 % to 1.000 %
II.	CORROSION TESTS			
1.	Ferrous and Non Ferrous Products	Salt Spray	IS 9844:2010	Qualitative

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MECHANICAL TESTING

I.	MECHANICAL PROPERTIES OF METALS			
1.	Ferrous Material	Tensile Test: Tensile Strength Yield Strength % Elongation % Reduction Area	IS 1608:2005 (RA 2011)	6 kN to 600 kN(Load) 4 kN to 200 kN (Load) 2 kN to 50 kN (Load) 5 % to 80 % 10 % to 80 %
		Hardness Test		
		Rockwell Hardness (B)	IS 1586 (Part 1): 2012	20 to 100 HRBW
		Rockwell Hardness (C)	IS 1586 (Part 1): 2012	20 to 70HRC
		Brinell Hardness	IS 1500 (Part1): 2013	100 to 600 HBW 10/3000
		Micro Vickers Hardness	IS 1501 (Part1): 2013	50 to 800 HV1
		Vickers Hardness	IS 1501 (Part1): 2013	50 to 800 HV5
		Vickers Hardness	IS 1501 (Part1): 2013	50 to 800 HV10
II.	METALLOGRAPHY TEST			
1.	Steel	Ferritic grain size (untwined grain)	IS 4748:2009 (RA 2017) comparison method	ASTM No. 1 to 10 at 100X
		Case Depth	IS 6416:1988 (RA 2012) Microscopic Method	0.01 mm to 1 mm at 100X
		Depth of Decarburization	IS 6396:2000 (RA 2012) Microscopic Method	0.01 mm to 1 mm at 100X