Laboratory	**Shreeram Inspection Services, D-432, Govindpuram, Ghaziabad, Uttar Pradesh**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Certificate Number	**TC-5712**	**Page 1 of 2**	
Validity	**29.01.2018 to 28.01.2020**	**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

CHEMICAL TESTING

I.	**METALS AND ALLOYS**			
1.	**Ferrous Metals**			
(a)	**Low alloy Steel**	Carbon	IS 8811:1998	0.020 % to 1.30 %
		Manganese	ASTM E415:2017	0.040 % to 2.00 %
		Silicon		0.010 % to 2.00 %
		Phosphorous		0.001 % to 0.100 %
		Sulphur		0.001 % to 0.100 %
		Chromium		0.010 % to 10.00 %
		Molybdenum		0.005 % to 1.20 %
		Nickel		0.010 % to 5.00 %
		Aluminum		0.005 % to 0.15 %
		Copper		0.005 % to 0.75 %
		Boron		0.0005 % to 0.0070 %
		Vanadium		0.005 % to 0.60 %
		Niobium		0.005 % to 0.10 %
		Titanium		0.005 % to 0.10 %
(b)	**Stainless Steel**	Carbon	IS 9879:1998	0.005 % to 0.35 %
		Manganese	ASTM E1086:2014	0.02 % to 2.00 %
		Silicon		0.03 % to 1.25 %
		Phosphorous		0.002 % to 0.050 %
		Sulphur		0.001 % to 0.050 %
		Chromium		10.00 % to 30.00 %
		Molybdenum		0.05 % to 4.00 %
		Nickel		0.10 % to 30.00 %
		Copper		0.020 % to 2.50 %
		Niobium		0.03 % to 1.10 %
		Titanium		0.03 % to 1.25 %

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection

MECHANICAL TESTING

I.	**MECHANICAL PROPERTIES OF METALS**			
1.	**Metals (Ferrous & Non Ferrous)**	Tensile Strength Yield Strength Elongation Reduction Area	IS 1608:2005 ASTM A 370-17 ASTM E 8/E8M-16a	10 kN to 200 kN 200 kN to 1000 kN 2 % to 80 % 2 % to 80 %
		Brinell Hardness	IS 1500 (Part 1 & 4): 2013 ASTM A 370-17 ASTM E 10-17	95.5 HBW to 653 HBW (10mm/3000 kgf) Indentation Diameter (Ø 2.40 mm to Ø 6.0 mm)
		Bend Test	IS 1599:2012	Qualitative (Mandrel Size: 6, 8, 10, 12, 16, 20, 24, 30, 32, 40, 44, 48, 64, 80, 125, 140,160 mm)
2.	**High Strength Deformed Steel Bar & Wires (TMT BAR)**	Tensile Strength Yield Strength Elongation	IS 1608:2005	10 kN to 200 kN 200 kN to1000 kN 2 % to 80 %
		Bend Test	IS 1599 : 2012	Qualitative (Mandrel Size: 6, 8, 10, 12, 16, 20, 24, 30, 32, 40, 44, 48, 64, 80, 125, 140,160 mm)
		Mass Per Meter	IS 1786:2008 (Amd No.2, 2013)	0.08 kg/m to 11.00 kg/m

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