

Laboratory ID & RL Private Limited, 33/2A, Satish Mukherjee Road, Kolkata, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6959

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Validity 05.03.2018 to 04.03.2020

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
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**MECHANICAL TESTING**

<b>I. MECHANICAL PROPERTIES OF METALS</b>				
1.	<b>Ferrous and Non Ferrous materials</b>	Tensile Strength	IS 1608:2005	100 MPa to 1200 MPa
		Yield Stress	ASTM A370: 2017	100 MPa to 900 MPa
		0.2% proof stress	ASTM E8/E8M:2016	100 MPa to 1000 MPa
		% Elongation		1% to 80%
		Bend	IS 1599:2012 (RA 2017) ASTM A370: 2017	Qualitative (Mandel Diameter 6,12,13,16,19,20,25,36, 40,44,45,48,50,56,60,6, 70,80,90,97,125,150 and 200 mm)
		Rockwell Hardness	IS 1586(Part 1): 2012 ASTM A 370: 2017	60 HRBW to 100 HRBW 20 HRC to 70 HRC
		Brinell Hardness	IS1500 (Part 1):2013 ASTM A 370: 2017 ASTM E 10: 2017	100 HBW to 550 HBW (10mm/3000kgf)
2.	<b>Steel fasteners</b>	Proof load	IS 1367 (Part 3):2002 IS 1367 (Part 6):1994	1 kN to 600 kN
		Tensile Load	IS 1367 (Part 3): 2002	1 kN to 600 kN
3.	<b>Welded and seamless steel pipes</b>	Flattening	IS 1239 (Part 1): 2004	50 mm to 250 mm
		Flaring	ASTM A370:2017	20 mm to 55 mm
4.	<b>Ferrous and Non Ferrous materials</b>	Macro etching	IACS-UR-W-28:2006 Cl. 4.2.2.6 ASME SEC IX: 2015 Cl. QW183,184 IS 7310 (Part 1):1974 (RA 2006) IS 7307 (Part 1):1974 (RA 2003)	Qualitative

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		Fracture	IACS-UR-W-28:2006 Cl. 4.3.3.4 ASME SEC IX:2015 Cl. QW182 IS 7310 (Part 1):1974 (RA 2006) IS 7307 (Part 1):1974 (RA 2003)	Qualitative
5.	Reinforcement steel	Tensile Strength 0.2% Proof Stress Elongation Reduction in area	ASTM A370:2017 ASTM E8/E8M:2016 IS 1608:2005	100 MPa to 1200 MPa 100 MPa to 1000 MPa 1% to 80% 1% to 75%
		Bend	IS 1786:2008 Cl. 9.3	Qualitative (Mandel Diameter 32,40,48,50,56,60,70,96, 125,150 and 200 mm)
		Re-Bend	IS 1786:2008 Cl. 9.4	Qualitative (Mandel Diameter 32,40,48,50,56,60,70,96, 125,150,200 mm)
		Mass per meter run	IS 1786:2008 Cl. 6.3	0.5 kg to 10 kg
6.	Ferrous and Non Ferrous welded plates and tubes	Transverse Tensile Strength	ASME SEC-IX:2015 IS 7307 (Part 1): 1974 (RA 2003) IACS-UR-W28:2012	100 MPa to 1200 MPa
		Face Bend Root Bend Side Bend	ASME SEC IX:2015 IS 7307 (Part 1):1974 (RA 2003) IACS-UR-W28:2012	Qualitative (Mandel Diameter 6,12,13,16,19,20,25,36, 40,44,45,48,50,56,60,63, 70,80,90,97,125,150 and 200 mm)

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