



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name P. P. METALLURGICAL LABORATORY (TESTING LABORATORY), MAKARDAH ROAD, SANPUR(S), HOWRAH, WEST BENGAL , INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-5870 Page No. : 1 / 14

Validity 26/07/2019 to 25/07/2021 Last Amended on -

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
<b>Permanent Facility</b>					
1	CHEMICAL- METALLIC COATINGS & TREATMENT SOLUTIONS	Zinc Coated Iron & Steel articles	Adhesion Test	IS 2629: 1985 RA 2016	Qualitative
2	CHEMICAL- METALLIC COATINGS & TREATMENT SOLUTIONS	Zinc Coated Iron & Steel articles	Mass of Zinc Coating	IS 6745: 1972 RA: 2016	100 g/m <sup>2</sup> to 2000 g/m <sup>2</sup>
3	CHEMICAL- METALLIC COATINGS & TREATMENT SOLUTIONS	Zinc Coated Iron & Steel articles	Thickness of Coating	IS 4759: 1996 RA 2016	30 Micron to 500 Micron
4	CHEMICAL- METALLIC COATINGS & TREATMENT SOLUTIONS	Zinc Coated Iron & Steel articles	Uniformity of Coating	IS 2633: 1986 RA 2016	Qualitative
5	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Chromium	OPTICAL EMISSION SPECTROMETER ASTM E 1251.: 2017	0.010 % to 0.10 %
6	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Copper	OPTICAL EMISSION SPECTROMETER ASTM E 1251: 2017	0.02 % to 0.50 %
7	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Copper	IS 504 (Part 3) Clause 6: 2002 RA 2018	0.1 % to 4.0 %
8	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Iron	IS 504 (Part 2) Clause 6: 2002 RA 2018	0.10 % to 2.0 %
9	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Iron	OPTICAL EMISSION SPECTROMETER ASTM E 1251: 2017	0.02 % to 2.0 %



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10	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Lead	IS 504 (Part 1) Clause 8: 2002 RA 2018	0.02 % to 1.0 %
11	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Magnesium	IS 504 (Part 6) Clause 5: 2002 RA 2018	0.05 % to 5.0 %
12	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Magnesium	OPTICAL EMISSION SPECTROMETER ASTM E 1251: 2017	0.016 % to 1.0 %
13	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Manganese	OPTICAL EMISSION SPECTROMETER ASTM E 1251: 2017	0.02 % to 1.0 %
14	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Manganese	IS 504 (Part 5) Clause 5: 2002 RA 2018	0.04 % to 0.50 %
15	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Nickel	IS 504 (Part 7) Clause 5: 2002 RA 2018	0.02 % to 1.0 %
16	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Nickel	OPTICAL EMISSION SPECTROMETER ASTM E 1251: 2017	0.02 % to 1.0 %
17	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Silicon	OPTICAL EMISSION SPECTROMETER ASTM E 1251: 2017	0.015 % to 15.0 %
18	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Silicon	IS 504 (Part 1) Clause 7: 2002 RA 2018	0.30 % to 15.0 %
19	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Titanium	OPTICAL EMISSION SPECTROMETER ASTM E 1251: 2017	0.01 % to 0.20 %
20	CHEMICAL- METALS & ALLOYS	Aluminium & Aluminium Base Alloys	Zinc	OPTICAL EMISSION SPECTROMETER ASTM E 1251: 2017	0.02 % to 0.60 %
21	CHEMICAL- METALS & ALLOYS	Cast Iron & Pig Iron	Chromium	IS 12308 (Part 8): 1997 RA 2018	0.10 % to 1.50 %



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22	CHEMICAL- METALS & ALLOYS	Cast Iron & Pig Iron	Manganese	IS 12308 (Part 10): 1991 RA 2018	0.10 % to 1.0 %
23	CHEMICAL- METALS & ALLOYS	Cast Iron & Pig Iron	Phosphorus	IS 12308 (Part 5): 1991 RA2018	0.05 % to 0.25 %
24	CHEMICAL- METALS & ALLOYS	Cast Iron & Pig Iron	Silicon	IS 12308 (Part 6): 1991 RA 2018	0.5 % to 3.00 %
25	CHEMICAL- METALS & ALLOYS	Cast Iron & Pig Iron	Sulphur	IS 12308 (Part 2): 1987 RA 2018	0.01 % to 0.20 %
26	CHEMICAL- METALS & ALLOYS	Cast Iron & Pig Iron	Total Carbon	IS 12308 (Part 11): 1991 RA 2018	1.5 % to 4.50 %
27	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Aluminium	ASTM E 478: 2008 (2017)	0.01 % to 12.0 %
28	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Copper	IS 440:1964 RA 2018, IS 3685:1966 RA 2018, IS 3187/1965 RA 2018, IS 4027: (Part 1): 1987 RA 2018	50 % to 99.98 %
29	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Copper	IS 7212 1974 Clause 5: RA 2015	50 % to 99.98 %
30	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Iron	IS 440:1964 RA 2018, IS 3685:1966 RA 2018, IS 3187:1965 RA2018, IS 4027: (Part 8): 1987 RA 2018	0.05 % to 6.0 %
31	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Lead	IS 4027(Part-1)/1987 RA 2018, IS 3685: 1966 RA 2018	0.05 % to 6.5 %
32	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Manganese	IS 3187 Clause 7: 1965 RA 2018	0.10 % to 1.50 %



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33	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Nickel	IS 440:1964 RA 2018, IS 3685:1966 RA 2018, IS 3187: 1965 RA 2018	0.10 % to 6.00 %
34	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Phosphorus	IS 440:1964 RA 2018, IS 3685:1966 RA 2018, IS 4027 (Part 3): 1987 RA 2018	0.05 % to 0.30 %
35	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Silicon	IS 3685:1966 Clause 11 RA 2018, IS 4027 (Part 10): 1987 RA 2018	0.10 % to 0.50 %
36	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Tin	IS 4027:1987( Part- 5) RA 2018, IS 3685:1966 RA 2018, IS 440: 1964 RA 2018	0.05 % to 12.0 %
37	CHEMICAL- METALS & ALLOYS	Copper & Copper Base Alloys	Zinc	IS 3187:1965 RA 2018, IS 3685:1966 RA 2018, IS 4027 (Part 6): 1987 RA 2018	0.10 % to 38.0 %
38	CHEMICAL- METALS & ALLOYS	Plain Carbon and Low Alloy Steels	Carbon	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: RA 2018	0.05 % to 1.5 %
39	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Aluminium	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: RA 2018	0.010 % to 0.22 %
40	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Carbon	IS 228 (Part 1): 1987 RA 2018	0.05 % to 1.5 %
41	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Chromium	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: RA 2018	0.02 % to 2.5 %



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42	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Chromium	IS 228 (Part 6): 1987 RA 2014	0.1 % to 5 %
43	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Copper	IS 228 (Part 15): 1992 RA 2014	0.05 % to 0.4 %
44	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Copper	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: RA 2018	0.01 % to 0.50 %
45	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Manganese	IS 228 (Part 2): 1987 RA 2018	0.1 % to 2.0 %
46	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Manganese	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: RA 2018	0.10 % to 15.0 %
47	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Molybdenum	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: RA 2018	0.02 % to 1.0 %
48	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Nickel	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: RA 2018	0.02 % to 4.5 %
49	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Nickel	IS 228 (Part 5): 1987 RA 2014	0.1 % to 5 %
50	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Nitrogen	OPTICAL EMISSION SPECTROMETER IS : 8811:1998 RA 2018 IS: 228 (Part- 23): 2003 RA 2014	0.01 % to 0.1 %
51	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Phosphorous	OPTICAL EMISSION SPECTROMETER IS : 8811: 1998 RA 2018	0.01 % to 0.10 %
52	CHEMICAL- METALS & ALLOYS	Plain Carbon andLow Alloy Steels	Phosphorus	IS 228 (Part 3): 1987 RA 2018	0.01 % to 0.1 %



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53	CHEMICAL- METALS & ALLOYS	Plain Carbon and Low Alloy Steels	Silicon	IS 228 (Part 8): 1989 RA 2014	0.1 % to 2.5 %
54	CHEMICAL- METALS & ALLOYS	Plain Carbon and Low Alloy Steels	Silicon	OPTICAL EMISSION SPECTROMETER IS : 8811: 1998 RA 2018	0.05 % to 2.00 %
55	CHEMICAL- METALS & ALLOYS	Plain Carbon and Low Alloy Steels	Sulphur	IS 228 (Part 9): 1989 RA 2014	0.01 % to 0.1 %
56	CHEMICAL- METALS & ALLOYS	Plain Carbon and Low Alloy Steels	Sulphur	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: 2018	0.010 % to 0.10 %
57	CHEMICAL- METALS & ALLOYS	Plain Carbon and Low Alloy Steels	Vanadium	OPTICAL EMISSION SPECTROMETER IS : 8811:1998: RA 2018	0.01 % to 0.10 %
58	CHEMICAL- METALS & ALLOYS	Stainless Steels	Carbon	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.010 % to 0.20 %
59	CHEMICAL- METALS & ALLOYS	Stainless Steels	Carbon	IS 228 (Part 1): 1987 RA 2018	0.01 % to 0.2 %
60	CHEMICAL- METALS & ALLOYS	Stainless Steels	Chromium	IS 228 (Part 6): 1987 RA 2014	0.10 % to 30.0 %
61	CHEMICAL- METALS & ALLOYS	Stainless Steels	Chromium	Optical Emission Spectrometer IS 9879: 1998 RA 2015	10.0 % to 28.0 %
62	CHEMICAL- METALS & ALLOYS	Stainless Steels	Copper	IS 228 (Part 15): 1992 RA 2014	0.05 % to 1.00 %
63	CHEMICAL- METALS & ALLOYS	Stainless Steels	Copper	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.02 % to 0.50 %



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64	CHEMICAL- METALS & ALLOYS	Stainless Steels	Manganese	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.50 % to 2.00 %
65	CHEMICAL- METALS & ALLOYS	Stainless Steels	Manganese	IS 228 (Part 2): 1987 RA 2018	0.10 % to 13.00 %
66	CHEMICAL- METALS & ALLOYS	Stainless Steels	Molybdenum	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.03 % to 3.0 %
67	CHEMICAL- METALS & ALLOYS	Stainless Steels	Molybdenum	IS 228 (Part 7): 1990 RA 2018	1.0 % to 5.0 %
68	CHEMICAL- METALS & ALLOYS	Stainless Steels	Nickel	Optical Emission Spectrometer IS 9879: 1998 RA 2015	5.0 % to 22.10 %
69	CHEMICAL- METALS & ALLOYS	Stainless Steels	Nickel	IS 228 (Part 5): 1987 RA 2014	0.1 % to 25.0 %
70	CHEMICAL- METALS & ALLOYS	Stainless Steels	Phosphorous	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.008 % to 0.10 %
71	CHEMICAL- METALS & ALLOYS	Stainless Steels	Phosphorus	IS 228 (Part 3): 1987 RA 2018	0.01 % to 0.11 %
72	CHEMICAL- METALS & ALLOYS	Stainless Steels	Silicon	IS 228 (Part 8): 1989 RA 2014	0.10 % to 1.50 %
73	CHEMICAL- METALS & ALLOYS	Stainless Steels	Silicon	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.10 % to 1.0 %
74	CHEMICAL- METALS & ALLOYS	Stainless Steels	Sulphur	IS 228 (Part 9): 1989 RA 2014	0.01 % to 0.10 %
75	CHEMICAL- METALS & ALLOYS	Stainless Steels	Sulphur	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.008 % to 0.10 %

This is annexure to 'Certificate of Accreditation' and does not require any signature.



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76	CHEMICAL- METALS & ALLOYS	Stainless Steels	Titanium	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.30 % to 0.50 %
77	CHEMICAL- METALS & ALLOYS	Stainless Steels	Vanadium	Optical Emission Spectrometer IS 9879: 1998 RA 2015	0.03 % to 0.5 %
78	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Bolt	Head Soundness	IS: 1367 (Part 3) : 2017	Qualitative
79	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Bolt	Wedge Load	IS: 1367 (Part 3) : 2017	8040 N to 337000 N
80	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Fasteners	Permanent Set Test of Spring Washer	IS: 3063 :1994 RA: 2015	700 N to 380000 N
81	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Fasteners	Twist Test of Washer	IS: 3063 :1994 RA: 2015	1 ° to 90 °
82	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Fasteners (Bolts )	Proof Load Test	IS: 1367 (Part 3) ASTM A193M ASTM RS: T- 23/67: 2017	1600 to 380000 N
83	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metal & Alloys	Brinell Hardness test (5/750)	ASTM A 370: 2017 and IS: 1500 (Part 1): 2013 RA: 2018	30 HBW to 550 HBW





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84	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metal & Alloys	Brinell Hardness test, 10/3000	ASTM A 370: 2017 and IS: 1500 (Part 1): 2013; 2018: 2018	30 HBW to 550 HBW
85	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metal & Alloys	Rockwell Hardness test	IS 1586:2018(Part 1) ASTM A 370: 2018	20 to 100 HRBW
86	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metal & Alloys	Rockwell Hardness test	IS 1586:2018 (Part 1), ASTM A 370: 2018	20 HRC to 70 HRC
87	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys	Static Load Test Spring /Coil	IS 7906 Part - 2 :1975 RA: 2014	700 N to 380000 N
88	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Tube/Wire/Bar/ Flat/Plate/Angle/ Welding Plate/ Pipe/Tube etc	Camber Test	IS 1852: 1985 & IS 808:1989 RA: 2014	Qualitative
89	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Tube/Wire/Bar/ Flat/Plate/Angle/ Welding Plate/ Pipe/Tube etc	Mass per Meter	IS 1852:1985 & 808:1989 RA: 2014	100 g/m to 30 kg/m
90	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Wire/Bar/ Flat/Plates	% reduction in Area	IS:1608 (P-1): 2018 & ASTM A 370: 2017	10 % to 80 %



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91	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Wire/Bar/ Flat/Plates	0.2% proof stress	IS:1608 (P-1): 2018 & ASTM A 370: 2017	80 N/mm <sup>2</sup> to 650 N/mm <sup>2</sup>
92	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Wire/Bar/ Flat/Plates	Bend Test	IS:1599:2012, RA:2017 & ASTM A 370: 2017	Qualitative(Mandrel Size: 6, 10, 12, 16, 20, 24, 30, 32, 36, 40, 48, 50, 60, 64, 70, 74, 80, 84, 90, 96, 100, 110, 112, 120, 130, 140, 148, 154, 160, 172, 184, 200, 212, 220 & 230 mm )
93	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Wire/Bar/ Flat/Plates	Breaking Load/Slip load	IS:1608(P-1) : 2018 & IS 2486-(P-1): 1993 RA: 2013	10 kN to 380 kN
94	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Wire/Bar/ Flat/Plates/fasteners	% Elongation	IS:1608 (P-1):2018,IS 1367(P-3):2017 & ASTM A 370: 2017	2.0 % to 80 %
95	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Wire/Bar/ Flat/Plates/Fasteners	Tensile Strength	IS:1608 (P-1):2018,IS 1367(P-3):2017 & ASTM A 370: 2017	80 N/mm <sup>2</sup> to 2500 N/mm <sup>2</sup>
96	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Wire/Bar/ Flat/Plates/Fasteners	Tensile Test	ASTM A 370 : 2017, IS 1367-PT-3:2017 and IS:1608: 2018	0.1 kN to 390 kN



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97	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Metals & Alloys of Wire/Bar/ Flat/Plates/Fasteners	Yield Stress	IS:1608 (P-1):2018,IS 1367(P-3):2017 & ASTM A 370: 2017	80 N/mm <sup>2</sup> to 800 N/mm <sup>2</sup>
98	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Nut	Proof Load	IS: 1367 (Part 6): 1994	1900 N to 388000 N
99	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Reinforced Steel Bar	Mass Per Meter	IS: 1786:2008 RA: 2013	Qualitative(100 g/m to 30 kg/m)
100	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Reinforced Steel Bar	Rebend Test	IS: 1786:2008 RA: 2013	Qualitative(Mandrel Size:6 mm to 230 mm)
101	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Spring Washer	Permanent Load Test of Spring Washer	IS 3063: 1994 RA: 2015	Qualitative(Load 362000 N)
102	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Steel Rivet/ Rod	Shear Test	IS: 5242: 1979 RA: 2017	50 MPa to 650 MPa
103	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Steel Tubes	PIPE Bend Test	IS 2329-2005 RA: 2017	Qualitative((5 mm to 50 mm diameter))



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104	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Steel Tubes & Socket	Drift Expansion	IS: 2335: 2005 RA:2017 IS:1239:2011 RA :2016 (Part 2) IRS - T 23/67: 2017	Qualitative(6 mm to100 mm. Bore M36)
105	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Steel Tubes & Socket	Flattening Test of Pipe	IS: 2328: 2018, IS: 1239 (Part 1):2004 RA:2014, ASTM A 370: 2018	Qualitative((5 mm to 450 mm. Bore max.))
106	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded PlatePipe	Root Bend Test	ASME Sec 9, API 1104: 2017	Qualitative(Mandrel Size:6 mm to 230 mm)
107	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded Plate	Fillet Fracture Test	IS : 2825:1969 RA: 2017	Qualitative
108	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded Plate	Fillet Fracture Test	ASME SEC-IX : 2017	Qualitative
109	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded Plate Pipe	Bend Test	IS 2825: 2017	Qualitative
110	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded Plate Pipe	Face Bend Test	ASME SEC-IX IS : 2825:1969 RA: 2017 & API 1104: 2018	Qualitative



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## SCOPE OF ACCREDITATION

Laboratory Name P. P. METALLURGICAL LABORATORY (TESTING LABORATORY), MAKARDAH ROAD, SANPUR(S), HOWRAH, WEST BENGAL , INDIA

Accreditation Standard ISO/IEC 17025:2017

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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
111	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded Plate Pipe	Nick Break Test	ASME SEC-IX IS : 825:1969 RA: 2017 & API 1104: 2018	Qualitative
112	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded Plate Pipe	Side Bend Test	ASME SEC-IX IS : 2825:1969 RA: 2017 & API 1104: 2018	Qualitative
113	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded Plate Pipe	Tensile Test	ASME SEC-IX , ASTM A 370:2017 and API 1104:: 2018	Qualitative
114	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Welded Plate Pipe	Tensile Test	IS : 2825:1969 RA: 2017, IS 7310:(P-1) 1974 RA 2011, IS 7318:1974 RA 2019, IS 817:1966 RA 2019, IS 2825:1969 RA: 2017	Qualitative
115	MECHANICAL- METALLOGRAPHY TEST	Austenite Stainless Steel	Inter Granular Corrosion test as per Practice - A	IS 10461:1994 RA:2016 (part-1) ASTM A262: 2016	Qualitative(250X & 500X)
116	MECHANICAL- METALLOGRAPHY TEST	Case Hardened Steel	Case Depth	IS 6416:988 RA: 2018	Qualitative(0.01 to 2.00 mm(10X & 100X))
117	MECHANICAL- METALLOGRAPHY TEST	Cast Iron,Grey, Malleable & S.G. Iron	Graphite Flakes & Spheroidal Graphite Nodules From, Size, Distribution	IS 7754:1975 RA: 2018	Qualitative(100 X)
118	MECHANICAL- METALLOGRAPHY TEST	Coated Material (Ni,Cr,Cu,Zn,Cd, Ag)	Coating Thickness by Microscopic Method	IS 3203:1982 RA: 2016	0.008 mm to 0.1 mm



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119	MECHANICAL-METALLOGRAPHY TEST	Coated Material(Ni,Cr,Cu,Zn,C d)	Coating Thickness by Microscopic Method	IS 3203:1982 RA: 2016	0.008 mm to 0.1 mm
120	MECHANICAL-METALLOGRAPHY TEST	Ferrous & NonFerrous Metals& Alloys(MetallographySection)	Macro StructuralExamination	IS 11371:1985 RA:2018, ASTM E381, ASTM E340, IS 12573:2010 RA:2017, IS 13015:1991 RA: 2018	Qualitative(10X)
121	MECHANICAL-METALLOGRAPHY TEST	Ferrous & NonFerrous Metals& Alloys(MetallographySection)	Micro StructuralExamination	ASM Metal Handbook Volume 7 & 9 IS 7739:1975 (Part 1 to 5) RA: 2017	Qualitative(50X, 100X, 200X, 400X)
122	MECHANICAL-METALLOGRAPHY TEST	Ferrous & NonFerrous Metals& Alloys(MetallographySection)	Non-metallic Inclusion content	IS 4163:2004 RA: 2017	Qualitative(100 X A to D : Thin : 0 – 3 Number A to D : Thick : 0 – 3 Number )
123	MECHANICAL-METALLOGRAPHY TEST	Steel	Depth of Decarburization in Steel by Microscopic Method	IS 6396:2000 RA: 2018	Qualitative(0.01 to 0.28 mm(100 X))
124	MECHANICAL-METALLOGRAPHY TEST	Steel	Grain size Determination by Comparison	ASTM E112 IS 4748:2009 RA: 2017	Qualitative((ASTM 1 – 8) (100 X))