

Laboratory **Testing Laboratory (Directorate of Export Promotion & Marketing),
MSME Deptt., Govt. of Odisha, Industrial Estate, Madhupatna,
Cuttack, Odisha**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6913** *(in lieu of T-2726 & T-2727)*

Page 1 of 3

Validity **29.11.2017 to 28.11.2019**

Last Amended on 05.03.2018

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 & ALLOYS			
1.	Carbon Steel (Low, Medium & High Carbon Steel)	Carbon	IS 228 (Part 1) ASTM E 415-17	0.05 % to 2.50 % 0.01 % to 2.5 %
		Sulphur	IS 228 (Part 9) ASTM E 415-17	0.01 % to 0.25 % 0.01 % to 0.25 %
		Phosphorous	IS 228 (Part 3) ASTM E 415-17	0.01 % to 1.0 % 0.01 % to 1.0 %
		Silicon	IS 228 (Part 8) ASTM E 415-17	0.05 % to 5 % 0.01 % to 5.0 %
		Manganese	IS 228 (Part 2) ASTM E 415-17	0.01 % to 5.0 % 0.01 % to 5.0 %
		Nickel	IS 228 (Part 5) ASTM E 415-17	0.1 % to 10 % 0.1 % to 10.0 %
		Chromium	IS 228 (Part 6) ASTM E 415-17	0.1 % to 20 % 0.01 % to 20.0 %
2.	Alloy Steel / Stainless Steel	Carbon	IS 228 (Part 1) ASTM E 415-17 IS 9879	0.01 % to 2.5 % 0.01 % to 2.5 % 0.01 % to 2.5 %
		Sulphur	IS 228 (Part 9) ASTM E 415-17 IS 9879	0.03 % to 0.25 % 0.01 % to 0.25 % 0.01 % to 0.25 %
		Phosphorous	IS 228 (Part 3) ASTM E 415-17 IS 9879	0.03 % to 1.0 % 0.01 % to 1.0 % 0.01 % to 1.0 %
		Silicon	IS 228 (Part 8) ASTM E 415-17 IS 9879	0.05 % to 5 % 0.01 % to 5.0 % 0.01 % to 5.0 %

Laboratory **Testing Laboratory (Directorate of Export Promotion & Marketing),
MSME Deptt., Govt. of Odisha, Industrial Estate, Madhupatna,
Cuttack, Odisha**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6913** *(in lieu of T-2726 & T-2727)*

Page 2 of 3

Validity **29.11.2017 to 28.11.2019**

Last Amended on 05.03.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Manganese	IS 228 (Part 2) ASTM E 415-17 IS 9879	0.01 % to 5.0 % 0.01 % to 5.0 % 0.01 % to 5.0 %
		Nickel	IS 228 (Part 5) ASTM E 415-17 IS 9879	0.3 % to 10 % 0.1 % to 10.0 % 0.1 % to 10.0 %
		Chromium	IS 228 (Part 6) ASTM E 415-17 IS 9879	0.1 % to 20 % 0.01 % to 20.0 % 0.01 % to 20.0 %
II.	METALLIC COATINGS & TREATMENT SOLUTIONS			
1.	Coating of Zinc on Iron & Steel	Mass of Zinc Coating	IS 6745	50 g/m ² to 1500 g/m ²
		Carbon Uniformity of Zinc Coating	IS 2633	Qualitative

Laboratory **Testing Laboratory (Directorate of Export Promotion & Marketing),
MSME Deptt., Govt. of Odisha, Industrial Estate, Madhupatna,
Cuttack, Odisha**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6913** *(in lieu of T-2726 & T-2727)*

Page 3 of 3

Validity **29.11.2017 to 28.11.2019**

Last Amended on 05.03.2018

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.	Ferrous & Non-Ferrous Materials, Alloys & Products (Sheet, Plates, Round, Angle, Channel, Sections and Wires, High Strength Deformed Steel, Aluminium, Copper and its alloys)	Ultimate Tensile Strength	IS 1608	250 MPa to 1400 MPa
		Yield Strength	IS 1608	150 MPa to 1200 MPa
		Percent of Elongation	IS 1608	2 % to 60 %
		Bend Test	IS 1599 IS 1786	Qualitative (Mandrel Diameter: 13, 16, 20, 21, 25, 31, 39, 50, 60, 64, 100 & 101 mm)
		Vickers Hardness	IS 1501(Part 1)	200 HV ₁₀ to 700 HV ₁₀ 275 HV ₃₀ to 430 HV ₃₀
		Brinell Hardness	IS 1500 (Part 1)	150 BHN to 350 BHN 2.5 /187.5
2.	High Strength Deformed Steel	Weight/ Meter	IS 1786	0.05 kg/m to 10 kg/m
		Re-Bend Test	IS 1786	Qualitative (Mandrel Diameter: 13, 16, 20, 21, 25, 31, 39, 50, 60, 64, 100 & 101 mm)