Laboratory	**Cochin Shipyard Central Laboratory, Cochin Shipyard Limited, Perumanoor P.O., Kochi, Kerala**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Chemical Testing**	**Issue Date**	**06.01.2016**
Certificate Number	**T-2110**	**Valid Until**	**05.01.2018**
Last Amended on	**-**	**Page**	**1 of 2**

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**METALS AND ALLOYS**			
1.	**Steel - Plain Carbon Steel & Low Alloy Steel**	Carbon	IS 8811: 1998 (RA 2012)	0.002 % to 1.00 %
		Manganese		0.005 % to 2.00 %
		Silicon	ASTM E415: 2014	0.003 % to 1.50 %
		Sulphur		0.001 % to 0.10 %
		Phosphorous		0.001 % to 0.10 %
		Chromium		0.005 % to 4.00 %
		Molybdenum		0.005 % to 0.35 %
		Nickel		0.005 % to 1.80 %
		Vanadium		0.005 % to 0.25 %
		Aluminium		0.010 % to 0.50 %
		Copper		0.005 % to 0.50 %
2.	**Special Steel - Stainless Steel**	Carbon	IS 9879: 1998	0.005 % to 0.80 %
		Manganese	ASTM E1086: 2014	0.500 % to 2.0 %
		Silicon		0.150 % to 1.0 %
		Sulphur		0.001 % to 0.05 %
		Phosphorous		0.001 % to 0.08 %
		Chromium		10.0 % to 25.0 %

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Special Steel - Stainless Steel	Nickel	ASTM E1086: 2014	5.0 % to 22.0 %
		Molybdenum		0.010 % to 3.5 %
		Vanadium		0.010 % to 0.10 %
		Copper		0.005 % to 0.30 %
		Niobium		0.005 % to 2.0 %
II.	**METALLIC COATINGS AND TREATMENT SOLUTIONS**			
1.	**Metallic Coatings and Treatment Solutions**	Mass of Zinc Coating	IS 6745: 1972 (RA 2011) Amd. 5	7 g/m^2 to 1,000 g/m^2
		Uniformity of Coating	IS 2633: 1986 (RA 2011)	Qualitative
		Coating Thickness Measurement (Magnetic Method)	IS 3203: 1982 (RA 2011) Amd. 1 Clause. 4 ASTM E376: 2011	1 µm to 2,000 µm
		Coating Thickness Measurement (Eddy Current Method)	IS 6012: 1992 (RA 2011)	3 µm to 1,500 µm
		Coating Thickness Measurement – Anodic Coating	IS 5523: 1983 (RA 2011) Clause. 2.4 ASTM B244: 2009	3 µm to 1,500 µm

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