

Laboratory Standard (Madras) Laboratories, #4, Plot No. 44, 45, 46, VGP Rajesh Nagar, Narayanapuram, Pallikaranai, Chennai, Tamil Nadu

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 05.06.2015

Certificate Number T-0921 **Valid Until** 04.06.2017

Last Amended on 08.06.2015 **Page** 1 of 4

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.	Carbon & Low Alloy Steel	Aluminium	ASTM E 415: 2014 IS 8811: 1998	0.0400 % to 0.2000 %
		Arsenic		0.0030 % to 0.1000 %
		Carbon		0.0200 % to 1.4000 %
		Chromium		0.0010 % to 2.2500 %
		Cobalt		0.0010 % to 0.8000 %
		Copper		0.0100 % to 0.6000 %
		Manganese		0.1000 % to 2.1000 %
		Molybdenum		0.0020 % to 0.6000 %
		Nickel		0.0200 % to 5.0000 %
		Phosphorous		0.0010 % to 0.1000 %
		Silicon		0.0500 % to 2.0000 %
		Sulphur		0.0010 % to 0.1000 %
		Vanadium		0.0100 % to 0.6000 %
2.	Cast Iron	Carbon	ASTM E 1999: 2011 IS 15338: 2003	1.9000 % to 4.2000 %
		Chromium		0.0010 % to 2.0000 %
		Copper		0.0100 % to 0.9500 %
		Manganese		0.1000 % to 2.0000 %

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Last Amended on 08.06.2015 **Page** 2 of 4

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	Cast Iron	Molybdenum	ASTM E 1999: 2011 IS 15338: 2003	0.0100 % to 2.0000 %
		Nickel		0.0300 % to 2.5000 %
		Phosphorous		0.0010 % to 1.2000 %
		Silicon		0.0600 % to 3.0000 %
		Sulphur		0.0100 % to 0.1500 %
		Titanium		0.0300 % to 0.5000 %
		Vanadium		0.0100 % to 0.5000 %
		Magnesium		0.0100 % to 0.1000 %
3.	Stainless Steel	Carbon	ASTM E 1086: 2014 IS 9879: 1998	0.0020 % to 0.5000 %
		Chromium		7.0000 % to 25.000 %
		Copper		0.0100 % to 0.7000 %
		Manganese		0.0100 % to 2.000 %
		Molybdenum		0.0020 % to 3.6000 %
		Nickel		0.0020 % to 16.000 %
		Phosphorous		0.0100 % to 0.0500 %
		Silicon		0.0100 % to 1.5000 %
		Sulphur		0.0030 % to 0.0950 %
		Aluminium		0.0040 % to 0.0600 %

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Last Amended on **08.06.2015** **Page** **3 of 4**

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	Stainless Steel	Cobalt	ASTM E 1086: 2014 IS 9879: 1998	0.0100 % to 0.070 %
		Titanium		0.0010 % to 0.4500 %
		Columbium		0.001 % to 0.0100 %
		Boron		0.001 % to 0.0100 %
		Vanadium		0.0100 % to 0.050 %
4.	Aluminium Alloy	Silicon	ASTM E 1251: 2011	0.6000 % to 15.0000 %
		Copper		0.1000 % to 5.0000 %
		Magnesium		0.1000 % to 1.0000 %
		Zinc		0.1000 % to 1.5000 %
		Tin		0.0100 % to 1.0000 %
		Nickel		0.0100 % to 0.5000 %
		Iron		0.0100 % to 1.0000 %
		Manganese		0.0100 % to 0.5000 %
		Cobalt		0.0100 % to 0.1000 %
		Chromium		0.0200 % to 0.1000 %
		Lead		0.0200 % to 0.3000 %
		Bismuth		0.0500 % to 0.1000 %
	Vanadium	0.0050 % to 0.2000 %		

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Last Amended on 08.06.2015 **Page** 4 of 4

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5.	Copper-Zinc Alloy	Zinc	SML/CHEMICAL SPECTRO/01 Doc. No.: WI/7 Rev. No.: 01 Issue Date: 02.01.2013	0.5000 % to 46.0000 %
		Lead		0.0030 % to 0.0600 %
		Tin		0.0100 % to 0.2000 %
		Phosphorous		0.0060 % to 0.2000 %
		Manganese		0.0100 % to 0.8000 %
		Iron		0.0080 % to 0.9000 %
		Nickel		0.0800 % to 0.3000 %
		Silicon		0.0040 % to 0.3000 %
		Arsenic		0.0200 % to 0.6000 %
		Aluminium		0.0010 % to 10.5000 %
		Antimony		0.0100 % to 0.0300 %
Bismuth	0.0100 % to 0.0200 %			

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