

Laboratory Material Testing Laboratory, Ordnance Factory, Ministry of Defence,
Govt. of India, Ambarnath, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 06.10.2015

Certificate Number T-0024 **Valid Until** 05.10.2017

Last Amended on 26.10.2015 **Page** 1 of 3

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	METAL & ALLOYS			
		(By OES)		
1.	Copper and its Alloys	Zn	WI/MTL/DR/05 (Issue No. 07, Issue Date: 06.08.2013)	0.01 % to 40 %
		Pb		0.01 % to 11 %
		Sn		0.01 % to 14.7 %
		P		0.001 % to 0.6 %
		Fe		0.01 % to 5.6 %
		Ni		0.01 % to 19.5 %
		Sb		0.0001 % to 1 %
2.	Aluminium and its alloys	Si	ASTM E 1251-11	0.01 % to 13.48 %
		Fe		0.01 % to 1.2 %
		Cu		0.01 % to 10 %
		Mn		0.01 % to 1.4 %
		Mg		0.01 % to 8.36 %
		Cr		0.01 % to 0.468 %
		Ni		0.01 % to 2.60 %
		Zn		0.01 % to 7.6 %
		Ti		0.01 % to 0.27 %

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	Ferrous alloy (Low alloy steel)	C	ASTM E 415-08	0.05 % to 0.35 %
		Si		0.1 % to 1.6 %
		S		0.02 % to 0.2 %
		P		0.02 % to 0.06 %
		Mn		0.1 % to 2.0 %
		Ni		0.02 % to 4.5 %
		Cr		0.02 % to 3.0 %
		Mo		0.05 % to 2.0 %
		Cu		0.01 % to 0.5 %
		V		0.05 % to 1.5 %
4.	Stainless Steel	C	ASTM E 1086-08	0.05 % to 1.23 %
		Si		0.05 % to 0.6 %
		S		0.01 % to 0.06 %
		P		0.01 % to 0.06 %
		Mn		0.2 % to 1.5 %
		Ni		8.0 % to 25 %
		Cr		8.0 % to 25 %
		Co		0.01 % to 0.05 %

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5.	Cast Iron	C	ASTM E 1999-11	2.4 % to 3.5 %
		Si		1.3 % to 2.0 %
		S		0.04 % to 0.1 %
		P		0.05 % to 1.0 %
		Mn		0.5 % to 1.3 %
		Ni		0.5 % to 2.0 %
		Cr		0.3 % to 1.5 %
6.	Zinc and its alloys	Cu	WI/MTL/DR/06 (Issue No.07, Issue Date: 25.11.2014)	0.001 % to 0.196 %
		Pb		0.001 % to 0.46 %
		Sn		0.001 % to 0.04 %
		Fe		0.003 % to 0.12 %

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