

Laboratory	MIA Test Lab & Research Centre (TLC) (An Enterprise of MIDC Industries Association), P-26, MIA House, MIDC Industry Area, Hingna Road, Nagpur, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	30.06.2014
Certificate Number	T-1382	Valid Until	29.06.2016
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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
1.	METALS AND ALLOYS			
1.	Plain Carbon, Low Alloy, Stainless Steel & Nickel Chromium Iron Alloys	C	IS 228 (Pt. 1), RA 2002 & IS 6226 (Pt. 1). RA 1999, ASTM 353	0.01 – 2.50%
		Mn	IS 228 (Pt. 2), RA 2002 IS Part 12	0.1 – 10.0% 0.01 - 5.0%
		P	IS 228 (Pt. 3), RA 2002	0.010 – 1.00%
		Cr	IS 228 (Pt. 6), RA 2002	0.05 – 30.0%
		Mo	IS 228 (Pt. 7), RA 2001	0.1 – 6.00%
		Ni	IS 228 (Pt. 5), RA 2002	0.05 – 32.0%
		Si	IS 228 (Pt. 8), RA 1999	0.05 – 5.0%
		S	IS 228 (Pt. 9), RA 1999	0.01 – 0.60%
		Ti	ASTM (Pt. 12) E – 30	0.01 – 1.50%
		Fe	ASTM (Pt. 12) E – 38	0.1 – 98.0%
2.	Cast Iron Alloy	C	IS 12308 (Pt. 2) RA 2001 & IS 6226 (Pt. 1) RA 1999	1.20 – 4.50%
		Mn	IS 12308 (Pt. 10) RA 2001	0.10 – 7.0%

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	Cast Iron Alloy	P	IS 12308 (Pt. 10) RA 2001	0.01 – 1.00%
		Cr	IS 12308 (Pt. 8) RA 2001	0.10 – 30.0%
		Mo	IS 228 (Pt.7), 90	0.10 – 6.0%
		Ni	IS 12308 (Pt. 10) RA 2001	0.10 – 30.0%
		Si	IS 12308 (Pt. 6) RA 2001	0.10 – 6.0%
		S	IS 228 (Pt. 9) RA 1999	0.01 – 0.30%
		Ti	ASTM (Pt.12) E – 30	0.01 – 0.60%
3.	Plain Carbon, Low Alloy Steel	C	ASTM E 415 -2008	0.010-1.50%
		Si		0.010-2.0%
		Mn		0.005-3.0%
		P		0.005-1.2%
		S		0.005-0.40%
		Cr		0.005-5.50%
		Ni		0.005- 5.50%
		Mo		0.005-1.20%
		V		0.005-0.55%
		Cu		0.005-0.75%
		Nb		0.010-0.50%
		Ti		0.001 – 5.0%
	Al		0.01-0.5%	

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4.	Stainless Steel & Nickel Chromium Iron Alloys	C Si Mn P S Cr Ni Mo V Cu N Ti Al	ASTM E 1086-2008	0.010 – 4.5% 0.005- 3.5% 0.005 – 15.0% 0.005-0.12% 0.005 -0.36% 0.005 - 32.0% 0.005 - 30.0% 0.005 - 7.0% 0.001 - 3.0% 0.001 – 5.0% 0.01 – 0.50% 0.001-5.0% 0.010-0.5%
5.	Aluminum Base Aluminum Alloys	Cu Mn Mg Cr Zn Ti Ni Pb Sn Bi V Al	ASTM E 1251- 2011	0.01- 12.0% 0.001 – 2.0% 0.001 – 12.0% 0.001 - 0.66% 0.001 – 10.0% 0.001 - 0.50% 0.001 - 2.50% 0.002 – 1.0% 0.001 - 0.50% 0.001 to 0.80% 0.01 -0.15 % Remainder

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6.	Copper Base/ Copper Alloys	Cu	TS / MIA / 01 -2011, Issue No. 4, Date 30.03.2012 (Internal Method)	Remainder
		Zn		0.001 - 45.0%
		Pb		0.001 – 12.0%
		Sn		0.001 - 17.0%
		P		0.001 – 1.0%
		Mn		0.005 – 3.0%
		Fe		0.001 - 3.5%
		Ni		0.005 – 35.0%
		Si		0.005 – 1.0%
		As		0.0003- 0.40%
		Sb		0.001 - 1.2%
		Bi		0.0003- 0.5%
		Co		0.005 - 0.1%
Al	0.001 to 12.0%			
7.	Ferro-Alloys Ferro-Molybdenum Ferro-Vanadium	Mo	IS 12614 Pt I-1999	50-70 %
		V	ASTM E 365 IS 1559-1961sss	-
	Ferro-Nickel	Ni	IS 2390	35-70% 70-99.8%
		Fe	IS 1559:1961	10-30%
	Ferro-Manganese (Low Carbon)	Mn	IS 1559:1961	20-60%
		Si	IS 1559:1961	0.1-10%
		P	IS 1559:1961	0.1-10%
		C	IS 1559:1961	0.1-3%
		S	IS 1559:1961	0.5-1%

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	Ferro-Chromium (Low Carbon)	Cr	IS 1559 Sec2:1961 RA 2002	40-75%
		C	IS 1559 Sec2:1961 RA 2002	0.1-3%
		Si	IS 1559 Sec2:1961 RA 2002	0.2-3%
	Ferro Silicon	Si	IS 14529 Pt2:2004	30-75%
	Silico Manganese	C	ASTM E 1019	0.5-3.50%
		Mn	IS 1559 -1961	10-75 %
		Si	IS 1559 -1961	5-35%
II.	COAL, COKE & OTHER SOLID FUEL			
1.	Coal & Coke (Proximate Analysis)	Moisture	IS 1350 Pt. 1:1984 RA 2001 Reprint Jan 2005	1.0-40.0%
		Ash	IS 1350 Pt. 1:1984 RA 2001 Reprint Jan 2005	5.0-60.0%
		VM	IS 1350 Pt. 1:1984 RA 2001 Reprint Jan 2005	10-60%
		GCV	IS 1350 Pt. 2:1970 RA 2000	2500-9000 Kcal/kg
		Total Sulphur % in coal by Eschka method	IS 1350 Pt. 3:1969 RA 2000	0.1-10%

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