

**Laboratory** Testing and Calibration Laboratories, R&D, BEML Ltd., Kolar Gold Fields, Karnataka  
**Accreditation Standard** ISO/IEC 17025: 2005  
**Discipline** Chemical Testing **Issue Date** 05.02.2015  
**Certificate Number** T-1785 **Valid Until** 04.02.2017  
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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
<b>I.</b>	<b>METALS &amp; ALLOYS</b>			
<b>1.</b>	<b>Carbon and Low Alloy Steel</b>	C	IS 8811-1998	0.05% to 1.42%
		Si	ASTM E415-2014	0.02 % to 2.57%
		Mn	G-MSL-TP-BD	0.07 % to 2.46%
		S	Issue Date 04.04.2010	0.008 % to 0.087%
		P		0.007% to 0.087%
		Cr		0.08% to 5.36%
		Mo		0.014 % to 1.50%
		Ni		0.08% to 5.34%
		B		0.0005% to 0.0252%
		Cu		0.040% to 0.79%
		Co		0.011% to 0.49%
		Nb		0.008% to 0.64%
		V		0.008% to 0.55%
		Ti		0.008% to 0.55%
		W		0.004% to 2.48%
<b>2.</b>	<b>High Manganese Steel</b>	C	G-MSL-TP-BD	0.65% to 1.74%
		Si	ASTM E 2209-13	0.088% to 1.25%
		Mn	Issue Date 04.04.2010	7.75% to 19.57%
		S		0.003% to 0.031%
		P		0.0160 % to 0.118%
		Cr		0.10% to 2.32%
		Mo		0.002% to 1.81%
		Ni		0.026% to 4.52%

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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.	Tool Steel	C	G-MSL-TP-BD Issue Date 04.04.2010	0.52% to 1.22%
		Si		0.11% to 0.36%
		Mn		0.17% to 0.49%
		S		0.012% to 0.047%
		P		0.018% to 0.052%
		Cr		2.32% to 5.98%
		Mo		0.14% to 11.29%
		Co		0.06% to 12.0%
		V		0.18% to 2.18%
W	1.44% to 24.48%			
4.	Aluminium & Its Alloys	Cu	ASTM E1251-11 G-MSL-TP-BD Issue Date 04.04.2010	0.004% to 6.65%
		Mg		0.003% to 6.12%
		Si		0.07% to 15.06%
		Fe		0.11% to 1.52%
		Mn		0.01% to 1.13%
		Ni		0.005% to 2.2%
		Zn		0.013% to 4.74%
Ti	0.007% to 0.37%			
5.	Iron and Steel	C	ASTM E 1019- 2011	0.001% to 4.00%
		S		0.001% to 0.23%

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