

Laboratory	Metal Analysis & Services Pvt. Ltd., 219/233/201, Bussa Udyog Bhavan, T. J. Road, Sewree (West), Mumbai, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	27.12.2015
Certificate Number	T-0776	Valid Until	26.12.2017
Last Amended on	06.01.2016	Page	1 of 6

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.	Low Alloy Steel	C	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.01 % to 1.5 %
		Si	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.05 % to 2.0 %
		Mn	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.01 % to 2.0 %
		S	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.002 % to 0.10 %
		P	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.002 % to 0.10 %
		Ni	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.03 % to 5.0 %
		Cr	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.03 % to 5.0 %
		Mo	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.01 % to 1.5 %

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Certificate Number	T-0776	Valid Until	26.12.2017
Last Amended on	06.01.2016	Page	2 of 6

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	Low Alloy Steel	V	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.01 % to 1.0 %
		Cu	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.01 % to 0.50 %
		Al	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.005 % to 0.30 %
		B	ASTM E 415: 2014 IS 8811: 1998 (RA 2012) (1 st Rev)	0.002 % to 0.010 %
		C	ASTM E 1086: 2014 IS 9879: 1998	0.005 % to 0.30 %
2.	Stainless Steel	Si	ASTM E 1086: 2014 IS 9879: 1998	0.1 % to 2.0 %
		Mn	ASTM E 1086: 2014 IS 9879: 1998	0.1 % to 2.0 %
		S	ASTM E 1086: 2014 IS 9879: 1998	0.002 % to 0.10 %
		P	ASTM E 1086: 2014 IS 9879: 1998	0.002 % to 0.10 %
		Ni	ASTM E 1086: 2014 IS 9879: 1998	2.0 % to 15.0 %

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Certificate Number	T-0776	Valid Until	26.12.2017
Last Amended on	06.01.2016	Page	3 of 6

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3.	Stainless Steel	Cr	ASTM E 1086: 2014 IS 9879: 1998	5.0 % to 23.0 %
		Mo	ASTM E 1086: 2014 IS 9879: 1998	0.01 % to 3.0 %
		Cu	ASTM E 1086: 2014 IS 9879: 1998	0.01 % to 0.50 %
	Aluminium & Its Alloys	Cu	ASTM E 1251: 2011	0.017 % to 5.30 %
		Mg	ASTM E 1251: 2011	0.017 % to 4.45 %
		Si	ASTM E 1251: 2011	0.039 % to 11.0 %
		Fe	ASTM E 1251: 2011	0.088 % to 1.0 %
		Ni	ASTM E 1251: 2011	0.004 % to 0.15 %
		Mn	ASTM E 1251: 2011	0.017 % to 1.0 %
		Zn	ASTM E 1251: 2011	0.01 % to 4.3 %
		Pb	ASTM E 1251: 2011	0.003 % to 0.43 %
		Sn	ASTM E 1251: 2011	0.002 % to 0.19 %
		Ti	ASTM E 1251: 2011	0.002 % to 0.163 %
		Cr	ASTM E 1251: 2011	0.005 % to 0.14 %

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Certificate Number	T-0776	Valid Until	26.12.2017
Last Amended on	06.01.2016	Page	4 of 6

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4.	Tool Steel	C	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	0.60 % to 1.02 %
		Si	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	0.15 % to 0.58 %
		Mn	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	0.21 % to 0.54 %
		S	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	0.021 % to 0.039 %
		P	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	0.022 % to 0.043 %
		Cr	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	1.08 % to 4.54 %
		Mo	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	0.07 % to 9.41 %
		W	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	1.82 % to 17.8 %
		V	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	0.19 % to 1.82 %

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Certificate Number	T-0776	Valid Until	26.12.2017
Last Amended on	06.01.2016	Page	5 of 6

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	Tool Steel	Co	MAS/QS/15 Issue No: 01 Rev 01 Issue Date: 17.10.2015	0.31 % to 7.95 %
		By Wet		
5.	Low alloy steel	C	IS 228 (Part 1): 1987 (RA 2012) (3 rd Rev)	0.01 % to 1.2 %
		Si	IS 228 (Part 8): 1989 (RA 2009) (3 rd Rev)	0.05 % to 3.0 %
		Mn	IS 228 (Part 2): 1987 (RA 2009) (3 rd Rev)	0.1 % to 3.0 %
		S	IS 228 (Part 9): 1989 (RA 2009) (3 rd Rev)	0.01 % to 0.25 %
		P	IS 228 (Part 3): 1987 (RA 2012) (3 rd Rev)	0.01 % to 0.12 %
		Ni	IS 228 (Part 5): 1987 (RA 2009) (3 rd Rev)	0.2 % to 5.0 %
		Cr	IS 228 (Part 6): 1987 (RA 2009) (3 rd Rev)	0.2 % to 5.0 %
		Mo	IS 228 (Part 7): 1990 (RA 2012) (3 rd Rev)	0.1 % to 2.0 %
6.	Stainless Steel	C	IS 228 (Part 1): 1987 (3 rd Rev)	0.005 % to 6.0 %
		Si	IS 228 (Part 8): 1989 (RA 2009) (3 rd Rev)	0.05 % to 3.0 %

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Certificate Number	T-0776	Valid Until	26.12.2017
Last Amended on	06.01.2016	Page	6 of 6

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	Stainless Steel	Mn	ASTM E 350: 12	0.5 % to 14.0 %
		P	IS 228 (Part 3): 1987 (RA 2012) (3 rd Rev)	0.01 % to 0.12 %
		Ni	IS 228 (Part 5): 1987 (RA 2009) (3 rd Rev)	0.2 % to 30.0 %
		Cr	IS 228 (Part 6): 1987 (RA 2009) (3 rd Rev)	0.2 % to 30.0 %
		Mo	IS 228 (Part 7): 1990 (RA 2009) (3 rd Rev)	1.0 % to 6.0 %
7.	By XRF: Positive Material Identification			
	Iron & its alloys	Cr, Ni, Mo, Mn, V, Ti, Cu, W, Co Nb, Fe	API Practice 578	Qualitative
	Nickel & its alloy	Cr, Ni, Mo, Mn, Co, Ta, Fe, W, V, Ti, Cu, Cb	API Practice 578	Qualitative
	Copper & its alloys	Ni, Mn, Ti, Sn, Zn, Cu, Co, Pb, Bi, Fe, Ag	API Practice 578	Qualitative
	Titanium & its alloys	Fe, V, Sn, Pa, Mo, Cr, Ni, Nb, Zr, Ti	API Practice 578	Qualitative

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