

Laboratory	Accurate Laboratory Services, Plot No. 71/1-B7, General Block, MIDC Bhosari, Bhosari-Pimpri Road, Pune, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	02.07.2015
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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
I.	METALS & ALLOYS			
1.	Aluminum & Its Alloys	Chromium (Cr)	By OES ASTM E 1251: 2011	0.01 % to 0.312 %
		Copper (Cu)		0.01 % to 5.0 %
		Iron (Fe)		0.05 % to 1.5 %
		Magnesium (Mg)		0.03 % to 6.0 %
		Manganese (Mn)		0.04 % to 1.0 %
		Nickel (Ni)		0.02 % to 1.5 %
		Lead (Pb)		0.03 % to 1.0 %
		Silicon (Si)		0.10 % to 13.0 %
		Strontium (Sr)		0.01 % to 0.032 %
		Tin (Sn)		0.01 % to 0.24 %
		Titanium (Ti)		0.01 % to 0.18 %
		Zinc (Zn)		0.03 % to 8.0 %
		Chromium (Cr)	Wet Analysis IS 504: 2002 ASTM E 34: 2011e1	0.02 % to 0.3 %
		Copper (Cu)		0.05 % to 4.0 %
		Lead (Pb)		0.05 % to 1.0 %
		Magnesium (Mg)		0.05 % to 5.50 %
		Manganese (Mn)		0.05 % to 1.5 %

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2.	Aluminum & Its Alloys	Nickel (Ni)	Wet Analysis IS 504: 2002 ASTM E 34: 2011e1	0.05 % to 4.0 %
		Silicon (Si)		0.3 % to 13.0 %
		Zinc (Zn)		0.05 % to 7.0 %
		Iron (Fe)		0.05 % to 3.0 %
	Copper & Its Alloys	Aluminum (Al)	By OES ALS: SOP: 02 Issue No. 1 Dated: 01.12.2008	0.006 % to 11.00 %
		Antimony (Sb)		0.01 % to 0.50 %
		Arsenic (As)		0.01 % to 0.064 %
		Chromium (Cr)		0.026 % to 0.034 %
		Cobalt (Co)		0.02 % to 0.17 %
		Iron (Fe)		0.04 % to 5.0 %
		Lead (Pb)		0.02 % to 16.00 %
		Manganese (Mn)		0.03 % to 3.10 %
		Nickel (Ni)		0.05 % to 11.00 %
		Phosphorous (P)		0.02 % to 1.00 %
		Silicon (Si)		0.03 % to 1.80 %
		Sulphur (S)		0.02 % to 0.09 %
		Tin (Sn)		0.05 % to 13.0 %
		Zinc (Zn)		0.05 % to 45.0 %

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	Copper & Its Alloys	Copper (Cu)	Wet Analysis IS 440: 1964 (RA 2006)	50.0 % to 99.99 %
		Iron (Fe)	IS 3187: 1965 (RA 2006)	0.1 % to 6.0 %
		Lead (Pb)	IS 3685: 1966 (RA 2006)	0.05 % to 18.0 %
		Manganese (Mn)	IS 4027: 1987 (RA 2006) ALS:SOP:5 – TM 502 Issue No. 02 Dated: 10.07.2010	0.05 % to 1.0 %
		Nickel (Ni)		0.05 % to 5.0 %
		Phosphorous (P)		0.05 % to 1.0 %
		Silicon (Si)		0.05 % to 2.0 %
		Tin (Sn)		0.05 % to 12.0 %
		Zinc (Zn)		0.05 % to 36.0 %
		Aluminum (Al)		0.05 % to 10.0 %
3.	Low Alloy Steel	Aluminum (Al)	By OES IS 8811: 1998	0.005 % to 1.10 %
		Carbon (C)	ASTM E 415: 2014	0.010 % to 1.5 %
		Chromium (Cr)		0.03 % to 5.0 %
		Cobalt (Co)		0.009 % to 0.20 %
		Copper (Cu)		0.03 % to 0.40 %
		Lead (Pb)		0.02 % to 0.30 %
		Manganese (Mn)		0.10 % to 2.0 %
		Molybdenum (Mo)		0.010 % to 1.50 %

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	Low Alloy Steel	Nickel (Ni)	By OES	0.04 % to 4.0 %
		Niobium (Nb)	IS 8811: 1998 ASTM E 415: 2014	0.004 % to 0.10 %
		Nitrogen (N)		0.002 % to 0.010 %
		Phosphorous (P)		0.009 % to 0.10 %
		Silicon (Si)		0.002 % to 2.0 %
		Sulphur (S)		0.0012 % to 0.40 %
		Tin (Sn)		0.006 % to 0.10 %
		Titanium (Ti)		0.002 % to 0.10 %
		Tungsten (W)		0.007 % to 0.10 %
		Vanadium (V)		0.002 % to 1.0 %
		Boron (B)		0.0005 % to 0.001 %
		Carbon (C)	IS 228 (Part 1): 1987 (RA 2002)	0.025 % to 2.5 %
		Chromium (Cr)	IS 228 (Part 6): 1987 (RA 2002)	0.05 % to 6.0 %
		Copper (Cu)	IS 228 (Part 15): 1992 (RA 2004)	0.05 % to 5.0 %
		Manganese (Mn)	IS 228 (Part 2): 1987 (RA 2002)	0.05 % to 1.50 %
		Molybdenum (Mo)	IS 228 (Part 7): 1990 (RA 2001) IS 228 (Part 10): 1989 (RA 2004)	1.5 % to 2.5 % 0.01 % to 1.50 %
		Nickel (Ni)	IS 228 (Part 5): 1987 (RA 2002)	0.05 % to 4.0 %
		Phosphorous (P)	IS 228 (Part 3): 1987 (RA 2002)	0.01 % to 0.10 %

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	Low Alloy Steel	Silicon (Si)	IS 228 (Part 8): 1989 (RA 2004)	0.05 % to 5.0 %
		Sulphur (S)	ALS:SOP:5 – TM 503 Issue No. 02 Dated 09.07.2010	0.01 % to 0.25 %
		Tungsten (W)	ALS:SOP:5 – TM 504 Issue No. 02 Dated 07.07.2010	0.10 % to 3.0 %
		Vanadium (V)	ALS:SOP:5 – TM 505 Issue No. 02 Dated 07.07.2010	0.05 % to 2.0 %
4.	Stainless Steel	Carbon (C)	By OES IS 9879: 1998	0.010 % to 0.25 %
		Chromium (Cr)	ASTM E 1086: 2014	10.0 % to 26.0 %
		Cobalt (Co)		0.020 % to 0.50 %
		Copper (Cu)		0.04 % to 5.0 %
		Manganese (Mn)		0.1 % to 10.0 %
		Molybdenum (Mo)		0.05 % to 4.0 %
		Nickel (Ni)		1.5 % to 22.50 %
		Niobium (Nb)		0.006 % to 0.35 %
		Nitrogen (N)		0.01 % to 0.35 %
		Phosphorous (P)		0.013 % to 0.07 %
		Silicon (Si)		0.20 % to 1.50 %
		Sulphur (S)		0.004 % to 0.30 %

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5.	Stainless Steel	Titanium (Ti)	By OES ALS: SOP: 06 Issue No. 1 Dated: 01.02.2010	0.002 % to 0.75 %
		Tungsten (W)		0.003 % to 3.00 %
		Vanadium (V)		0.05 % to 0.10 %
	Tool Steel	Carbon (C)		0.30 % to 2.10 %
		Chromium (Cr)		3.5 % to 12.5 %
		Cobalt (Co)		0.10 % to 5.5 %
		Manganese (Mn)		0.15 % to 0.80 %
		Molybdenum (Mo)		0.05 % to 6.0 %
		Nickel (Ni)		0.05 % to 0.25 %
		Phosphorous (P)		0.020 % to 0.05 %
		Silicon (Si)		0.20 % to 0.60 %
		Sulphur (S)		0.010 % to 0.050 %
		Tungsten (W)		0.05 % to 20.0 %
		Tin (Sn)		0.010 % to 0.020 %
		Vanadium (V)		0.10 % to 2.50 %
6.	Cast Iron	Aluminum (Al)		0.008 % to 0.030 %
		Carbon (C)		2.5 % to 4.5 %
		Chromium (Cr)		0.025 % to 1.0 %

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	Cast Iron	Cobalt (Co)	By OES IS 15338: 2003 ASTM E 1999: 2011	0.013 % to 0.50 %
		Copper (Cu)		0.020 % to 2.0 %
		Lead (Pb)		0.02 % to 0.03 %
		Magnesium (Mg)		0.03 % to 0.06 %
		Manganese (Mn)		0.05 % to 1.0 %
		Molybdenum (Mo)		0.01 % to 1.0 %
		Nickel (Ni)		0.02 % to 1.0 %
		Niobium (Nb)		0.02 % to 0.035 %
		Phosphorous (P)		0.01 % to 0.3 %
		Silicon (Si)		1.0 % to 5.0 %
		Sulphur (S)		0.01 % to 0.25 %
		Tin (Sn)		0.010 % to 0.20 %
		Titanium (Ti)		0.04 % to 0.12 %
		Tungsten (W)		0.03 % to 0.05 %
		Vanadium (V)		0.007 % to 0.04 %
7.	Zinc & Its Alloys	Aluminum (Al)	By OES ALS: SOP: 04 Issue No. 1 Dated: 20.12.2008	0.01 % to 5.00 %
		Cadmium (Cd)		0.001 % to 0.007 %
		Copper (Cu)		0.003 % to 1.00 %
		Iron (Fe)		0.001 % to 0.084 %

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	Zinc & Its Alloys	Lead (Pb)	By OES ALS: SOP: 04 Issue No. 1 Dated: 20.12.2008	0.001 % to 0.005 %
		Magnesium (Mg)		0.01 % to 0.060 %
		Tin (Sn)		0.001 % to 0.0048 %
		Titanium (Ti)		0.001 % to 0.03 %
		Nickel (Ni)		0.001 % to 0.010 %
		Aluminum (Al)	Wet Analysis IS 4027: 1987 (RA 2006)	0.1 % to 10.0 %
		Copper (Cu)		0.1 % to 1.0 %
		Iron (Fe)		0.1 % to 0.5 %
		Lead (Pb)		0.1 % to 0.5 %
		Magnesium (Mg)		0.02 % to 0.5 %
		Nickel (Ni)		0.01 % to 0.2 %
		Silicon (Si)		0.01 % to 0.2 %
	8. Stainless Steel, Heat-Resisting, Maraging and Other Similar Chromium-Nickel- Iron Alloys	Carbon (C)		0.05 % to 2.0 %
		Chromium (Cr)		0.01 % to 0.25 %
		Copper (Cu)		0.1 % to 1.0 %
		Manganese (Mn)		0.1 % to 2.0 %
		Molybdenum (Mo)		0.10 % to 4.5 %
		Nickel (Ni)		0.1 % to 25.0 %

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9.	Stainless Steel, Heat-Resisting, Maraging and Other Similar Chromium-Nickel-Iron Alloys	Phosphorous (P)	Wet Analysis ASTM E353: 2014	0.010 % to 0.040 %
		Silicon (Si)		0.2 % to 0.8 %
		Sulphur (S)		0.002 % to 0.03 %
	Cast & Pig Iron (Fe)	Carbon (C)	IS 12308 (Part 11): 1991 (RA 2006)	1.5 % to 4.5 %
		Chromium (Cr)	IS 12308 (Part 8): 1997 (RA 2002)	0.1 % to 28.0 %
		Copper (Cu)	IS 12308 (Part 12): 1992 (RA 2002)	0.01 % to 3.0 %
		Manganese (Mn)	IS 12308 (Part 10): 1991 (RA 2006)	0.05 % to 7.00 %
		Molybdenum (Mo)	ASTM E 350:2012	0.1 % to 2.0 %
		Nickel (Ni)	IS 12308 (Part 7): 1991 (RA 2007)	0.1 % to 36.0 %
		Phosphorous (P)	IS 12308 (Part 5): 1991 (RA 2006)	0.01 % to 0.5 %
		Silicon (Si)	IS 12308 (Part 6): 1991 (RA 2006)	0.1 % to 6.0 %
10.	Ferrous and Non Ferrous Alloys	Sulphur (S)	ASTM E 350: 2012 ALS:SOP:5 – TM 503	0.01 % to 0.25 %
		Chromium (Cr)	ASTM E 1476 - 04 (2014)	Qualitative
		Manganese (Mn)	XRF for Material Identification, Grade Verification and Sorting	Qualitative
		Molybdenum (Mo)		Qualitative

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	Ferrous and Non Ferrous Alloys	Nickel (Ni)	ASTM E 1476 - 04 (2014) XRF for Material Identification, Grade Verification and Sorting	Qualitative
		Vanadium (V)		Qualitative
		Niobium (Nb)		Qualitative
		Copper (Cu)		Qualitative
		Tungsten (W)		Qualitative
		Lead (Pb)		Qualitative
		Tin (Sn)		Qualitative
		Cobalt (Co)		Qualitative
		Titanium (Ti)		Qualitative
		Zinc (Zn)		Qualitative
		Iron (Fe)		Qualitative
		Zirconium (Zr)		Qualitative
		Bismuth (Bi)		Qualitative
		Silver (Ag)		Qualitative
		Arsenic (As)		Qualitative
		Antimony (Sb)		Qualitative
II. CORROSION TEST				
1.	Ferrous and Non Ferrous Metallic Materials	Salt Spray Test	ASTM B 117: 2011 ISO 9227: 2012 IS 6910: 1985	Qualitative (Visual)

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III. METALLIC COATING & TREATMENT SOLUTION				
1.	Zinc Coated Iron & Steel	Mass of Coating (Stripping Method)	IS 6745: 1972 ASTM A90: 2013	10 gsm to 2000 gsm
IV. PLASTICS & RESINS				
1.	Plastic & Its Products	Ash Content / Glass Content / Talc Content	ASTM D 5630: 2013	0.2 % to 50 %
V. RUBBER & SYNTHETIC RUBBER				
1.	Rubber & Its Products	Ash Content	IS 3400 (Part 22): 2008 ASTM D 297:2013	0.2 % to 50 %

-X-X-X-X-X-X-X-X-X-X-X-X-X-