

Laboratory **Sledge Hammer Oil Tools Pvt. Ltd.-Test Lab, Unit Plot No. 262 I, Sector-24, Faridabad, Haryana**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6934**

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Validity **20.02.2018 to 19.02.2020**

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	METALS & ALLOYS			
1.	Low Alloy Steel	Carbon	ASTM E 415: 2017 IS 8811: 1998 (RA 2012)	0.050% to 1.50%
		Sulphur		0.001% to 0.07%
		Phosphorous		0.002% to 0.08%
		Manganese		0.1% to 1.8%
		Silicon		0.005% to 2.0%
		Chromium		0.01% to 1.8%
		Nickel		0.005% to 1.7%
		Molybdenum		0.02 % to 0.8%
		Vanadium		0.005% to 0.4%
		Copper		0.01% to 0.5%
		Aluminium		0.008% to 0.2%
		Cobalt		0.01% to 0.1%
2.	Stainless Steel	Carbon	ASTM E 1086: 2014	0.01% to 0.15%
		Sulphur		0.001% to 0.04%
		Phosphorous		0.01% to 0.04%
		Manganese		0.3% to 1.7%
		Silicon		0.1% to 0.8%
		Chromium		8.0% to 25.00%
		Nickel		1.5% to 11.00%
		Molybdenum		0.1 % to 2.00%
		Copper		0.1% to 0.5%
3.	Non Ferrous Alloy (Aluminium Base)	Silicon	ASTM E 1251: 2017a	0.3% to 14.00%
		Copper		0.08% to 1.5%
		Iron		0.1% to 0.80%
		Zinc		0.008% to 2.5%
		Magnesium		0.002% to 1.3%
		Nickel		0.002% to 0.04%
Manganese	0.05% to 0.8%			

K. Siri Babu
Convenor

N. Venkateswaran
Program Director

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		Titanium		0.01% to 0.10%
		Tin		0.001% to 0.015%
		Chromium		0.008% to 0.30%
		Lead		0.001% to 0.015%
4.	Zinc & Zinc Alloys	Aluminium	ASTM E 634: 2012	8.0% to 13.0%
		Copper		0.4% to 1.3%
		Iron		0.004% to 0.06%
		Lead		0.002% to 0.01%
		Cadmium		0.002% to 0.01%
		Magnesium		0.01% to 0.04%
		Tin		0.001% to 0.008%

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MECHANICAL TESTING

I.	MECHANICAL PROPERTIES OF METALS			
1.	Ferrous and Non Ferrous Alloy Materials and Products	Tensile Strength	IS 1608: 2005 (RA 2017) ASTM A 370: 2017	100 N/mm ² to 1800 N/mm ²
		Yield Strength		100 N/mm ² to 1500 N/mm ²
		Elongation		01% to 80 %
		Rockwell Hardness	IS 1586(Part 1): 2012 (RA 2017) ASTM E 18: 2017	10 HRC to 70 HRC 20 HRBW to 100 HRBW
		Brinell Hardness	IS 1500(Part 1): 2013 ASTM E 10: 2017	50 HBW to 400 HBW (5mm/750kgf) 50 HBW to 400 HBW (10mm/3000kgf)

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