

Laboratory **Pentagon Lubricants (India) Pvt. Ltd., 2/553, Agraharam, Metu Street, Iyyappanthangal, Chennai, Tamil Nadu**

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

Certificate Number **TC-7364**

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Validity **06.06.2018 to 05.06.2020**

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.	LUBRICANTS			
1.	<b>Automotive, Industrial &amp; Specialty Lubricants</b>	Appearance	PLIPL-L3, Issue No.02, Issue date: 15.10.15	Visual
		Std test method for ASTM colour	ASTM D1500-12 IS 1448 (Part 12): 2013	0 to 8
		Flash and fire point by COC	ASTM D92-16b IS 1448 (Part 69): 2013	79 °C to 300 °C
		Pour Point	ASTM D97-17a IS 1448 (Part 10): 2012	0 to -27 °C
		Copper strip corrosion	ASTM D130-12 IS 1448 (Part 15): 2004	1 to 4
		Kinematic viscosity @ 40 °C	ASTM D 445-17a IS 1448 (Part 25): 1976	1 cSt to 1000 cSt
		Kinematic viscosity @ 100 °C	ASTM D 445-17a IS 1448 (Part 25): 1976	3.0 cSt to 50 cSt
		Aniline point	ASTM D611-12 (2016)/ IS 1448 (Part 3): 2007	40 °C to 100 °C
		Total acid number	ASTM D 974-14 e2 IS 1448 (Part 1): 2002	0 to 25 mg KOH/g
		Total Base number	ASTM D2896-15 IS 1448 (Part 86): 1977 (RA 2010)	1 mg KOH/g to 125 mg KOH/g
		Density @ 29.5 °C (By Hydrometer method)	ASTM D1298-12b (2017), IS 1448 (Part 16): 2014	0.7 g/ml to 1.0 g/ml
		Emulsion characteristics	ASTM D1401-12 e1 IS 1448 (Part 91): 1979 (RA 2007)	0.1 ml to 3 ml
		Viscosity Index	ASTM D2270-10 (2016) IS 1448 (Part 56): 2013	40 to 160

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Convenor

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Program Director

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		Ash , Sulphated Ash	ASTM D 874-13a IS 1448 (Part 4): 1984 (RA 2007)	0.001 % by wt to 2.0 % by wt
		Foam Tendency (Sequence I, II, III)	ASTM D 892-13 e1 IS 1448 (Part 67): 1982 (RA 2010)	0 to 50 ml
		Wear preventive characteristics of lubricating fluid	ASTM D 4172- 94 (2016)	0.01 mm to 1.0 mm
		Extreme pressure properties of lubricating oils	ASTM D 2783-03 (2014)	100 kg to 800 kg
		Air release value	ASTM D 3427-15 IS 1448 (Part 102): 1981 (RA 2003)	5 min to 15 min
		Rust preventive characteristics	ASTM D 665-14 e1 IS 1448 (Part 96): 1980 (RA 2008)	Qualitative
		Channeling point	IS 1118 Annex A	Qualitative (Channeling/ Non Channeling)
		Water content	ASTM D 95-13 e1 IS 1448 (Part 40): 2015	0.05 % to 10 %
		Humidity cabinet test	ASTM D 1748-10 (2015)	Qualitative
		Salt spray test	ASTM B 117-16	Qualitative
		Emulsion Stability	IS 1448 (Part 98): 1981 (RA 2008)	Qualitative
		Frothing test	IS1448 (Part 99): 1981 (RA 2008)	Qualitative
		Cast Iron corrosion test	IS 1115:1986 Appendix A	Qualitative
		Quenching speed, secs	ASTM D 3520-04	10 secs to 30 secs
		Reserve Alkalinity	ASTM D 1121-2011	2 ml to 13 ml
		pH	ASTM D 1287-2011	2 to 11

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2.	<b>Greases Automotive, Industrial &amp; Specialty</b>	Drop Point	ASTM D 566-17 IS 1448 (Part 52): 2017	70 °C to 280 °C
		Consistency Un worked Worked 60 strokes	ASTM D217-17 IS 1448 (Part 60): 1994	180 units to 400 units
		Free Alkalinity & Acidity	IS 1448 (Part 53) (RA 2013)	0 to 0.1 %
		Copper strip corrosion Test	ASTM D 4048 -16 e1 IS 1448 (Part 51): 1963	Qualitative (Positive or Negative)
		Extreme pressure properties of lubricating greases	ASTM D 2596-2015	160 kg to 315 kg
		Wear preventive Characteristics of lubricating greases	ASTM D 2266-01 (2015)	0.1 mm to 1 mm

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