

**Laboratory**                      **Quality Control Laboratory, LBP, Indian Oil Corporation Limited, P-68,  
Karl Marx Sarani, Kolkata, West Bengal**

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

**Certificate Number**        **TC-6605**

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**Validity**                        **29.11.2017 to 28.11.2019**

**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.	Lubricating Oils	Appearance	SOP No. 19 Issue No. 01 Dated 01.03.2017	Qualitative
		Moisture (Crackle)	IS 4543 Appendix B	Qualitative
		Colour	SOP No. 20 Issue No. 01 Dated 01.03.2017	Qualitative
		Colour, ASTM	IS 1448 (Part 12) ASTM D1500	0 to 8.0
		Density	IS 1448 : Part 16 ASTM D 1298-12b ASTM D 4052	0.8000 gg/cc to 0.9500 gg/cc
		Flash Point (COC)	IS 1448 (Part 69) ASTM D92	60 °C to 400 °C
		Kinematic Viscosity @ 40 °C	IS 1448 (Part 25) ASTM D 445	2 cSt to 1000 cSt
		Kinematic Viscosity @ 100 °C	IS 1448 (Part 25) ASTM D 445	2 cSt to 1000 cSt
		Brookfield Viscosity	ASTM D 2983 :17	250 cP to 1000000 cP
		Viscosity Index	IS1448 (Part 56) ASTM D2270	(-)30 to 200
		Total Base Number (TBN)	IS 1448 (P-86) ASTM D2896 Lab Developed Method SOP No. 06 Issue No. 01 Dated 01.09.2017	1 mg KOH/g to 100.0 mg KOH/g
		Acid Number	ASTM D 974	0 to 500 mg KOH/gm
		Pour Point	IS 1448 (Part 10) ASTM D 97	20 °C to (-)42 °C

**Pankaj Johri**  
Convenor

**N. Venkateswaran**  
Program Director

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Foaming Characteristics	IS 1448 (Part 67) ASTM D892	0 to 500 ml
		Emulsion Characteristics	ASTM D1401	0 to 30 min
		<b>Elements:</b> Phosphorus	ASTM D7751-16 ASTM D 6481-14	1000 mg/kg to 2000 mg/kg
		Phosphorus		100 mg/kg to 300 mg/kg
		Calcium		100 mg/kg to 300 mg/kg
		Calcium		1000 mg/kg to 2000 mg/kg
		Zinc		100 mg/kg to 300 mg/kg
		Zinc		1000 mg/kg to 2000 mg/kg
		Sulfated Ash	ASTM D 874	0.05 % wt to 10 % wt
		Cu Strip Corrosion	IS 1448 (Part15) ASTM D130	1 a to 4 c
		Saponification value	IS 1448 (Part 60) ASTM D94	0.1 mg KOH/gm to 200 mg KOH/gm
		Dean & Stark	ASTM D 95	0 to 25 %
		Rust prevention Test	ASTM D 665	Qualitative
		Viscosity at High Shear Rate & High Temp	ASTM D 4683	1.2 mPa.s to 7.7 mPa.s