

<b>Laboratory</b>	<b>Controllerate of Quality Assurance (Petroleum Products), Ashokpath, Meerpur Cantt., Kanpur, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>06.07.2014</b>
<b>Certificate Number</b>	<b>T-2289</b>	<b>Valid Until</b>	<b>05.07.2016</b>
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>I.</b>	<b>PETROLEUM</b>			
<b>1.</b>	<b>Greases</b> (XG-315, XG-285, XG-271, XG-340, XG-279, XG-250, XG-276, Gem-2, Gem-3, Grease Molex , SG-240, LG-280, and Protective PX-6, PX-7 & PX-11)	i) Visual examination	As specified in referred specification	Qualitative test
		ii) Drop point	IS 1448 Pt-52-1971 (RA-2006)/ IP-132/ASTM-D566	Ambient to 300 °C
		iii) Drop Melting Point	IP-133/ASTM-D-127	Ambient to 300 °C
		iv) Consistency of the grease in terms of Penetration No.	IS 1448 Pt-60-1994 (RA-2006), P-92-1979 (RA-2002)	1 to 400
		v) Free Acidity as Oleic Acid ( % by Mass)	IS 1448 Pt-53-1979 (RA-2002)	0.00 to 20.00 %
		vi) Free Alkalinity as ( % by Mass)	IS 1448 Pt-53-1979 (RA-2002)	0.00 to 20.00 %
		vii) Copper Strip Corrosion	IS 1448 Pt-51- 1963 (RA-2003)	Qualitative Test
		viii) Heat Stability	IS 1448 Pt-62-1974 (RA2003)	Qualitative Test
		ix) Oil Separation/ Thermal Stability	IS 1448 Pt-89-1979 (RA-2003)	0.02 to 10.00 %
		x) % Evaporation Loss	IS 1448 Pt-61 1974 (RA-2003)	0.1 to 50.0 %

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<b>II. LUBRICANTS</b>				
<b>1.</b>	<b>Lubricating Oils</b> (OX-13, OX-52, OM-58, OM-15, OM-16, multi Grade engine oil, gear oil, HLP-Grade, C-600, oil C-70, transmission fluid and OMHB)	i) Visual examination	as specified in referred specification	Qualitative test
		ii) Flash Point (COC)	IS 1448 Pt-69-1969 (RA-2013)	79 °C to 398 °C
		iii) Kinematics Viscosity (K.V.) at 100 <sup>o</sup> C	IS 1448 Pt-25 -1976 (RA-2007)	1.0 to 45.0 cSt
		iv) Kinematics Viscosity (K.V.) at 40 <sup>o</sup> C	IS 1448 Pt-25-1976 (RA-2002)	1.0 to 440.0 cSt
	** Method is specific for OX -52 & OX -13	v) Viscosity Index	IS 1448 Pt-56-1980 (RA-2013)	Calculated from kV
		vi) Sap Value as mg KOH/g of sample	IS 1448 Pt-55-1963 (RA-2004)	2 .0 to 70.0
		vii) pH	JSS 9150-11 appendix B	1.0 to 14.0
		viii) Oleic acid,	JSS 9150-11, Appendix 'A'	5.0 to 25.0
		ix) Triethanolamine,	JSS 9150-11, Appendix 'A'	0.5 to 10.0
		x) Copper Strip Corrosion	IS 1448 Pt-15(RA-2010)	Qualitative Test
		xi)Emulsion characteristics	IS 1448 Pt-91-1979 (RA-2007)	Qualitative Test

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		xii) Flash Point (PMC)	IS 1448 Pt-21-1992 (RA-2012)	48 °C to 150 °C
		xiii) Ash	IS 1448 Pt-1984 (RA 2007)	0.001 to 5.0

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