



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



SCOPE OF ACCREDITATION

Laboratory Name RELIABLE TRANSOIL TESTING LABORATORY, SHOP NO.11, "L" MARKET, PLOT NO. 8, SECTOR-8, NERUL, NAVI MUMBAI, MAHARASHTRA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-5699 Page No. : 1 / 7

Validity 18/05/2019 to 17/05/2021 Last Amended on 28/06/2019

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
Permanent Facility					
1	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Appearance	IS 335: 2018	Qualitative
2	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Break Down Voltage	IS 6792: 2017	2 kV to 90 kV
3	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Density at 29.5 °C	IS 1448 (Part 16): 2014	0.800 g/cm ³ to 0.900 g/cm ³
4	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dielectric Dissipation Factor At 90 °C	IEC 60247: 2004	0.0001 to 2.000
5	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil	Dissolved Gas Analysis - Acetylene (C ₂ H ₂)	IS 9434: 1992	1 µl/l to 25000 µl/l
6	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dissolved Gas Analysis - Carbon Dioxide (CO ₂)	IS 9434: 1992	1 µl/l to 25000 µl/l
7	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dissolved Gas Analysis - Carbon Monoxide (CO)	IS 9434: 1992	1 µl/l to 25000 µl/l



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8	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dissolved Gas Analysis - Ethane (C ₂ H ₆)	IS 9434: 1992	1 µl/l to 25000 µl/l
9	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dissolved Gas Analysis - Ethylene (C ₂ H ₄)	IS 9434: 1992	1 µl/l to 25000 µl/l
10	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dissolved Gas Analysis - Hydrogen (H)	IS 9434: 1992	1 µl/l to 25000 µl/l
11	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dissolved Gas Analysis - Methane (CH ₄)	IS 9434: 1992	1 µl/l to 25000 µl/l
12	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Flash Point	IS 1448 (Part 21): 2012	90 °C to 370 °C
13	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Furan Analysis: 2-Acetylfuran	IEC 61198: 1993	0.002 mg/kg to 30 mg/kg
14	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Furan Analysis: 2-Furaldehyde	IEC 61198: 1993	0.002 mg/kg to 30 mg/kg



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15	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Furan Analysis: 2-Furfuryl Alcohol	IEC 61198: 1993	0.002 mg/kg to 30 mg/kg
16	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Furan Analysis: 5-Hydroxymethyl-2-Furaldehyde	IEC 61198 : 1993	0.002 mg/kg to 30 mg/kg
17	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Furan Analysis: 5-Methyl-2-Furaldehyde	IEC 61198: 1993	0.002 mg/kg to 30 mg/kg
18	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Inter Facial Tension	ASTMD971: 2012	1 mN/m to 90 mN/m
19	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Kinematic Viscosity at 40°C	ISO 3104: 1994	3 mm ² /s to 30 mm ² /s
20	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Neutralization Value	ASTM D974: 2012	0.001 mgKOH/g to 2 mgKOH/g
21	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Resistivity At 90 °C	IEC 60247: 2004	1 X 10 ⁹ Ohm-cm to 1 X 10 ¹⁸ Ohm-cm



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22	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Sediment and Sludge	IS 1866 Annex. C: 2017	0.001 g to 125 g;0.01 % to 1.25 %;
23	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Water Content	IS 13567: 2018	2 mg/kg to 1000 mg/kg



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Mobile Facility					
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2	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Break Down Voltage	IS 6792: 2017	2 kV to 90 kV
3	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Density at 29.5 °C	IS 1448 (Part 16): 2014	0.800 g/cm ³ to 0.900 g/cm ³
4	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dielectric Dissipation Factor At 90 °C	IEC 60247: 2004	0.0001 to 2.000
5	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dissolved Gas Analysis - Acetylene (C ₂ H ₂)	IS 9434: 1992	1 µl/l to 25000 µl/l
6	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Dissolved Gas Analysis - Carbon Dioxide (CO ₂)	IS 9434: 1992	1 µl/l to 25000 µl/l
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14	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Neutralization Value	ASTM D:974: 2012	0.001 mgKOH/gm to 2 mgKOH/gm



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16	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer oil	Water Contents	IS 13567: 2018	2 mg/kg to 1000 mg/kg