



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



SCOPE OF ACCREDITATION

Laboratory Name NDL POWER LIMITED TRANSFORMER MONITORING LABORATORY, KHEWAT
NO.: 240/189, ISMAILA- 11B, SAMPLA BERI ROAD, ROHTAK, HARYANA , INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-8527 Page No. : 1 / 7

Validity 04/06/2019 to 03/06/2021 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	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oils (New & Used)	Flash Point	IS 1448 (Part 69): 2013	90 °C to 250 °C
2	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oils (New & Used)	Kinematic Viscosity	IS 1448 (Part 25): 2013	1 cSt to 50 cSt
3	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oils (New & Used)	Pour Point (upto freezing of oil)	IS 1448 (Part 10): 2012	-30 °C to 50 °C
4	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oils (New & Used)	Total Acid Number	IS 1448 (Part 1, S-1): 2007	0.05 mg KOH/g to 250 mg KOH/g
5	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oils (New & Used)	Total Base Number	IS 1448 (Part 1, S-2): 2013	0 mg KOH/g to 70 mg KOH/g
6	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Ageing Characteristics (Resistivity)	IS 12177 (Method-A): 2013	1 x 10 ⁹ ohm-cm to 1 x 10 ¹⁹ ohm-cm
7	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Ageing Characteristics (Tandelta)	IS 12177 (Method-A): 2013	0.000001 to 9.99
8	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Ageing Characteristics (Total Acidity)	IS 12177 (Method-A): 2013	0.01 mg KOH/g to 5 mg KOH/g



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9	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Ageing Characteristics (Total Sludge)	IS 12177 (Method-A): 2013	0.01% to 10%
10	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Appearance	IS 335: 2018	Qualitative
11	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Corrosive Sulphur	IS 335 (Annex-B): 2018	Qualitative
12	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Density	IS 1448 (Part 16): 2014	0.800 g/cc to 0.900 g/cc
13	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Acetylene)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l
14	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Carbon Dioxide)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l
15	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Carbon Monoxide)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l



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16	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Ethane)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l
17	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Ethylene)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l
18	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Hydrogen)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l
19	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Methane)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l
20	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Nitrogen)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l
21	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Oxygen)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l
22	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DGA (Propane Propylene)	IS 10593: 2018	0.1 µl/l to 1 x 10 ⁶ µl/l



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23	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	DP value	IEC 60450: 2007	10 to 2000
24	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Electric Strength	IS 6792: 2017	0.1 KV to 100 KV
25	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Flash Point	IS 1448 (Part 21): 2012	90 °C to 180 °C
26	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Furan Analysis	IS 15668: 2016	0.01 mg/kg to 100 mg/kg
27	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Furan Analysis	IEC 61198: 1993	0.01 mg/kg to 100 mg/kg
28	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Interfacial Tension	IS 6104: 2016	0.01 N/m to 0.09 N/m
29	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Kinematic Viscosity	IS 1448 (Part 25): 2013	1 cSt to 28 cSt



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30	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Neutralization Value	IS 1448 (Part 2): 2013	0.01 mg KOH/g to 5 mg KOH/g
31	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Oxidation Stability (Acidity)	IS 335 (Annex-C): 2018	0.01 mg KOH/g to 100 mg KOH/g
32	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Oxidation Stability (Sludge)	IS 335 (Annex-C): 2018	0.01 % to 10 %
33	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	PCB	IEC 61619: 1997	0.001 mg/kg to 10000 mg/kg
34	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Pour Point	IS 1448 (Part 10): 2012	-30 °C to 50 °C
35	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Presence of Oxidation Inhibitor	IS 13631 : 2017	Qualitative
36	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Resistivity	IS 6103: 2016	1 x 10 ⁹ ohm-cm to 1 x 10 ¹⁹ ohm-cm



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37	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Sediments & Sludge	IS 1866 (Annex-A): 2017	0.01 % to 10 %
38	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	SK Value	IS 335 (Annex-D): 2018	0.01 % to 10 %
39	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Tandelta	IS 6262: 2016	0.000001 to 9.99
40	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Water Content	IS 13567: 2018	1 mg/kg to 1000 mg/kg



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Site Facility					
1	ELECTRICAL-INSULATING MATERIALS & INSULATORS	Transformer Oil (New & Used)	Sampling	IS 6855: 2017	Qualitative