National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : TRANSFORMER TESTING LABORATORY, SHILCHAR TECHNOLOGIES LIMITED, VADODARA, MUVAL SUBSTATION, JAMBUSAR HIGHWAY, GAVASAD, VADODARA, GUJARAT, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-8606 **Page No** 1 of 4

Validity 08/08/2022 to 07/08/2024 **Last Amended on** 21/03/2023

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	OIL BDV	IEC 60156
2	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	SHORT CIRCUIT IMPEDANCE AND LOAD LOSS	IEC 60076 (PART 1)
3	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, Range: up to 5MVA, up to 33kV class	CAPACITANCE AND TAN DELTA	IS 2026 (PART 3)
4	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, Range: up to 5MVA, up to 33kV class	WINDING RESISTANCE	IS 1180 (PART 1)
5	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, Range: up to 5MVA, up to 33kV class	WINDING RESISTANCE	IS 2026 (PART 1)
6	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, Range: up to 5MVA, up to 33kV class	ZERO PHASE SEQUENCE IMPEDANCE	IEC 60076 (PART 1)
7	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	CAPACITANCE AND TAN DELTA	IEC 60076 (PART 1)
8	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	CAPACITANCE AND TAN DELTA	IS 2026 (PART 1)
9	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	FULL & CHOPPED LIGHTNING IMPULSE	IEC 60076 (PART 3)
10	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	FULL & CHOPPED LIGHTNING IMPULSE	IS 2026 (PART 3)
11	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	HARMONICS	IEC 60076 (PART 1)
12	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	HARMONICS	IS 2026 (PART 1)
13	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	INSULATION RESISTANCE & PI	IEC 60076 (PART 1)
14	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	INSULATION RESISTANCE & PI	IS 2026 (PART 1)
15	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	MAGNETIC BALANCE	MANUAL ON TRANSFORMERS (CBIP) PUBLICATION NO. 317
16	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	NEUTRAL UNBALANCE CURRENT	MANUAL ON TRANSFORMERS (CBIP) PUBLICATION NO. 317
17	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	NO LOAD LOSS AND CURRENT	IEC 60076 (PART 1)
18	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	NO LOAD LOSS AND CURRENT	IS 2026 (PART 1)

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Certificate Number TC-8606 **Page No** 2 of 4

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19	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	OIL BDV	IEC 60156
20	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	OIL BDV	IS 6792
21	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	SHORT CIRCUIT IMPEDANCE AND LOAD LOSS	IEC 60076 (PART 1)
22	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	TEMPERATURE RISE	IEC 60076 (PART 2)
23	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	TEMPERATURE RISE	IS 2026 (PART 2)
24	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	VOLTAGE RATIO AND CHECK OF PHASE DISPLACEMENT	IEC 60076 (PART 1)
25	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	VOLTAGE RATIO AND CHECK OF PHASE DISPLACEMENT	IS 2026 (PART 1)
26	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	WINDING RESISTANCE	IEC 60076 (PART 1)
27	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	WINDING RESISTANCE	IS 2026 (PART 1)
28	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	ZERO PHASE SEQUENCE IMPEDANCE	IEC 60076 (PART 1)
29	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 132kV class	ZERO PHASE SEQUENCE IMPEDANCE	IS 2026 (PART 1)
30	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 25 MVA, up to 33kV class	TEMPERATURE RISE	IS 2026 (PART 2)
31	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5 MVA, up to 33 kV class	HARMONICS	IS 2026 (PART 1)
32	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	NEUTRAL UNBALANCE CURRENT	MANUAL ON TRANSFORMERS (CBIP) PUBLICATION NO. 317
33	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	CAPACITANCE AND TAN DELTA	IEC 60076 (PART 1)
34	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	HARMONICS	IEC 60076 (PART 1)
35	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	INDUCED OVER VOLTAGE WITHSTAND	IS 1180 (PART 1)
36	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	INSULATION RESISTANCE & PI	IEC 60076 (PART 1)
37	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	INSULATION RESISTANCE & PI	IS 1180 (PART 1)

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Certificate Number TC-8606 **Page No** 3 of 4

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38	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	INSULATION RESISTANCE & PI	IS 2026 (PART 1)
39	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	MAGNETIC BALANCE	MANUAL ON TRANSFORMERS (CBIP) PUBLICATION NO. 317
40	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	NO LOAD LOSS AND CURRENT	IEC 60076 (PART 1)
41	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	NO LOAD LOSS AND CURRENT	IS 1180 (PART 1)
42	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	NO LOAD LOSS AND CURRENT	IS 2026 (PART 1)
43	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	OIL BDV	IS 6792
44	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	SEPRATE SOURCE VOLTAGE WITH STAND	IS 1180 (PART 1)
45	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	SHORT CIRCUIT IMPEDANCE AND LOAD LOSS	IS 1180 (PART 1)
46	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	SHORT CIRCUIT IMPEDANCE AND LOAD LOSS	IS 2026 (PART 1)
47	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	SOUND LEVELS	IS 1180 (PART 1)
48	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	TEMPERATURE RISE	IEC 60076 (PART 2)
49	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	TEMPERATURE RISE	IS 1180 (PART 1)
50	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	VOLTAGE RATIO AND CHECK OF PHASE DISPLACEMENT	IEC 60076 (PART 1)
51	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	VOLTAGE RATIO AND CHECK OF PHASE DISPLACEMENT	IS 1180 (PART 1)
52	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	VOLTAGE RATIO AND CHECK OF PHASE DISPLACEMENT	IS 2026 (PART 1)
53	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	WINDING RESISTANCE	IEC 60076 (PART 1)
54	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer, up to 5MVA, up to 33kV class	ZERO PHASE SEQUENCE IMPEDANCE	IS 2026 (PART 1)
55	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformer,up to 25 MVA, up to 132 kV class	SHORT CIRCUIT IMPEDANCE AND LOAD LOSS	IS 2026 (PART 1)
56	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 25 MVA, up to 132 kV Class	DETERMINATION OF SOUND LEVELS	IS 2026 (PART 10)

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Certificate Number TC-8606 **Page No** 4 of 4

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57	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 25 MVA, up to 132 kV Class	DETERMINATION OF SOUND LEVELS	IEC 60076 (PART 10)
58	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 25 MVA, up to 132 kV Class	INDUCED OVER VOLTAGE WITHSTAND TEST	IEC 60076 (PART 3)
59	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 25 MVA, up to 132 kV Class	INDUCED OVER VOLTAGE WITHSTAND TEST	IS 2026 (PART 3)
60	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 25 MVA, up to 132 kV Class	SEPARATE SOURCE VOLTAGE WITHSTAND TEST	IEC 60076 (PART 3)
61	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 25 MVA, up to 132 kV Class	SEPARATE SOURCE VOLTAGE WITHSTAND TEST	IS 2026 (PART 3)
62	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 5 MVA, up to 33 kV Class	DETERMINATION OF SOUND LEVELS	IEC 60076 (PART 10)
63	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 5 MVA, up to 33 kV Class	DETERMINATION OF SOUND LEVELS	IS 2026 (PART 10)
64	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 5 MVA, up to 33 kV Class	INDUCED OVER VOLTAGE WITHSTAND TEST	IEC 60076 (PART 3)
65	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 5 MVA, up to 33 kV Class	INDUCED OVER VOLTAGE WITHSTAND TEST	IS 2026 (PART 3)
66	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 5 MVA, up to 33 kV Class	SEPARATE SOURCE VOLTAGE WITHSTAND TEST	IEC 60076 (PART 3)
67	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Cooled Transformers, up to 5 MVA, up to 33 kV Class	SEPARATE SOURCE VOLTAGE WITHSTAND TEST	IS 2026 (PART 3)