National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9982 **Page No** 1 of 19

Validity 13/10/2021 to 12/10/2023 **Last Amended on** 26/10/2022

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	Auto Transformer (upto 500 MVA, 400 kV Three Phase)	Zero-Sequence Impedance on Three Phase Transformers	IEC 60076-01 (Clause 11.6)
2	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 400 kV Three Phase)	Zero-Sequence Impedance on Three Phase Transformers	IEEE C57.12.90 (Clause 9.5)
3	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 400 kV Three Phase)	Zero-Sequence Impedance on Three Phase Transformers	IS 2026-01 (Clause 10.7)
4	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Measurement of No Load Current	IEC 60076-01 (Clause 11.5)
5	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Switching Impulse Test for the Line Terminal (SI)	IEC 60076-03 (Clause 13)
6	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Switching Impulse Test for the Line Terminal (SI)	IEEE C57.12.90 (Clause 10.2)
7	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Switching Impulse Test for the Line Terminal (SI)	IS 2026-03 (Clause 14)
8	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Temperature Rise Test	IEC 60076-01 (Clause 11.1.3.a)
9	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Temperature Rise Test	IEEE C57.12.90 (Clause 11)
10	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Temperature Rise Test	IS 2026-01 (Clause 10.1.2.a)
11	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Test on On-Load Tap Changer	IEC 60076-01 (Clause 11.1.2.1.f)
12	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Test on On-Load Tap Changer	IEEE C57.12.00 (Table 17)
13	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Test on On-Load Tap Changer	IS 2026-01 (Clause 10.1.1.f)
14	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Transient Voltage Transfer Characteristics	IEC 60076-03 (Clause 11.1.4.e)
15	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Transient Voltage Transfer Characteristics	IS 2026-03 (Clause 10.1.3.c)
16	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Winding Resistance	IEC 60076-01 (Clause 11.2)
17	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Winding Resistance	IS 2026-01 (Clause 10.2)
18	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Applied Voltage Withstand Test (AV)	IEC 60076-03 (Clause 10)

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	2 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
19	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Applied Voltage Withstand Test (AV)	IEEE C57.12.90 (Clause 10.6)
20	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Applied Voltage Withstand Test (AV)	IS 2026-03 (Clause 11)
21	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Auxillary Wiring (AuxW) & Magnetic Circuit Insulation Test	IEEE C57.12.90 (Clause 10.11)
22	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Auxillary Wiring (AuxW) & Magnetic Circuit Insulation Test	IEC 60076-03 (Clause 9)
23	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Auxillary Wiring (AuxW) & Magnetic Circuit Insulation Test	IS 2026-03 (Clause 10)
24	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Check of Winding Polarity for Single Transformers/ Check of Vector Group for Three Phase Transformers	IEC60076-01 (Clause 11.3)
25	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Check of Winding Polarity for Single Transformers/ Check of Vector Group for Three Phase Transformers	IEEE C57.12.90 (Clause 6.3)
26	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Check of Winding Polarity for Single Transformers/ Check of Vector Group for Three Phase Transformers	IS 2026-01 (Clause 10.3)
27	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Chopped Wave Lighting Impulse Test for the Line Terminal (LIC)	IEC 60076-03 (Clause 13)
28	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Chopped Wave Lighting Impulse Test For the Line Terminal (LIC)	IEEE C57.12.90 (Clause 10.3)
29	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Chopped Wave Lighting Impulse Test for the Line Terminal (LIC)	IS 2026-03 (Clause 13)
30	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Full Wave Lighting Impulse Test For Line Terminals (LI)	IEC 60076-03 (Clause 13)
31	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Full Wave Lighting Impulse Test for Line Terminals (LI)	IEEE C57.12.90 (Clause 10.3)
32	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Full Wave Lighting Impulse Test for Line Terminals (LI)	IS 2026-03 (Clause 13)
33	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Harmonic of the No-Load Current	IEEE C.57.12.90 (Clause 13.1.1)

SCOPE OF ACCREDITATION

Laboratory Name : T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9982 **Page No** 3 of 19

Validity 13/10/2021 to 12/10/2023 **Last Amended on** 26/10/2022

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
34	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Harmonics of the No-Load Current	IEC 60076-01 (Clause 11.1.1)
35	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Harmonics of the No-Load Current	IS 2026-01 (Clause 10.6)
36	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Test PD Measurement (IVPD)	IS 2026-03 (Clause 11.3)
37	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Test with PD Measurement (IVPD)	IEC 60076-03 (Clause 11.3)
38	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Test with PD Measurement (IVPD)	IEEE C57.12.90 (Clause 10.9)
39	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Withstand Test (IVW)	IEC 60076-03 (Clause 11.2)
40	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Withstand Test (IVW)	IEEE C57.12.90 (Clause 10.7 & 10.8)
41	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Withstand Test (IVW)	IS 2026-03 (Clause 11.2)
42	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Insulation Resistance of Windings, Core, Frame & Tank	IEEE C57.12.90 (Clause 10.11)
43	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Insulation Resistance of Windings, Core, Frame & Tank	IS 2026-01 (Clause 10.1.3.j)
44	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Lighting Impulse Test for the Neutral Terminals (LIN)	IEC 60076-03 (Clause 13)
45	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Lightning Impulse Test for the Neutral Terminals (LIN)	IEEE C57.12.90 (Clause 10.3)
46	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Lightning Impulse Test for the Neutral Terminals (LIN)	IS 2026-03 (Clause 13)
47	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Line Terminal AC Withstand Voltage Test (LTAC)	IS 2026-03 (Clause 12)
48	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Line Terminals AC Withstand Voltage Test (LTAC)	IEC 60076-03 (Clause 12)
49	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Magnetic Balance/ Magnetizing Current Test	CBIP Pub 317 Section-BB
50	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Bushings	IEC 60076-01 (Clause 11.1.2.2.a)
51	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Bushings	IEEE C.57.12.90 (Clause 10.10)
52	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Bushings	IS 2026-01 (Clause 10.1.3.b)

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA
Accreditation Standard	ISO/IEC 17025:2017
Certificate Number	TC-9982
Page No	4 of 19
Validity	13/10/2021 to 12/10/2023
Last Amended on	26/10/2022

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
53	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Windings	IEC 60076-01 (Clause 11.1.2.2.a)
54	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Windings	IEEE C57.12.90 (Clause 10.10)
55	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Windings	IS 2026-01 (Clause 10.1.3.b)
56	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of CT Ratio & Polarity	IEEE C57.12.00
57	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of CT Ratio & Polarity	IS 2026-01
58	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of CT Ration & Polarity	IEC 60076-01 (Clause 11.1.2.1.i)
59	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Bushings	IEC 60076-01 (Clause 10.1.3.b)
60	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Bushings	IEEE C57.12.90 (Clause 10.10)
61	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Bushings	IS 2026-01 (Clause 10.1.3.b)
62	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Windings	IEC 60076-01 (Clause 11.1.2.2.c)
63	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Windings	IEEE C57.12.90 (Clause 10.10)
64	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Windings	IS 2026-01 (Clause 10.1.3.b)
65	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Load Loss	IEC 60076-01 (Clause 11.4)
66	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Load Loss	IEEE C57.12.90 (Clause 9.3)
67	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Load Loss	IS 2026-01 (Clause 10.4)
68	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Current	IEEE C57.12.90 (Clause 8.2)
69	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Current	IS 2026-01 (Clause 10.5)
70	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Losses	IEC 60076-01 (Clause 11.5)
71	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Losses	IEEE C57.12.90 (Clause 8.2)

SCOPE OF ACCREDITATION

Laboratory Name : T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9982 **Page No** 5 of 19

Validity 13/10/2021 to 12/10/2023 **Last Amended on** 26/10/2022

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
72	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Losses	IS 2026-01 (Clause 10.5)
73	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Shortcircuit Impedance	IEC 60076-01 (Clause 6.5)
74	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Shortcircuit Impedance	IEEE C57.12.90 (Clause 9)
75	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Shortcircuit Impedance	IS 2026-1 (Clause 5.5)
76	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Sound Levels	IEC 60076-1 (Clause 11.1.3.c)
77	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Sound Levels	IEEE C57.12.90 (Clause 13)
78	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Sound Levels	IS 2026-01 (Clause 10.1.3.f)
79	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Voltage Ratio	IEC 60076-01 (Clause 11.3)
80	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Voltage Ratio	IEEE C57.12.90 (Clause 7.3)
81	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Voltage Ratio	IS 2026-01 (Clause 10.3)
82	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Power taken by the Fan and Oil Pump Motors	IEC 60076-01 (Clause 11.1.3.d)
83	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Power taken by the Fan and Oil Pump Motors	IEEE C57.12.00 (Table 17)
84	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Power taken by the Fan and Oil Pump Motors	IS 2026-01 (Clause 10.1.3.h)
85	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Sweep Frequency Response Analysis	IEC 60076-1 (Clause 11.1.4.L)
86	ELECTRICAL- INDUCTORS & TRANSFORMERS	Auto Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Winding Resistance	IEEE C57.12.90 (Clause 5.3)
87	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.5 MVA, 25 kV)	Full Wave Lightning Impulse Test for Line Terminals (LI)	IEEE C57.12.90 (Clause 10.3)
88	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.5 MVA, 25 kV)	Full Wave Lightning Impulse Test for Line Terminals (LI)	IS 2026-03 (Clause 13)
89	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.5 MVA, 25 kV)	Insulation Resistance of Windings	IEC 60076-01 (Clause 11.1.2.2.b)
90	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.5 MVA, 25 kV)	Insulation Resistance of Windings	IS 2026-01 (Clause 10.1.3.j)

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	6 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
91	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Applied Voltage AC Withstand Test (AV)	IEC 310 (Clause 13.2.13.3)
92	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Full Wave Lightning Impulse Test for Line Terminals (LI)	IEC 60076-03 (Clause 14)
93	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Induced Voltage Withstand Test (IVW)	IEC 310 (Clause 13.2.13.2)
94	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Insulation Resistance of Windings	IEEE C57.12.90 (Clause 10.11)
95	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Measurement of Load Loss	IEC 310 (Clause 13.2.9)
96	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Measurement of No Load Current	IEC 310 (Clause 13.2.7)
97	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Measurement of No Load Loss	IEC 310 (Clause 13.2.7)
98	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Measurement of Short Circuit Impedance	IEC 310 (Clause 13.2.8)
99	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Temperature Rise Test	IEC 310 (Clause 13.2.11)
100	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Voltage Ratio Test	IEC 60310 (Clause 13.2.6)
101	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (Loco Transformers- upto 7.775 MVA, 25 kV)	Winding Resistance	IEC 310 (Clause 13.2.5)
102	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 400 kV Three Phase)	Zero-Sequence Impedance on Three Phase Transformers	IEC 60076-01 (Clause 11.6)
103	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 400 kV Three Phase)	Zero-Sequence Impedance on Three Phase Transformers	IEEE C57.12.90 (Clause 9.5)
104	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Applied Voltage Withstand Test (AV)	IEC 60076-03 (Clause 10)
105	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Applied Voltage Withstand Test (AV)	IEEE C57.12.90 (Clause 10.6)
106	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Applied Voltage Withstand Test (AV)	IS 2026-03 (Clause 11)
107	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Auxillary Wiring (AuxW) & Magnetic Circuit Insulation Test	IEC 60076-03 (Clause 9)
108	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Auxillary Wiring (AuxW) & Magnetic Circuit Insulation Test	IEEE C57.12.00
109	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Auxillary Wiring (AuxW) & Magnetic Circuit Insulation Test	IS 2026-03 (Clause 10)

SCOPE OF ACCREDITATION

Laboratory Name : T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9982 **Page No** 7 of 19

Validity 13/10/2021 to 12/10/2023 **Last Amended on** 26/10/2022

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
110	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase & Single Phase)	Insulation Resistance of Windings, Core, Frame & Tank	IEC 60076-01 (Clause 11.1.2.2.b)
111	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Check of Winding Polarity for Single Transformers/ Check of Vector Group for Three Phase Transformers	IEEE C57.12.00
112	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Check of Winding Polarity for Single Transformers/ Check of Vector Group for Three Phase Transformers	IS 2026-01 (Clause 10.3)
113	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Check of Winding Polarity for Single Transformers/Check of Vector Group for Three Phase Transformers	IEC 60076-01 (Clause 11.3)
114	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Chopped Wave Lighting Impulse Test for the Line Terminal (LIC)	IEC 60076-03 (Clause 14)
115	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Chopped Wave Lighting Impulse Test for the Line Terminal (LIC)	IEEE C57.12.90 (Clause 10.3)
116	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Chopped Wave Lighting Impulse Test for the Line Terminal (LIC)	IS 2026-03 (Clause 13)
117	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Full Wave Lighting Impulse Test for Line Terminals (LI)	IEC 60076-03 (Clause 14)
118	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Full Wave Lightning Impulse Test for Line Terminals (LI)	IS 2026-03 (Clause 13)
119	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Full Wave Lightning Impulse Test for the Line Terminals (LI)	IEEE C57.12.90 (Clause 10.3)
120	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Harmonics of the No-Load Current	IEC 60076-01 (Clause 11.1.1)
121	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Harmonics of the No-Load Current	IEEE C.57.12.90 (Clause 13.1.1)
122	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Harmonics of the No-Load Current	IS 2026-01 (Clause 10.6)
123	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Test with PD Measurement (IVPD)	IEC 60076-03 (Clause 11.3)
124	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Test with PD Measurement (IVPD)	IEEE C57.12.90 (Clause 10.9)

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	8 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
125	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Test with PD Measurement (IVPD)	IS 2026-03 (Clause 11.3)
126	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Withstand Test (IVW)	IEC 60076-03 (Clause 11.2)
127	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Withstand Test (IVW)	IEEE C57.12.90 (Clause 10.7 & 10.8)
128	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Induced Voltage Withstand Test (IVW)	IS 2026-03 (Clause 11.2)
129	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Insulation Resistance of Windings, Core, Frame & Tank	IEC 60076-01 (Clause 11.1.2.2.b)
130	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Insulation Resistance of Windings, Core, Frame & Tank	IEEE C57.12.90 (Clause 10.11)
131	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Insulation Resistance of Windings, Core, Frame & Tank	IS 2026-1 (Clause 10.1.3.j)
132	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Lighting Impulse Test for the Neutral Terminals (LIN)	IEC 60076-03 (Clause 14)
133	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Lighting Impulse Test for the Neutral Terminals (LIN)	IEEE C57.12.90 (Clause 10.3)
134	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Lighting Impulse Test for the Neutral Terminals (LIN)	IS 2026-03 (Clause 13)
135	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Line Terminal AC Withstand Voltage Test (LTAC)	IEC 60076-03 (Clause 12)
136	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Line Terminal AC Withstand Voltage Test (LTAC)	IS 2026-03 (Clause 12)
137	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Magnetic Balance Test/ Magnetising Current	CBIP Pub 317 Section-BB
138	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance Bushings	IEC 60076-01 (Clause 11.1.2.2.a)
139	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Bushings	IEEE C.57.12.90 (Clause 10.10)
140	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Bushings	IS 2026-01 (Clause 10.1.3.b)
141	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Windings	IEC 60076-01 (Clause 11.1.2.2.a)
142	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Windings	IEEE C57.12.90 (Clause 10.10)
143	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Capacitance of Windings	IS 2026-01 (Clause 10.1.3.b)

SCOPE OF ACCREDITATION

Laboratory Name : T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9982 **Page No** 9 of 19

Validity 13/10/2021 to 12/10/2023 **Last Amended on** 26/10/2022

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
144	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of CT Ratio & Polarity	IEC 60076-01 (Clause 11.1.2.1.i)
145	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of CT Ratio & Polarity	IEEE C57.12.00
146	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of CT Ratio & Polarity	IS 2026-01
147	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Bushing	IEC 60076-01 (Clause 10.1.3.b)
148	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Bushings	IEEE 57.12.90 (Clause 10.10)
149	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Bushings	IS 2026-01 (Clause 10.1.3.b)
150	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Winding	IS 2026-01 (Clause 10.1.3.b)
151	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Windings	IEC 60076-01 (Clause 10.1.3.b)
152	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Dissipation Factor of Windings	IEEE C57.12.90 (Clause 10.10)
153	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Load Loss	IEC 60076-01 (Clause 11.4)
154	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Load Loss	IEEE C57.12.90 (Clause 9.3)
155	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Load Loss	IS 2026-01 (Clause 10.4)
156	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Current	IEC 60076-01 (Clause 11.5)
157	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Current	IEEE C57.12.90 (Clause 8.2)
158	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Current	IS 2026-01 (Clause 10.5)
159	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Losses	IEC 60076-01 (Clause 11.5)
160	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of No Load Losses	IS 2026-01 (Clause 10.5)
161	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Short Circuit Impedance	IEC 60076-01 (Clause 6.5)
162	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Short Circuit Impedance	IEEE C57.12.90 (Clause 9)

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	10 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
163	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Short Circuit Impedance	IS 2026-01 (Clause 5.5)
164	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Sound Levels	IEC 60076-01 (Clause 11.1.3.c)
165	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Sound Levels	IEEE C57.12.90 (Clause 13)
166	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Sound Levels	IS 2026-01 (Clause 10.1.3.f)
167	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Voltage Ratio	IEC 60076-01 (Clause 11.3)
168	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Voltage Ratio	IEEE C57.12.90 (Clause 7.3)
169	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Measurement of Voltage Ratio	IS 2026-01 (Clause 10.3)
170	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Power taken by the Fan and Oil Pump Motors	IEC 60076-01 (Clause 10.1.3.d)
171	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Power taken by the Fan and Oil Pump Motors	IEEE C57.12.00 (Table 17)
172	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Power taken by the Fan and Oil Pump Motors	IS 2026-01 (Clause 10.1.3.h)
173	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Sweep Frequency Response Analysis	IEC 60076-01 (Clause 11.1.4.L)
174	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Switching Impulse Test for the Line Terminal (SI)	IEC 60076-03 (Clause 13)
175	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Switching Impulse Test for the Line Terminal (SI)	IEEE C57.12.90 (Clause 10.2)
176	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Switching Impulse Test for the Line Terminal (SI)	IS 2026-03 (Clause 14)
177	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Temperature Rise Test	IEC 60076-01 (Clause 11.1.3.a)
178	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Temperature Rise Test	IEEE C57.12.90 (Clause 11)
179	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Temperature Rise Test	IS 2026-01 (Clause 10.1.2.a)
180	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Test on On-Load Tap Changer	IEC 60076-01 (Clause 11.1.2.1.f)
181	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Test on On-Load Tap Changer	IEEE C57.12.00 (Table 17)

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	11 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
182	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Test on On-Load Tap Changer	IS 2026-01 (Clause 10.1.1.f)
183	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Transient Voltage Transfer Characteristics	IEC 60076-03 (Clause 11.1.4.e)
184	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Transient Voltage Transfer Characteristics	IS 2026-03 (Clause 10.1.3.c)
185	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Winding Resistance	IEC 60076-01 (Clause 11.2)
186	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Winding Resistance	IEEE C57.12.90 (Clause 5.3)
187	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Winding Resistance	IS 2026-01 (Clause 10.2)
188	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer (upto 500 MVA, 765 kV Single Phase & 500 MVA, 400 kV Three Phase)	Zero-Sequence Impedance on Three Phase Transformers	IS 2026-01 (Clause 10.7)
189	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Applied Voltage Test (AV)	IEC-60076-03 (Clause 10)
190	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Applied Voltage Test (AV)	IEEE C57.12.90 (Clause 10.6)
191	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Applied Voltage Test (AV)	IS 2026-03 (Clause 10)
192	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Auxiliary Wiring (AuxW) & Magnetic Circuit Insulation Test	IS 2026-03 (Clause 10)
193	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Auxiliary Wiring (AuxW) & Magnetic Circuit Insulation Test	IEC 60076-03 (Clause 9)
194	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Auxiliary Wiring (AuxW) & Magnetic Circuit Insulation Test	IEEE C.57.12.90 (Clause 10.11)
195	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Chopped Wave Lightning Impulse Test for the Line Terminals (LIC)	IEC 60076-03 (Clause 14)
196	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Chopped Wave Lightning Impulse Test for the Line Terminals (LIC)	IEEE C57.12.90 (Clause 10.3)
197	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Chopped Wave Lightning Impulse Test for the Line Terminals (LIC)	IS 2026-03 (Clause 13)
198	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Determination of Linearity of Reactance	IEC 60076-06 (Clause 7.8.5.3)
199	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Full Wave Lightning Impulse Test for the Line Terminals (LI)	IEC 60076-03 (Clause 14)

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	12 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
200	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Full Wave Lightning Impulse Test for the Line Terminals (LI)	IEC 60076-06 (Clause 7.8)
201	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Full Wave Lightning Impulse Test for the Line Terminals (LI)	IEEE C57.12.90 (Clause 10.3)
202	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Full Wave Lightning Impulse Test for the Line Terminals (LI)	IS 2026-03 (Clause 13)
203	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Harmomics of the Load Current	IEC 60076-06 (Clause 7.8.7)
204	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Harmonics of the Load Current	IEC 60076-01 (Clause 11.1.1)
205	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Harmonics of the Load Current	IEEE C57.12.90 (Clause 13.1.1)
206	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Harmonics of the Load Current	IS 2026-01 (Clause 10.6)
207	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Induced Over Voltage Test (IVW)	IS 2026-03 (Clause 11.2)
208	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Induced Voltage Test with PD Measurement (IVPD)	IEC 60076-03 (Clause 11.3)
209	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Induced Voltage Test with PD Measurement (IVPD)	IEEE C57.12.90 (Clause 10.9)
210	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Induced Voltage Test with PD Measurement (IVPD)	IS 2026-03 (Clause 11.3)
211	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Induced Voltage Withstand Test (IVW)	IEC 60076-06 (Clause 7.8.10.3)
212	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Insulation Resistance of Windings, Core, Frame and Shields	IEC 60076-01 (Clause 11.1.2.2.B)
213	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Insulation Resistance of Windings, Core, Frame and Shields	IEC 60076-06 (Clause 7.8.2)
214	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Insulation Resistance of Windings, Core, Frame and Shields	IEEE C57.12.90 (Clause 10.11)
215	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Insulation Resistance of Windings, Core, Frame and Shields	IS 2026-01 (Clause 10.1.3.j)
216	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Lightning Impulse Test for the Neutral Terminal (LIN)	IEEE C57.12.90 (Clause 10.3)

SCOPE OF ACCREDITATION

Laboratory Name : T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9982 **Page No** 13 of 19

Validity 13/10/2021 to 12/10/2023 **Last Amended on** 26/10/2022

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
217	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Lightning Impulse Test for the Neutral Terminal (LIN)	IS 2026-03 (Clause 13)
218	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Lightning Impulse Test for the Neutral Terminals (LIN)	IEC 60076-03 (Clause 13)
219	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Lightning Impulse Test on for the Neutral Terminal (LIN)	IEC 60076-06 (Clause 7.8)
220	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Line Terminal AC Withstand Voltage Test (LTAC)	IEC 60076-03 (Clause 12)
221	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Line Terminal AC Withstand Voltage Test (LTAC)	IEC 60076-06 (Clause 7.8.10)
222	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Line Terminal AC Withstand Voltage Test (LTAC)	IS 2026-03 (Clause 12)
223	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Capacitance of Bushings	IEC 60076-06 (Clause 7.8.2)
224	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Capacitance of Bushings	IEEE C57.12.90 (Clause 10.10)
225	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Capacitance of Bushings	IS 2026-01 (Clause 10.1.3.b)
226	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Capacitance of Windings	IEC 60076-06 (Clause 7.8.2)
227	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Capacitance of Windings	IEEE C57.12.90 (Clause 10.10)
228	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Capacitance of Windings	IS 2026-01 (Clause 10.1.3.b)
229	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of CT Ratio & Polarity	IEC 60076-01 (Clause 11.1.2.1.i)
230	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of CT Ratio & Polarity	IEEE C57.12.00
231	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of CT Ratio & Polarity	IS 2026-01
232	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Dissipation Factor of Bushings	IEC 60076-06 (Clause 7.8.2)
233	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Dissipation Factor of Bushings	IEEE C57.12.90 (Clause 10.10)
234	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Dissipation Factor of Bushings	IS 2026-01 (Clause 10.1.3.b)
235	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Dissipation Factor of Windings	IEC 60076-06 (Clause 7.8.2)

SCOPE OF ACCREDITATION

Laboratory Name : T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9982 **Page No** 14 of 19

Validity 13/10/2021 to 12/10/2023 **Last Amended on** 26/10/2022

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
236	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Dissipation Factor of Windings	IEEE C57.12.90 (Clause 10.10)
237	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Dissipation Factor of Windings	IS 2026-01 (Clause 10.1.3.b)
238	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Losses	IEC 60076-06 (Clause 7.8.6)
239	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Reactance	IEC 60076-06 (Clause 7.8.5)
240	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Sound Levels	IEC 60076-06 (Clause 7.8.12)
241	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Sound Levels	IS 2026-01 (Clause 10.1.3.f)
242	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Stress and Strain	IEC 60076-06 (Clause 7.8.13)
243	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Vibration in Reactors	IEC 60076-06 (Clause 7.8.13)
244	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Winding Resistance	IEC 60076-01 (Clause 11.2)
245	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Winding Resistance	IEC 60076-06 (Clause 7.8.2)
246	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Winding Resistance	IEEE C57.12.90 (Clause 5.3)
247	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurement of Winding Resistance	IS 2026-01 (Clause 10.2)
248	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurements of Sound Levels	IEC 60076-01 (Clause 11.1.3.c)
249	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Measurements of Sound Levels	IEEE C57.12.90 (Clause 13)
250	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Sweep Frequency Response Analysis (SFRA)	IEC 60076-01 (Clause 11.1.4.L)
251	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Switching Impulse Test on Line Terminal (SI)	IEC 60076-03 (Clause 13)
252	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Switching Impulse Test on Line Terminal (SI)	IEC 60076-06 (Clause 7.8.10.6)
253	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Switching Impulse Test on Line Terminal (SI)	IEEE C57.12.90 (Clause 10.2)
254	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Switching Impulse Test on Line Terminal (SI)	IS 2026-03 (Clause 14)

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	15 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
255	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Temperature Rise Test	IEC 60076-01 (Clause 10.1.2.a)
256	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Temperature Rise Test	IEC 60076-06 (Clause 7.8.14)
257	ELECTRICAL- INDUCTORS & TRANSFORMERS	Reactors (upto 110 MVAr, 765 kV Single Phase & 125 MVAr, 420 kV Three Phase)	Temperature Rise Test	IEEE C.57.12.90 (Clause 11)
258	ELECTRICAL- INDUCTORS & TRANSFORMERS	UPTO 110 MVAr, 765 kV SINGLE PHASE & 125 MVAr, 420 kV THREE PHASE	TEMPERATURE RISE TEST	IS 2026-01 Clause No:10.1.2.a
259	ELECTRICAL- INDUCTORS & TRANSFORMERS	UPTO 110 MVAr, 765 kV SINGLE PHASE & 125 MVAr, 420 kV THREE PHASE	INDUCED VOLTAGE WITHSTAND TEST (IVW)	IEC 60076-03 Clause No: 11.2
260	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Breakdown Voltage of Oil (BDV)	IEC 60156 (Clause 9)
261	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Breakdown Voltage of Oil (BDV)	IS 6792 (Clause 11)
262	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dielectric Dissipation Factor (TAN Delta)	IEC 60247 (Clause 12)
263	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dielectric Dissipation Factor (TAN Delta)	IS 16086
264	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolve Gas Analysis - Acetylene (C2H2)	IEC 60567
265	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolve Gas Analysis - Ethylene (C2H4)	ASTM D3612
266	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Acetylene (C2H2)	ASTM D3612
267	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Acetylene (C2H2)	IEC 60599
268	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Acetylene (C2H2)	IEEE C57.104
269	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Carbon Dioxide (CO2)	ASTM D3612

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	16 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
270	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Carbon Dioxide (CO2)	IEC 60567
271	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Carbon Dioxide (CO2)	IEC 60599
272	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Carbon Dioxide (CO2)	IEEE C57.104
273	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Carbon Monoxide (CO)	ASTM D3612
274	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Carbon Monoxide (CO)	IEC 60567
275	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Carbon Monoxide (CO)	IEC 60599
276	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Carbon Monoxide (CO)	IEEE C57.104
277	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Ethane (C2H6)	IEC 60567
278	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Ethane (C2H6)	IEEE C57.104
279	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Ethylene (C2H4)	IEC 60567
280	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Ethylene (C2H4)	IEC 60599
281	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Ethylene (C2H4)	IEEE C57.104
282	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Hydrogen (H2)	ASTM D3612
283	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Hydrogen (H2)	IEC 60567

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	17 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
284	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Hydrogen (H2)	IEC 60599
285	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Hydrogen (H2)	IEEE C57.104
286	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Hydrogen Ethane (C2H6)	ASTM D3612
287	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Methane (CH4)	ASTM D3612
288	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Methane (CH4)	IEC 60567
289	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Methane (CH4)	IEC 60599
290	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis - Methane (CH4)	IEEE C57.104
291	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Dissolved Gas Analysis -Ethane (C2H6)	IEC 60599
292	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Inter Facial Tension (IFT)	ASTM D0971
293	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Inter Facial Tension (IFT)	IS 6104
294	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Moisture Content in Oil (ppm)	IEC 60814
295	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Moisture Content in Oil (ppm)	IS 13567
296	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Particle Count (PCM)	ISO 11171
297	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Particle Count (PCM)	ISO 4402

SCOPE OF ACCREDITATION

Laboratory Name :	T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9982	**Page No**	18 of 19
Validity	13/10/2021 to 12/10/2023	**Last Amended on**	26/10/2022

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
298	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Specific Resistance (Resistivity)	IEC 60247 (Clause 14)
299	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Transformer Oils (Mineral Oil)	Specific Resistance (Resistivity)	IS 6103 (Clause 23)
300	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	A. C. Magnetization	ASTM A343/A343M
301	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	A. C. Magnetization	IEC 60404-2 (COR1: 2018)
302	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	A. C. Magnetization	IEC 60404-8-7
303	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	A. C. Magnetization	IS 649
304	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	A.C. Magnetization	IS 3024
305	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Ageing characteristic of CRGO Silicone steel for Specific core loss for upto 250 Degree centigrade for 24 hours	IS 649
306	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Bend test	IS 649
307	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Specific Core Loss	ASTM A343/A343M
308	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Specific Core Loss	IEC 60404-2 (COR1:2018)
309	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Specific core loss	IEC 60404-8-7
310	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Specific Core Loss	IS 3024
311	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Specific Core Loss	IS 649
312	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Stacking Factor	IEC 60404-13
313	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Stacking Factor	IEC 60404-8-7
314	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Stacking Factor	IS 3024

SCOPE OF ACCREDITATION

Laboratory Name : T-3 TRANSFORMER TESTING LABORATORY POWER TRANSFORMER DIVISION, 29-32, NEW INDUSTRIAL AREA AKVN 01, MANDIDEEP, RAISEN, MADHYA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9982 **Page No** 19 of 19

Validity 13/10/2021 to 12/10/2023 **Last Amended on** 26/10/2022

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
315	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Stacking Factor	IS 649
316	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Surface Insulation Resistivity	ASTM A717/A717M
317	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Surface Insulation Resistivity	IEC 60404-11
318	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Surface Insulation Resistivity	IEC 60404-8-7
319	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Surface Insulation Resistivity	IS 3024
320	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Surface Insulation Resistivity	IS 649
321	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Thickness	IEC 60404-8-7
322	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Thickness	IS 3024
323	ELECTRICAL- MAGNETIC MATERIALS	CRGO electrical steel strips	Thickness	IS 649