National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : ELECTRICAL TEST LABORATORY, CTR MANUFACTURING INDUSTRIES PRIVATE LIMITED, E-79, MIDC AMBAD, NASHIK, MAHARASHTRA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9058 **Page No** 1 of 4

Validity 29/12/2022 to 28/12/2024 **Last Amended on** -

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	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Applied Voltage Test	IEC 60214-1 (Clause 5.2.8.8, 7.2.5.8)
2	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Applied Voltage Test	IS 8468 -1 (Clause 5.2.8.8, 7.2.5.8)
3	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Auxiliary Circuit Insulation Test	IEC 60214-1 (Clause 5.3.4, 6.3.2, 8.3.2)
4	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Auxiliary Circuit Insulation Test	IS 8468 -1 (Clause 5.3.4, 6.3.2, 8.3.2)
5	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Breaking Capacity Test	IEC 60214-1 (Clause 5.2.3.3)
6	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Breaking Capacity Test	IS 8468 -1 (Clause 5.2.3.3)
7	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Chopped Wave Lightning Impulse	IEC 60214-1 (Clause 5.2.8.6, 7.2.5.6)
8	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Chopped Wave Lightning Impulse	IS 8468-1(Clasuse 5.2.8.6,7.2.5.6)
9	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Full Wave Lightning Impulse Test	IEC 60214-1 (Clause 5.2.8.5, 7.2.5.5)
10	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Full Wave Lightning Impulse Test	IS 8468 -1 (Clause 5.2.8.5, 7.2.5.5)
11	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Mechanical Endurance Test	IS 8468 -1 (Clause 5.2.6.2, 7.2.4.1)
12	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Mechanical Endurance Test. Final Measurement: Visual Examination	IEC 60214-1 (Clause 5.2.6.2, 7.2.4.1)
13	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Mechanical Load Test of Drive	IS 8468 -1 (Clause 6.2.1, 8.2.1)
14	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Mechanical Load Test of Drive Mechanism. Final Measurement: Visual Examination	IEC 60214-1 (Clause 6.2.1, 8.2.1)
15	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Mechanical Test of Motor Drive Mechanism	IS 8468-1(Clasue 6.3.1,8.3.1)
16	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Mechanical Test of Motor Drive Mechanism for Tap Changer	IEC 60214-1 (Clause 6.3.1, 8.3.1)
17	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Mechanical Test of Tap Changer	IEC 60214-1 (Clause 5.3.2)

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Certificate Number TC-9058 **Page No** 2 of 4

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18	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Mechanical Test of Tap Changer	IS 8468-1(Clause 5.3.2)
19	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Operation under Maximum Allowable Static Pressure	IEC 60214-1 (Clause 5.2.6.4.2)
20	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Operation Under Maximum Allowable Static Pressure	IS 8468-1(Clasuse 5.2.6.4.2)
21	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Overrun Test of Motor Drive Mechanism	IEC 60214-1 (Clause 6.2.2, 8.2.2)
22	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Overrun Test of Motor Drive Mechanism	IS 8468 -1 (Clause 6.2.2, 8.2.2)
23	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Partial Discharge	IEC 60214-1 (Clause 5.2.8.9, 7.2.5.9)
24	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Partial Discharge	IS 8468-1(Clause5.2.8.9,7.2.5.9)
25	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Pressure Test of Tapchanger	IS 8468-1(Clause 5.2.6.5.5.35.7.2.4.2.7.3.2)
26	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Pressure Tests of Tap Changer	IEC 60214-1 (Clause 5.2.6.5, 5.3.5, 7.2.4.2, 7.3.2)
27	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Sequence Test	IEC 60214-1 (Clause 5.2.6.3)
28	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Sequence Test	IS 8468-1 (Clause 5.2.6.3)
29	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Service Duty Test	IEC 60214-1 (Clause 5.2.3.2.2)
30	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Service Duty Test	IS 8468 -1 (Clause 5.2.3.2.2)
31	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Short Circuit Current Test	IEC 60214-1 (Clause 5.2.4, 7.2.3)
32	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Short Circuit Current Test	IS 8468-1 (Clause 5.2.4, 7.2.3)
33	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Switching Impulse Test	IEC 60214-1 (Clause 5.2.8.7, 7.2.5.7)
34	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Switching Impulse Test	IS 8468-1(Clasue 5.2.8.7,7.2.5.7)
35	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Tan Delta	IEC 60250 (Clause 6)
36	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Temperature Rise of Contacts	IEC 60214-1 (Clause 5.2.2, 7.2.2)

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Certificate Number TC-9058 **Page No** 3 of 4

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37	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Temperature Rise of Contacts	IS 8468 -1 (Clause.5.2.2, 7.2.2)
38	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Tightness Test	IEC 60214-1 (Clause 5.2.7.2, 5.2.7.3)
39	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Tightness Test	IS 8468-1(Clause 5.2.7.2,5.2.7.3)
40	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Transition Impedance Test	IEC 60214-1 (Clause 5.2.5)
41	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Transition Impedance Test	IS 8468 -1 (Clause 5.2.5)
42	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Vacuum Test	IEC 60214-1 (Clause 5.2.6.5, 5.3.5, 7.2.4.2, 7.3.2)
43	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit) Tap Changers from 11 kV to 300 kV Class	Vacuum Test	IS 8468-1(Clause 5.2.6.5,5.3.5.7.2.4.32,7.3.2)
44	ELECTRICAL- INDUCTORS & TRANSFORMERS	On Load and De-energized (Off Circuit)Tap Changers from 11 kV to 300 kV Class	Contact Resistance Test	IS:12448 Part 2/Sec 2
45	ELECTRICAL- INDUCTORS & TRANSFORMERS	Transformer/ Reactor Conservator Isolation Valve	Auxiliary Circuit Insulation Test	IEC 60076-22-1 (Clause 7.10.5.2.2)
46	ELECTRICAL- INDUCTORS & TRANSFORMERS	Transformer/ Reactor Conservator Isolation Valve	Flow Rate Test	IEC 60076-22-1 (Clause 7.10.5.3.3)
47	ELECTRICAL- INDUCTORS & TRANSFORMERS	Transformer/ Reactor Conservator Isolation Valve	Leakage Test	IEC 60076-22-1 (Clause 7.10.5.2.1)
48	ELECTRICAL- INDUCTORS & TRANSFORMERS	Transformer/ Reactor Protection System	Auxiliary Circuit Insulation Test	IEC 60076-22-1 (Clause 7.10.5.2.2)
49	ELECTRICAL- INDUCTORS & TRANSFORMERS	Transformer/ Reactor Protection System	Leakage Test	IEC 60068-2-17 (Clause 4)
50	ELECTRICAL- TRANSMISSION LINE EQUIPMENT & ACCESSORIES	Insulated Bushings upto 1.1 kV Class	Dry Lightning Impulse Voltage Withstand Test	BS EN 50387 (Clause 3.5)
51	ELECTRICAL- TRANSMISSION LINE EQUIPMENT & ACCESSORIES	Insulated Bushings from 1 kV to 36 kV Class	Dry Lightning Impulse Voltage Withstand Test	IEC 60137 (Clause 8.4)
52	ELECTRICAL- TRANSMISSION LINE EQUIPMENT & ACCESSORIES	Insulated Bushings from 1 kV to 36 kV Class	Dry Power-Frequency Withstand Test	IEC 60137 (Clause 8.2)

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53	ELECTRICAL-TRANSMISSION LINE EQUIPMENT & ACCESSORIES	Insulated Bushings from 1 kV to 36 kV Class	Measurement of Partial Discharge Quantity	IEC 60137 (Clause 9.5)
54	ELECTRICAL-TRANSMISSION LINE EQUIPMENT & ACCESSORIES	Insulated Bushings from 1 kV to 36 kV Class	Temperature Rise Test	IEC 60137 (Clause 8.8)
55	ELECTRICAL-TRANSMISSION LINE EQUIPMENT & ACCESSORIES	Insulated Bushings from 1 kV to 36 kV Class	Tightness Test at Flange or Fixing Device	IEC 60137 (Clause 9.10)
56	ELECTRICAL-TRANSMISSION LINE EQUIPMENT & ACCESSORIES	Insulated Bushings from 1 kV to 36 kV Class	Verification of Dimensions	IEC 60137 (Clause 8.14)
57	ELECTRICAL-TRANSMISSION LINE EQUIPMENT & ACCESSORIES	Insulated Bushings upto 1.1 kV Class	Dry Power-Frequency Withstand Test	BS EN 50387 (Clause 3.5)