National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : IMPULSE TEST LAB, SHREE ABIRAMI ENGGINEERING WORKS, SURVEY NO 22/1 & 22/2, SH 113, SRIPERUMPUDUR, KANCHIPURAM, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-7608 **Page No** 1 of 8

Validity 25/07/2021 to 24/07/2023 **Last Amended on** 15/11/2021

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	Current Transformer (1-5000A)	Accuracy	Cl. No. 7.2.6 & 7.3.5 of IS 16227:Part 1, IS 16227:Part 2;Cl. No. 7.2.6 & 7.3.5 of IEC 61869:Part 1,IEC 61869:Part 2
2	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Chopped Impulse Voltage Withstand Test on primary	"Cl. No. 7.4.1 & 7.4.2 of IS 16227-1, Cl. No. 7.4.1 & 7.4.2 of IEC 61869-1, 61869-2
3	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Composite error of protective current transformer	Cl. No. 7.2.6.203 & 7.3.5.203 of IS 16227-2;Cl. No. 7.2.6.202 & 7.3.5.203 of IEC 61869-2
4	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Determination of Instrument Security Factor Test	"Cl. No. 7.5.2 of IS 16227-2 Cl. No. 7.3.5.201 of IEC – 61869-Part-2
5	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Determination of secondary winding resistance.	"Cl. No. 7.3.201 of IS 16227-2 Cl. No. 7.3.201 of IEC 61869-2
6	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Inter turn over voltage	"Cl. No. 7.3.204 of IS 16227-2 Cl. No. 7.3.204 of IEC 61869-2
7	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Measurement of capacitance and dielectric dissipation factor	Cl. No. 7.4.3 of IS16227:Part 2; Cl.No. 7.4.3. of IEC 61869:Part 2
8	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Power frequency voltage withstand test between sections	Cl. No. 7.3.3 of IS 16227-1;Cl. No, 7.3.1, 7.3.3 & 7.3.4 of IEC 61869-1;Cl. No, 7.3.1, 7.3.3 & 7.3.4 of IEC 61869-2
9	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Power frequency voltage withstand test on primary terminals	"Cl. No. 7.3.1 of IS 16227-1 Cl. No. 7.3.1 of IS 16227-2
10	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Power frequency voltage withstand test on secondary terminals	"Cl. No. 7.3.4 of IS 16227-1 Cl. No. 7.3.4 of IS 16227-2
11	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Rated knee point e.m.f. and exciting current at rated knee point e.m.f.	"Cl. No. 7.3.203 of IEC 61869-2, Cl. No. 7.3.203 of IS 16227-2"
12	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Temperature rise	Cl. No. 7.2.2 of IS 16227-1, Cl. No. 7.2.2 of IS 16227-2;Cl. No. 7.2.2 of IEC 61869-1, Cl. No. 7.2.2 of IEC 61869-2
13	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Turns ratio error	Cl. No. 7.3.5.206 of IS 16227:Part 2;Cl. No. 7.3.5.206 of IEC 61869:Part 2

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14	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer(1-5000A)	Lightning Impulse Voltage Test on primary terminals	Cl. No. 7.2.3.2 of IS 16227-1 ;Cl. No. 7.2.3 of IS 16227-2;Cl. No. 7.2.3.2 of IEC 61869-1, 61869-2
15	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current transformers (1-5000A)	Verification of markings	Cl. No. 7.3.6 of IS-16227-1;Cl. No. 7.3.6 of IS-16227-2;Cl. No. 7.3.6 of IEC 61869-1, IEC-61869-2
16	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers 16kVAto 2500kVA	Permissible flux density and over fluxing	IS:1180(Part 1) Cl.no.6.9,7.9,8.9
17	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential Transformer(1KV -145KV)	Chopped Impulse Voltage Withstand Test on primary terminals	Cl. No. 7.4.1 & 7.4.2 of IS 16227-1 ;Cl. No. 7.4.1 & 7.4.2 of IEC 61869-1:, 61869-3
18	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential Transformers(1KV-145KV)	Power Frequency Voltage between sections	Cl.No.7.3.4 of IS 16227-3; Cl.No.7.3.4 of IEC 61869-3
19	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV - 145KV)	Verification of markings	Cl. No. 7.3.6 of IS 16227-1, Cl. No. 7.3.6 of IS 16227-3, Cl. No. 7.3.6 of IEC 61869-1
20	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV - 145KV)	Lightning Impulse Voltage Test on primary terminals	Cl. No. 7.2.3.2 of IS 16227-1;Cl. No. 7.2.3 of IS 16227-2; Cl. No. 7.2.3.2 of IEC 61869-1, 61869-2
21	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV - 145KV)	Power frequency voltage withstand on secondary winding	"Cl. No. 7.3.4 of IS 16227-1, Cl. No. 7.3.4 of IEC 61869-1
22	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV -145KV)	Temperature rise	Cl. No. 7.2.2 of IS 16227-1, Cl. No. 7.2.2 of IS 16227-3; Cl. No. 7.2.2 of IEC 61869-1: Cl. No. 7.2.2 of IEC 61869-3
23	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV -145KV)	Separate source voltage withstand/ Common mode power frequency dry withstand on primary terminals	"Cl. No. 7.3.1.302 of IS 16227-3, Cl. No. 7.3.1.302 of IEC 61869-3
24	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV-145KV)	Test for Accuracy	Cl. No. 7.2.6 & 7.3.5 of IS 16227-1; Cl. No. 7.2.6 & 7.3.5 of IS 16227-3 ; Cl. No. 7.2.6 & 7.3.5 of IEC 61869-1; Cl. No. 7.2.6 & 7.3.5 of IEC 61869-3
25	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV-145KV)	Induced over voltage withstand/ Differential mode AC voltage on primary terminal	"Cl. No. 7.3.1.303 of IS 16227-3, Cl. No. 7.3.1.303 of IEC 61869-3"

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26	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV-145KV)	Measurement of capacitance and dielectric dissipation factor	Cl. No. 7.4.3 of IS 16227: (Part 3): Cl.No. 7.4.3 of IEC 61869: (Part 3)
27	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Check of Voltage Vector Relationship / Phase displacement	IS 1180: Part 1: (Clause No. 21.2.b); IS 2026: (Part 1) , (Clause 10.3), IEC 60076: (Part 1): (Edition 3.0): (Clause 11.3), CBIP Manual Pub.No.317/ (Sec. BB 3.2)
28	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Induced AC voltage test/Partial discharge/Line terminal AC LTAC	IS 2026 (Part 3): IEC-60076-3 :AMD1
29	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Paint Adhesion	"IS 1180 -Part 1, Cl. No. 21.4d ASTM D 3359"
30	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Temperature-Rise Test	IS 1180: (Part 1): CL No.21.3.b; IS 2026: (Part 2): IEC 60076: (Part 2): CBIP Manual Pub.no.317,(Sect BB 3.8):
31	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Vacuum / Air Pressure (Type test)	IS: 1180 (Part 1) Cl.no.21.3.d, 21.5.1.1, 21.5.2.1, 21.5.3.1
32	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	BDV in the transformer oil	IS 1180 (Part 1): Cl. No. 21.4 e, IS 335: Cl No.3.5) IS 2026 (Part I)
33	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Determination of Capacitance and Dissipation Factor(Tan delta)	IS-2026 Part1: (Clause 10.1.3.j); IEC 60076:Part 1:(Edition 3.0):(Clause 11.1.4.d); CBIP Manual Pub.No.317 (Sec.BB 3.16)
34	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Determination of sound levels	IS 2026 (Part 10): IEC-60076-10 : (Edition 2.0) CBIP Manual Pub.no.317 (Section BB 3.11)
35	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Lightning Impulse Test	IS 2026(Part 3): (Cl.no 13);IS 2071(Part-1): (Cl.no 7);IEC-60076-3 :3+AMD1: (Cl.no. 13.2);IEC-60076-4 :(Edition 1.0) (Cl.no. 7);CBIP Manual Pub.No.317 (Sec. BB) 3.7.4)
36	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of frequency response (FRA)	IEC 60076-18: CBIP Manual Pub.No.317 (Sec. BB 3.22)
37	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Magnetizing current at low voltage	IS 1180 (Part – 1) CBIP Manual Pub.No.317 (Sec. BB 3.23)

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Certificate Number	TC-7608	**Page No**	4 of 8
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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
38	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of No Load Loss and Current	IS 1180 (Part – 1) Clause no. 21.2c & 21.2d; IS 2026 (Part 1): (Cl.no.10.5) ; IEC60076-1(Edition 3.0) : (Cl.no 11.5); CBIP Manual Pub.No.317 (Sec. BB 3.3)
39	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Short circuit Impedance and Load Loss	IS 1180 (Part – 1), IS 2026 (Part 1): (Clause 10.4); IEC 60076-1 (Edition 3.0): (Clause 11.4), CBIP Manual Pub.No.317 (Sec. BB 3.4)
40	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Zero-Sequence Impedance(s) on Three-phase Transformers	IS 2026 (Part 1): (Clause 10.7); IEC60076-1 (Edition 3.0): (Cl.11.6) CBIP Manual Pub.No.317 (Sec. BB 3.10)
41	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Moisture Content in the transformer oil	IS 1180 (Part 1), Cl. No. 21.4 e, IS 335: Cl. No. 3.5; IS 2026 (Part I) IS 13567
42	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	No load current at 112.5 percent voltage	IS:1180 (Part 1) Cl.no.21.4.c
43	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Oil leakage (routine test)	"IS:1180 (Part 1) Cl.no.21.2.j: CBIP publication no.: 317 "
44	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Pressure Test (routine test)	"IS:1180 (Part 1) Cl.no.21.2.h, 21.5.1.2, 21.5.2.1, 21.5.3.2: CBIP publication no.: 317 "
45	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Separate Source AC withstand Voltage Test/Applied voltage Test	IS 2026 (Part 3): (Cl.no.11); IEC-60076-3 : (Edition 3.0) (Cl.no. 10); CBIP Manual Pub.No.317 (Sec. BB 3.7.5)
46	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Switching Impulse Test	IS 2026: (Part 3):(Cl.No.15); IS 2071: (Part 1): (Cl.No.8); IEC 60076 (Part 3):+AMD 1: (Cl.no. 8); CBIP Manual Pub.No.317 (Sec. BB 3.14)
47	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Test with lightning impulse chopped on the tail	IS 2026(Part 3): (Cl.no 14);IS 2071(Part-1): (Cl.no 7);IEC-60076-3 :AMD1: (Cl.no. 13.3);IEC-60076-4 :(Edition 1.0) (Cl.no. 7);CBIP Manual Pub.No.317(Sec. BB 3.14)
48	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Unbalanced current	CBIP publication no. GP 317

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49	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Magnetic Balance test on 3 phase transformer	CBIP Manual Pub.No.317 (Sec. BB 3.17):
50	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Insulation Resistance and Polarization Index	IS 1180 (Part – 1) ;IS 2026 (Part 1): (Clause 10.1.3.j); IEC60076-1 (Edition 3.0) : (Clause 11.1.4.h);CBIP Manual Pub.No.317 (Sec. BB 3.5);
51	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of moisture content of solid insulation	CBIP Manual Pub.No.317:
52	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of the Harmonics of the No-load Current	IS 2026(Part 1): (Cl.no.10.6); CBIP Manual Pub.No.317
53	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Voltage Ratio	IS 1180: (Part 1):(Cl.No. 21.2b); IS 2026: (Part 1): (Clause 10.3); IEC 60076: (Part 1): (Edition 3.0): (Clause 11.3); CBIP Manual Pub.No.317 (Sec.BB 3.2)
54	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Winding Resistance	IS 1180 (Part -1),Clause 21.2a;IS 2026 (Part 1): (Clause 10.2); IEC 60076-1 (Edition 3.0): (Clause 11.2); CBIP Manual Pub.No.317 (Sec. BB 3.1);
55	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Tests on On-Load Tap-Changers	IS 2026 (Part 1): (Clause 10.8); IEC60076-1 (Edition 3.0): (Clause 11.7),CBIP Manual Pub.No.317 (Sec. BB 3.6)

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Site Facility				
1	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Accuracy	Cl. No. 7.2.6 & 7.3.5 of IS 16227:Part 1, IS 16227:Part 2;Cl. No. 7.2.6 & 7.3.5 of IEC 61869:Part 1,IEC 61869:Part 2
2	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Determination of secondary winding resistance.	"Cl. No. 7.3.201 of IS 16227-2 Cl. No. 7.3.201 of IEC 61869-2
3	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Measurement of capacitance and dielectric dissipation factor	Cl. No. 7.4.3 of IS16227:Part 2; Cl.No. 7.4.3. of IEC 61869:Part 2
4	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Rated knee point e.m.f. and exciting current at rated knee point e.m.f.	"Cl. No. 7.3.203 of IEC 61869-2, Cl. No. 7.3.203 of IS 16227-2"
5	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current Transformer (1-5000A)	Turns ratio error	Cl. No. 7.3.5.206 of IS 16227:Part 2;Cl. No. 7.3.5.206 of IEC 61869:Part 2
6	ELECTRICAL- INDUCTORS & TRANSFORMERS	Current transformers (1-5000A)	Verification of markings	Cl. No. 7.3.6 of IS-16227-1;Cl. No. 7.3.6 of IS-16227-2;Cl. No. 7.3.6 of IEC 61869-1, IEC-61869-2
7	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV - 145KV)	Verification of markings	Cl. No. 7.3.6 of IS 16227-1, Cl. No. 7.3.6 of IS 16227-3, Cl. No. 7.3.6 of IEC 61869-1
8	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV-145KV)	Test for Accuracy	Cl. No. 7.2.6 & 7.3.5 of IS 16227-1; Cl. No. 7.2.6 & 7.3.5 of IS 16227-3 ; Cl. No. 7.2.6 & 7.3.5 of IEC 61869-1; Cl. No. 7.2.6 & 7.3.5 of IEC 61869-3
9	ELECTRICAL- INDUCTORS & TRANSFORMERS	Potential/ Voltage Transformer(1KV-145KV)	Measurement of capacitance and dielectric dissipation factor	Cl. No. 7.4.3 of IS 16227: (Part 3): Cl.No. 7.4.3 of IEC 61869: (Part 3)
10	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Check of Voltage Vector Relationship / Phase displacement	IS 1180: Part 1: (Clause No. 21.2.b); IS 2026: (Part 1) , (Clause 10.3), IEC 60076: (Part 1): (Edition 3.0): (Clause 11.3), CBIP Manual Pub.No.317/ (Sec. BB 3.2)
11	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Temperature-Rise Test	IS 1180: (Part 1): CL No.21.3.b; IS 2026: (Part 2): IEC 60076: (Part 2): CBIP Manual Pub.no.317,(Sect BB 3.8):

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12	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Vacuum / Air Pressure (Type test)	IS: 1180 (Part 1) Cl.no.21.3.d, 21.5.1.1, 21.5.2.1, 21.5.3.1
13	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Determination of Capacitance and Dissipation Factor(Tan delta)	IS-2026 Part1: (Clause 10.1.3.j); IEC 60076:Part 1:(Edition 3.0):(Clause 11.1.4.d); CBIP Manual Pub.No.317 (Sec.BB 3.16)
14	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Determination of sound levels	IS 2026 (Part 10): IEC-60076-10 : (Edition 2.0) CBIP Manual Pub.no.317 (Section BB 3.11)
15	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of frequency response (FRA)	IEC 60076-18: CBIP Manual Pub.No.317 (Sec. BB 3.22)
16	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Magnetizing current at low voltage	IS 1180 (Part – 1) CBIP Manual Pub.No.317 (Sec. BB 3.23)
17	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of No Load Loss and Current	IS 1180 (Part – 1) Clause no. 21.2c & 21.2d; IS 2026 (Part 1): (Cl.no.10.5) ; IEC60076-1(Edition 3.0) : (Cl.no 11.5); CBIP Manual Pub.No.317 (Sec. BB 3.3)
18	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Short circuit Impedance and Load Loss	IS 1180 (Part – 1), IS 2026 (Part 1): (Clause 10.4); IEC 60076-1 (Edition 3.0): (Clause 11.4), CBIP Manual Pub.No.317 (Sec. BB 3.4)
19	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Zero-Sequence Impedance(s) on Three-phase Transformers	IS 2026 (Part 1): (Clause 10.7); IEC60076-1 (Edition 3.0): (Cl.11.6) CBIP Manual Pub.No.317 (Sec. BB 3.10)
20	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	No load current at 112.5 percent voltage	IS:1180 (Part 1) Cl.no.21.4.c
21	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Oil leakage (routine test)	"IS:1180 (Part 1) Cl.no.21.2.j: CBIP publication no.: 317 "
22	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Pressure Test (routine test)	"IS:1180 (Part 1) Cl.no.21.2.h, 21.5.1.2, 21.5.2.1, 21.5.3.2: CBIP publication no.: 317 "
23	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Separate Source AC withstand Voltage Test/Applied voltage Test	IS 2026 (Part 3): (Cl.no.11); IEC-60076-3 : (Edition 3.0) (Cl.no. 10); CBIP Manual Pub.No.317 (Sec. BB 3.7.5)

SCOPE OF ACCREDITATION

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Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-7608	**Page No**	8 of 8
Validity	25/07/2021 to 24/07/2023	**Last Amended on**	15/11/2021

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
24	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Unbalanced current	CBIP publication no. GP 317
25	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Magnetic Balance test on 3 phase transformer	CBIP Manual Pub.No.317 (Sec. BB 3.17):
26	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Insulation Resistance and Polarization Index	IS 1180 (Part – 1) ;IS 2026 (Part 1): (Clause 10.1.3.j); IEC60076-1 (Edition 3.0) : (Clause 11.1.4.h);CBIP Manual Pub.No.317 (Sec. BB 3.5);
27	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of moisture content of solid insulation	CBIP Manual Pub.No.317:
28	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of the Harmonics of the No-load Current	IS 2026(Part 1): (Cl.no.10.6); CBIP Manual Pub.No.317
29	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Voltage Ratio	IS 1180: (Part 1):(Cl.No. 21.2b); IS 2026: (Part 1): (Clause 10.3); IEC 60076: (Part 1): (Edition 3.0): (Clause 11.3); CBIP Manual Pub.No.317 (Sec.BB 3.2)
30	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Measurement of Winding Resistance	IS 1180 (Part -1),Clause 21.2a;IS 2026 (Part 1): (Clause 10.2); IEC 60076-1 (Edition 3.0): (Clause 11.2); CBIP Manual Pub.No.317 (Sec. BB 3.1);
31	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformer 2.5MVA to 315 MVA / 3 phase 400 kV class Distribution Transformers 16kVAto 2500kVA	Tests on On-Load Tap-Changers	IS 2026 (Part 1): (Clause 10.8); IEC60076-1 (Edition 3.0): (Clause 11.7),CBIP Manual Pub.No.317 (Sec. BB 3.6)