

Laboratory **ABB Dry Transformers Testing Laboratory, 25 & 26 (Alindra),  
Manjusar G.I.D.C., Savli, Vadodara, Gujarat**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6322**

Page 1 of 2

Validity **27.09.2017 to 26.09.2019**

Last Amended on **05.11.2019**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
-----	----------------------------	-------------------------	---	--

**ELECTRICAL TESTING**

I.	<b>TRANSFORMERS AND REACTORS</b>			
1.	<b>Dry Type Power Transformer (50 kVA to 10000 kVA, 33 kV)</b>	Voltage Ratio	IS 11171:1985, Cl.13.2 (b) IEC 60076 (Part 11), Cl. 16	0.8 to 300
		Winding Resistance	IS 11171:1985, Cl. 13.2 (a) IEC 60076 (Part 11) Cl. 15	100 μΩ to 100 Ω
		Vector Group	IS 11171:1985, Cl.13.2 (b) IEC 60076 (Part 11), Cl. 16	Qualitative
		Insulation Resistance	IS 2026 (Part 1): 2001 Cl. 16.6 IS 11171:1985 IEC 60076 (Part 1) Cl. 11.1.2.2 (b)	10 MΩ to 982 GΩ (250 Vdc to 5000 Vdc)
		Separate Source AC High Voltage Withstand Test	IS 11171:1985, Cl. 14 IEC 60076 (Part 11) Cl. 19	1 kV to 150 kV
		Induced Over Voltage Withstand	IS 11171:1985, Cl. 15 IEC 60076 (Part 11) Cl. 20	100 V to 36 kV
		No Load Loss and Excitation (No Load) Current	IS 11171:1985, Cl. 13.2 (d) IEC 60076 (Part 11) Cl. 18	7.5 W to 30 kW
		Load Loss Short Circuit Impedance	IS 11171:1985, Cl. 13.2 (c) IEC 60076 (Part 11) Cl. 17	7.5 W to 80 kW
		Zero Sequence Impedance	IS 2026 (Part 1):2001, Cl.16.10 IEC 60076 (Part 1) Cl. 11.1.4 (f) IS 11171:1985 IEC 60076 (Part 11)	1 % to 30 %
		Temperature Rise	IS 11171:1985, Cl. 17 IEC 60076 (Part 11), Cl. 23	Ambient to 150 °C

**Nand Kumar  
Convenor**

**Battal Singh  
Program Manager**

**Laboratory**                      **ABB Dry Transformers Testing Laboratory, 25 & 26 (Alindra),  
Manjusar G.I.D.C., Savli, Vadodara, Gujarat**

**Accreditation Standard**    **ISO/IEC 17025: 2005**

**Certificate Number**        **TC-6322**

**Page 2 of 2**

**Validity**                        **27.09.2017 to 26.09.2019**

**Last Amended on 05.11.2019**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Full Wave Lightning Impulse	IS 11171:1985, Cl. 16 IEC 60076 (Part 11) Cl. 21	45 kV <sub>pk</sub> to 300 kV <sub>pk</sub>
		No Load Current Harmonics	IS 2026 (Part 1): 2001 Cl. 16.13 IEC 60076 (Part 1) Cl. 11.6	1 <sup>st</sup> to 50 <sup>th</sup> order harmonic
		Acoustic Noise Level	IEC 60076-10	50 dBA to 100 dBA
		Magnetic Balance Magnetizing Current	SOP DTP001-12, Issue date 20-11-2016, Rev. A	Upto 415 V, 50 A
		OLTC Test	IS 2026 (Part 1): 2001 Cl. 16.9 IEC 60076 (Part I) Cl. 11.7	Qualitative
		Partial Discharge	IS 11171:1985 Cl. 18 IEC 60076 (Part 11) Cl. 22	5 pC to 50 pC

---

**Nand Kumar  
Convenor**

---

**Battal Singh  
Program Manager**