

Laboratory High Voltage & High Current Test Laboratory, Bushings,
Instrument Transformers & Coils, Siemens Ltd., E-76, MIDC, Waluj,
Aurangabad, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7014

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Validity 12.03.2018 to 11.03.2020

Last Amended on --

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

I. TRANSMISSION LINE EQUIPMENT AND ACCESSORIES				
1.	Current Transformer	Capacitance & Loss Angle (Tan Delta)	IEC 61869-1 2007 IEC 61869-2 2012	100 pF to 8.8 nF 0.0003 to 0.005
		Power frequency Voltage withstand on primary winding	IS 16227 Part 1 2016 IS 16227 Part 2 2016	Qualitative 10 kV to 1125 kV
		Partial discharge		5 pC to 1000 pC
2.	Capacitive voltage transformer	Capacitance & Loss Angle (Tan Delta)	IEC 61869-1 2007 IEC 61869-3 2011	100 pF to 8.8 nF 0.0003 to 0.005
		Potential Transformer (Determination of Ratio & Phase Angle Errors)	IEC 61869-5 2011 IS 16227 Part 1 2016 IS 16227 Part 3 2015	(-) 3% to 0.001 % to + 3 % 0.001 min to 100 min
	GIS Voltage transformer	Power-frequency Voltage withstands on primary Terminals	IS 16227 Part 5 2015	10 kV to 1125 kV
		Partial discharge		5 pC to 1000 pC
		Verification of Terminal Marking and Relative Polarity.		Qualitative
		Ferro Resonance (only for CVT) - Equivalent Circuit Mode		80% of 38 kV to 150% of 664 kV
		Power Frequency withstand on EMU unit		50 V to 500 V
3.	Grading Capacitor	Capacitance & Loss Angle (Tan Delta)	IEC 60358 1990	100 pF to 8.8 nF 0.0003 to 0.005
		Coupling Capacitors Power frequency withstand		Qualitative 10 kV to 1125 Kv
		Partial discharge		5 pC to 1000 pC

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4.	GIS Bushings	Capacitance & Loss Angle (Tan Delta)	IEC 60137 2008	100 pF to 8.8 nF 0.0003 to 0.005
		Power frequency withstand		Qualitative 10 kV to 1125 kV
		Partial discharge		5 pC to 1000 pC
5.	Current Transformer, GIS Current Transformer	Accuracy Check (Ratio & Phase Angle Errors)	IEC 61869-1 2007 IEC 61869-2 2012 IS 16227 Part 1 2016 IS 16227 Part 2 2016	(-) 3 % to 0.001 % to + 3 % 0.001 min to 100 min
		Terminal Marking and Relative Polarity		Qualitative
		Resistance		2 mΩ to 2 kΩ
		Knee Point Voltage		10 V to 10 kV
		Instrument Security Factor		0.01 A to 5 A 10 V to 1 kV 1.3 to 25
		Composite Error		0.01 A to 5A 10 V to 1 kV 0.01 % to 10 %
		Power Frequency on Secondary Winding		1 kV to 10 kV
		Interturn Overvoltage		10 V to 10 kV
6.	Capacitive voltage transformer, Coupling capacitor	Power Frequency on Secondary Winding	IEC 61869-1 2007 IEC 61869-3 2011 IEC 61869-5 2011 IS 16227 Part 1 2016 IS 16227 Part 3 2015 IS 16227 Part 5 2015	1kV to 10kV
	Potential transformer, GIS Voltage Transformer	Power Frequency on Low Voltage Terminal (NHF) and Neutral Terminal		1kV to 10kV