

INSTRUMENT TRANSFORMERS, INC.
Product Bulletin

Section: High Voltage
Number: HV-13-PB002
Revision: 1
Date: February 2000

**ROUTINE TEST PROGRAM
FOR INDUCTIVE VOLTAGE TRANSFORMERS**

TEST	IEEE C57.13 – 1993	RITZ	REMARKS
Dielectric Test Power Frequency Withstand Voltage Test	The test is made for a duration of one minute, dry. The test voltage is at the rated PFWV at 180 Hz.	As per IEEE requirements	
Partial Discharge Test	Not Required	The test is performed after applying the PFWV. Partial discharge is measured at $1.2 \times 1.05 \times Y \text{ Um} / \sqrt{3}$: 10 pC after 1 min. $1.0 \times 1.05 \times \text{Um} / \sqrt{3}$: 5 pC after 1 minute. Where $\text{Um} = \text{Max system voltage}$.	The test ensures long time reliability by effectively detecting partial discharges within the insulation system of the unit..
Capacitance & Dissipation Factor Measurement	Not required	Measurement of bushing capacitance at 10% and max rated voltage	Verify uniformity of production.
Sealing Test	Not required	Visual inspection	This insures oil retention and integrity of the seals.
AC Withstand of Earthed Terminal	Per IEEE requirements	The ground end of the primary circuit is tested at 19kV for 1 minute.	
Power Frequency Withstand Test on Secondary Windings	Each secondary winding shall be tested separately, and withstand a 2.5 kV RMS power frequency. Applied potential test for one (1) minute between the windings and ground and between windings.	Per IEEE requirements	Verify secondary winding insulation system.
Accuracy & Polarity Test and Determination of Error	Ref. cl 6.3.5 & 6.3.6 The test is made with the complete assembly at the performance voltage and rated frequency. The accuracy performance at zero and maximum rated burden is checked for each secondary.	Per IEEE requirements	