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IEC 61620 : 1998

Indian Standard

INSULATING LIQUIDS — DETERMINATION OF THE DIELECTRIC DISSIPATION FACTOR BY MEASUREMENT OF THE CONDUCTANCE AND CAPACITANCE — TEST METHOD

1 Scope

This International Standard describes a method for the simultaneous measurement of conductance G and capacitance C enabling the calculation of the dielectric dissipation factor tan δ of insulating liquids. The proposed method applies both to unused insulating liquids and insulating liquids in service in transformers and in other electrical equipment.

The standard is no substitute for IEC 60247; rather it complements it insofar as it is particularly suited to highly insulating liquids and it recommends a method of measurement for these liquids. This method allows values of the dielectric dissipation factor as low as 10 δ frequency to be determined with certainty. Moreover, the range of measurements of tan between 10^{-6} and 1 and can be extended up to 200 in particular conditions.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60247:1978, Measurement of relative permittivity, dielectric dissipation factor and d.c. resistivity of insulating liquids

IEC 60475:1974, Method of sampling liquid dielectrics

ISO 5725-1:1994, Accuracy (trueness and precision) of measurement methods and results – Part 1: General principles and definitions

ISO 5725-2:1994, Accuracy (trueness and precision) of measurement methods and results – Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method

ISO 5725-3:1994, Accuracy (trueness and precision) of measurement methods and results – Part 3: Intermediate measures of the precision of a standard measurement method

ISO 5725-4:1994, Accuracy (trueness and precision) of measurement methods and results – Part 4: Basic methods for the determination of the trueness of a standard measurement method