

(PREVIEW)

## *Indian Standard*

# POWER TRANSFORMERS

## PART 3 INSULATION LEVELS, DIELECTRIC TESTS AND EXTERNAL CLEARANCES IN AIR

### 1.1 Scope

This International Standard applies to single-phase and three-phase oil-immersed power transformers (including auto-transformers), with the exception of certain small and special transformers, as defined in the scope of IEC 60076-1. It identifies transformer windings to their highest voltage for equipment  $U_m$  associated with their corresponding rated insulation levels and details the relevant applicable dielectric tests and minimum external clearances in air between live parts of bushings and to objects at earth potential. For categories of power transformers and reactors which have their own IEC standards, this standard is applicable only to the extent in which it is specifically called up by cross reference in the other standards.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60076. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60076 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60050(421), *International Electrotechnical Vocabulary (IEV) - Chapter 421: Power transformers and reactors*

IEC 60060-1, *High-voltage test techniques - Part 1: General definitions and test requirements*

IEC 60060-2, *High-voltage test techniques - Part 2: Measuring systems*

IEC 60071-2:1976, *Insulation coordination - Part 2: Application guide*

IEC 60076-1, *Power transformers - Part 1: General*

IEC 60137:1995, *Bushings for alternating voltages above 1000 V*

IEC 60270, *Partial discharge measurements*

IEC 60722, *Guide to the lightning impulse and switching impulse testing of power transformers and reactors*

IEC 60790, *Oscilloscopes and peak voltmeters for impulse tests*

IEC 61083-1, *Digital recorders for measurements in high-voltage impulse tests - Part 1: Requirements for digital recorders*

IEC 61083-2, *Digital recorders for measurements in high-voltage impulse tests - Part 2: Evaluation of software used for the determination of the parameters of impulse waveforms*

CISPR 16-1:1993, *Specification for radio disturbance and immunity measuring apparatus and methods - Part 1: Radio disturbance and immunity measuring apparatus*