BS EN 50336:2021

BSI Standards Publication

Bushings for transformers and reactor cable boxes not exceeding 36 kV

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National foreword

This British Standard is the UK implementation of EN 50336:2021. It supersedes BS EN 50336:2002, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/36, Insulators for power systems.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50336

April 2021

ICS 29.080.20; 29.180

Supersedes EN 50336:2002 and all of its amendments and corrigenda (if any)

English Version

Bushings for transformers and reactor cable boxes not exceeding 36 kV

Traversées pour boîtes à câbles de transformateurs et bobines d'inductance ne dépassant pas 36 kV

Durchführungen für Kabelanschlusskästen von Transformatoren und Drosselspulen bis 36 kV

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Comité Européen de Normalisation Electrotechnique
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European foreword

This document (EN 50336:2021) has been prepared by CLC/TC 36A “Insulated bushings”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-03-30
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2024-03-30

This document supersedes EN 50336:2002 and all of its amendments and corrigenda (if any).

EN 50336:2021 includes the following significant technical changes with respect to EN 50336:2002:

— 3.1 – Minimum IP rating removed from air filled cable boxes.

— 3.4 and 3.5 – EN 60137 added as a reference specification.

— 4.1 – Clarification that transformer side bushing connection is to be fully immersed in insulating liquid.

— 4.3.1 – EN 62155 referenced as standard rather than HD.

— Table 1 – Material corrected on the 400 and 630A rated items from brass to copper.

— 4.4.2 – Time frame for temperature cycle testing added.

— 4.4.3.3 – Test criteria clarified for applications over 1.1kV.

— Table 2 – Corrected L3 dimension on 36kV bushings from 250 mm - 350 mm.

— Figure 9 / Table 9 – D2 dimension added to show required plain connection size for the range of terminals.

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1 Scope

This document is applicable to insulated bushings, excluding those plug-in bushings specified by EN 50180 series, for use in air insulated, shroud insulated and fully insulated cable boxes for liquid filled transformers and reactors for rated voltages up to 36 kV, and rated currents up to 4 000 A at frequencies from 15 Hz to 60 Hz.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 60137, *Insulated bushings for alternating voltages above 1 000 V (IEC 60137)*

EN 62155, *Hollow pressurized and unpressurized ceramic and glass insulators for use in electrical equipment with rated voltages greater than 1 000 V (IEC 62155)*

IEC 60296, *Fluids for electrotechnical applications - Mineral insulating oils for electrical equipment*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
air insulated cable box
metallic weatherproof enclosure designed to protect the ends of cables and their associated bushings using air as the primary source of insulation

3.2
cast or moulded resin-insulated bushing
bushing in which the major insulation consists of a cast or moulded organic material with or without an inorganic filler

[SOURCE: EN 60137:2017, 3.13]

3.3
ceramic, glass or analogous inorganic material bushing
bushing in which the major insulation consists of a ceramic, glass or analogous inorganic material

[SOURCE: EN 60137:2017, 3.12]

3.4
fully insulated cable box
metallic weatherproof enclosure as in 3.1 where those parts of the termination and bushing within the enclosure including live metal parts and cable cores are insulated by a liquid or compound suitable for the appropriate system voltage

Note 1 to entry: The box shall be suitably sealed to contain the liquid or compound and allow for their expansion due to temperature changes.

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