ICS 29.080.20, 29.180 SLOVENSKÁ TECHNICKÁ NORMA December 2022

STN	**Vonkajšie priechodky na 24 kV a 36 kV a na 5 kA a 8 kA pre transformátory plnené kvapalinou**	**STN EN 50243** 34 8158

Outdoor bushings for 24 kV and 36 kV and for 5 kA and 8 kA, for liquid filled transformers

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/22

Obsahuje: EN 50243:2022

Oznámením tejto normy sa od 20.06.2025 ruší
STN EN 50243 (34 8158) zo septembra 2002

135844

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50243

August 2022

ICS 29.080.20; 29.180

Supersedes EN 50243:2002

English Version

Outdoor bushings for 24 kV and 36 kV and for 5 kA and 8 kA, for liquid filled transformers

Traversées d'extérieur pour 24 kV et 36 kV et pour 5 kA et 8 kA, pour transformateurs remplis de liquide

Durchführungen für Freiluft, 24 kV und 36 kV sowie 5 kA und 8 kA, für flüssigkeitsgefüllte Transformatoren

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 50243:2022 E

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European foreword

This document (EN 50243:2022) 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) 2023-06-20
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2025-06-20

This document will supersede EN 50243:2002 and all of its amendments and corrigenda (if any).

EN 50243:2022 includes the following significant technical change(s) with respect to EN 50243:2002:

— Addition of the highest pollution class.

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1 Scope

This document is applicable to ceramic insulated outdoor bushings for highest voltages for equipment of 24 kV and 36 kV, with rated currents of 5 kA and 8 kA for insulating liquid filled transformers and frequencies from 15 Hz up to 60 Hz.

This document establishes dimensions to ensure interchangeability and adequate mounting of bushings.

Two types of construction are specified, type A and type B, both types for highest voltages for equipment 24 kV and 36 kV and rated currents of 5 kA and 8 kA. The mechanical stresses of the conductor tube define the difference between type A and type B. The conductor tube of type A is axially and radially fixed in the top of the bushing. The inner line terminal of the transformer can be flexible and without any special support for the lower end of the conductor tube.

For new installations bushings of Type A are expected to be used. Type B bushings can be supplied at the request of a customer.

In case of type B, the conductor tube is only radially fixed in the top of the bushing. In that case, a rigid support is mounted to fix the lower end of the conductor tube (for example, in combination with a drip proofed sealing end). The drip proofed sealing end is often required in the service requirements. In this case, it is not possible to use type A because of the existing double fixation. Therefore, both bushing types A and B are specified.

The condition for the usage of type B is that the drip-proof sealing end is able to withstand the mechanical stress in axial direction.

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 12165:2016, *Copper and copper alloys — Wrought and unwrought forging stock*

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

EN 60672-3, *Ceramic and glass-insulating materials — Part 3: Specifications for individual materials (IEC 60672-3)*

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)*

EN ISO 286-2, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 2: Tables of standard tolerance classes and limit deviations for holes and shafts (ISO 286-2)*

EN ISO 1101, *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out (ISO 1101)*

EN ISO 21920-1, *Geometrical product specifications (GPS) — Surface texture: Profile — Part 1: Indication of surface texture (ISO 21920-1)*

IEC/TS 60815 (all parts), *Selection and dimensioning of high-voltage insulators intended for use in polluted conditions*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 2768-1, *General Tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*