

BS EN 50180-2:2015



BSI Standards Publication

Bushings above 1 kV up to 52 kV and from 250 A to 3,15 kA for liquid filled transformers

Part 2: Requirement for bushing
components

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National foreword

This British Standard is the UK implementation of EN 50180-2:2015. Together with BS EN 50180-1:2015 and BS EN 50180-3:2015, it supersedes BS EN 50180:2010 which is withdrawn.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 secretary.

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Published by BSI Standards Limited 2015

ISBN 978 0 580 86601 2

ICS 29.080.20

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 October 2015.

Amendments/corrigenda issued since publication

Date	Text affected
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ICS 29.080.20

English Version

**Bushings above 1 kV up to 52 kV and from 250 A to 3,15 kA for
liquid filled transformers - Part 2: Requirement for bushing
components**

Traversées de tensions supérieures à 1 kV jusqu'à 52 kV et
de 250 A à 3,15 kA pour transformateurs immergés dans un
liquide - Partie 2: Exigences relatives aux composants de
traversée

Durchführungen über 1 kV bis 52 kV und von 250 A bis
3,15 kA für flüssigkeitsgefüllte Transformatoren - Teil 2:
Anforderungen an Einzelteile der Durchführungen

This European Standard was approved by CENELEC on 2015-08-10. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN 50180-2:2015) 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) 2016-08-10
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2018-08-10

This document supplements EN 50180-1:2015 by design details for components, described in the withdrawn standards DIN 42531, DIN 42532 and DIN 42533 and it is important for utilities to manage interchangeability. This document should document major additional information of the withdrawn standards.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

EN 50180 "*Bushings above 1 kV up to 52 kV and from 250 A to 3,15 kA for liquid filled transformers*" consists of the following parts:

- *Part 1: General requirements for bushings;*
- *Part 2: Requirement for bushing components;*
- *Part 3: Requirements for bushing fixations.*

1 Scope

This European Standard should be considered in factual context with EN 50180-1 only. The dimensional supplements are related to figures and tables of EN 50180-1. To enable a better understanding of additional information some tables from EN 50180-1 are used and extended.

This European Standard may now be used also for bushings with a highest voltage of 52 kV. Figures for the details of the components and the related tables are added according to the extended range of voltage.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1652, *Copper and copper alloys — Plate, sheet, strip and circles for general purposes*

EN 12164, *Copper and copper alloys — Rod for free machining purposes*

EN 13599, *Copper and copper alloys — Copper plate, sheet and strip for electrical purposes*

EN 13601, *Copper and copper alloys — Copper rod, bar and wire for general electrical purposes*

EN 22768 (all parts), *General tolerances (ISO 2768-1, all parts)*

EN 27434, *Slotted set screws with cone point (ISO 7434)*

EN 50180-1:2015, *Bushings above 1 kV up to 52 kV and from 250 A to 3,15 kA for liquid filled transformers — Part 1: General requirements for bushings*

EN 50180-3, *Bushings above 1 kV up to 52 kV and from 250 A to 3,15 kA for liquid filled transformers — Part 3: Requirements for bushing fixations*

EN ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (shore hardness) (ISO 868)*

EN ISO 1302, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation (ISO 1302)*

EN ISO 4032, *Hexagon regular nuts (style 1) — Product grades A and B (ISO 4032)*

EN ISO 4753, *Fasteners – Ends of parts with external ISO metric thread (ISO 4753)*

EN ISO 7089, *Plain washers — Normal series — Product grade A (ISO 7089)*

EN ISO 8673, *Hexagon regular nuts (style 1) with metric fine pitch thread — Product grades A and B (ISO 8673)*