

STN	Priechodky nad 1 kV do 52 kV a od 250 A do 3,15 kA pre transformátory plnené kvapalinou. Časť 2: Požiadavky na súčasti priechodky.	STN EN 50180-2 34 8153
------------	---	--

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

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. 01/16

Obsahuje: EN 50180-2:2015

122284

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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Content

	Page
European foreword	4
1 Scope.....	5
2 Normative references	5
3 Terms and definitions	6
4 Dimensions and designations	6
4.1 General	6
4.2 Components for open-type bushings for 250 A, 12 kV to 36 kV	6
4.3 Components for open-type bushings for 630 A, 12 kV to 36 kV	9
4.4 Components for open-type bushings for 1 250 A – 3150 A, 12 kV to 36 kV.....	12
4.5 Components for open-type bushings for 250 A and 630 A, 52 kV	19
4.6 Components for open-type bushings for 1 250 A to 3 150 A, 52 kV.....	21
 Figure	
Figure 1 – Terminal stud (Item 2)	7
Figure 2 – Cap (Item 3).....	7
Figure 3 – Gasket (Item 4).....	8
Figure 4 – Spacer (Item 5).....	8
Figure 5 – Packing (Item 6)	8
Figure 6 – Terminal stud (Item 2)	10
Figure 7 – Cap (Item 3).....	11
Figure 8 – Gasket (Item 4).....	11
Figure 9 – Packing (Item 6)	11
Figure 10 – Spacer (Item 5).....	11
Figure 11 – Terminal stud (Item 2)	15
Figure 12 – Upper cap (Item 4).....	15
Figure 13 – Sealing ring (Item 5).....	16
Material: CW614N or equivalent acc. to EN 12164	16
Figure 14 – Lower cap (Item 6).....	16
Figure 15 – Vent plug (Item 8)	16
Figure 16 – Gasket (Item 7).....	16
Figure 17 – Gasket M (Item 9) und Gasket N (Item 18)	17
Figure 18 – Compression ring (Item 11).....	17
Figure 19 – Ring (Item 13).....	17
Figure 20 – Spacer (Item 10).....	18
Figure 21 – Potential ring.....	18
Figure 22 – Terminal stud (Item 2)	24
Figure 23 – Upper cap (Item 4).....	25
Figure 24 – Compression ring (Item 11).....	25

	Page
Figure 25 – Lower cap (Item 6)	26
Figure 26 – Spacer (Item 10).....	26

Table

Table 1 – List of components, 250 A, 12 kV to 36 kV (see EN 50180-1:2015, Table 3)	6
Table 2 – List of components, 630 A, 12 kV to 36 kV (see EN 50180-1:2015, Table 5)	9
Table 3 – List of components, 1 250 A, 12 kV to 36 kV (see EN 50180-1:2015, Table 7)	12
Table 4 – List of components, 2 000 A, 12 kV to 36 kV (see EN 50180-1:2015, Table 9)	13
Table 5 – List of components, 3 150 A, 12 kV to 36 kV (see EN 50180-1:2015, Table 9)	14
Table 6 – List of components, 250 A, 52 kV (see EN 50180-1:2015, Table 11).....	19
Table 7 – List of components, 630 A, 52 kV (see EN 50180-1:2015, Table 11).....	20
Table 8 – List of components, 1 250 A, 52 kV (see EN 50180-1:2015, Table 13).....	21
Table 9 – List of components, 2 000 A, 52 kV (see EN 50180-1:2015, Table 13).....	22
Table 10 – List of components, 3 150 A, 52 kV (see EN 50180-1:2015, Table 13).....	23

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)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN