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colour inside

This full version of IEC 60670-22:2024 includes the content of the references made to IEC 60670-1:2024

Boxes and enclosures for electrical accessories for household and similar fixed electrical installations –
Part 22: Particular requirements for connecting boxes and enclosures

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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BOXES AND ENCLOSURES FOR ELECTRICAL ACCESSORIES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 22: Particular requirements for connecting boxes and enclosures

FOREWORD

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IEC 60670-22:2024 EXV includes the content of IEC 60670-22:2024, and the references made to IEC 60670-1:2024.

The specific content of IEC 60670-22:2024 is displayed on a blue background.

IEC 60670-22 has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23: Electrical accessories. It is an International Standard.

This second edition cancels and replaces the first edition published in 2003 and Amendment 1:2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) addition of cable joints as a new type of box with the related tests and requirements;
b) addition of tests and requirements for boxes and enclosures exposed to direct sunlight with the related Annex CC;
c) addition of connecting boxes and enclosures having encapsulation capability as a new type of boxes with the related tests, requirements and related Annex DD.

The text of this International Standard is based on the following documents:

Draft	Report on voting
23B/1535/FDIS	23B/1553/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60670 series, published under the general title *Boxes and enclosures for electrical accessories for household and similar fixed installations*, can be found on the IEC website.

This document is to be used in conjunction with IEC 60670-1:2024. It lists the changes necessary to convert that standard into a specific standard for connecting boxes and enclosures.

Where this document states "addition", "modification" or "replacement", the relevant requirement, test specifications or explanatory matter in IEC 60670-1:2024 shall be adapted accordingly.

Clauses and subclauses, notes, figures or tables which are additional to those in IEC 60670-1:2024 are numbered starting from 101.

Additional annexes to IEC 60670-1:2024 are numbered AA, BB, etc.

In this publication the following print types are used:

- requirements proper: in roman type.
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BOXES AND ENCLOSURES FOR ELECTRICAL ACCESSORIES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 22: Particular requirements for connecting boxes and enclosures

1 Scope

This part of IEC 60670 applies to boxes, enclosures and parts of enclosures (hereafter called "boxes" and "enclosures") for electrical accessories with a rated voltage not exceeding 1 000 V AC and 1 500 V DC intended for household or similar fixed electrical installations, either indoors or outdoors.

Boxes and enclosures complying with this document are suitable for use at ambient temperatures not normally exceeding +40 °C, but their average over a period of 24 h does not exceed +35 °C, with a lower limit of the ambient air temperature of −5 °C.

Other temperatures outside the above range can apply according to the classification of the boxes and the enclosures.

This document applies to junction connecting boxes or tapping connecting boxes or both.

NOTE Unless otherwise stated, throughout the document the term "boxes" also applies to "enclosures".

This document is intended to apply to boxes and enclosures for electrical accessories within the scope of IEC technical committee 23.

A box or an enclosure which is an integral part of an electrical accessory and provides protection for that accessory against external influences (for example mechanical impact, ingress of solid objects or water, etc.) is covered by the relevant standard for such an accessory.

This document gives test requirements for boxes and enclosures declared with IK code, see Annex B (normative).

This document also applies to types of boxes and enclosures as modified in IEC 60670-21, IEC 60670-22, IEC 60670-23, and IEC 60670-24.

This document does not apply to:

– ceiling roses;
– luminaire supporting couplers;
– boxes, enclosures and parts of enclosures specifically designed to be used for cable trunking and ducting systems complying with IEC 61084 and which are not intended to be installed outside of these systems.

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.

IEC 60068-2-75:2014, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60112:2020, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60417, *Graphical symbols for use on equipment,* available at http://www.graphical-symbols.info/equipment

IEC 60423:2007, *Conduit systems for cable management – Outside diameters of conduits for electrical installations and threads for conduits and fittings*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*
IEC 60529:1989/AMD1:1999
IEC 60529:1989/AMD2:2013

IEC 60695-2-11:2021, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 60695-10-2:2014, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test*

IEC 60981:2019, *Extra-heavy duty rigid steel conduits*

IEC 60998 (all parts), *Connecting devices for low-voltage circuits for household and similar purposes*

IEC 60999-1:1999, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm^2 up to 35 mm^2 (included)*

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61140:2016, *Protection against electric shock – Common aspects for installation and equipment*

IEC 62262:2002, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*
IEC 62262:2002/AMD1:2021

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

ISO 62:2008, *Determination of water absorption*

ISO 178:2019, *Plastics – Determination of flexural properties*

ISO 179-1:2010, *Plastics – Determination of Charpy impact properties – Part 1: Non-instrumented impact test*

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INTERNATIONAL STANDARD

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Boxes and enclosures for electrical accessories for household and similar fixed electrical installations –
Part 22: Particular requirements for connecting boxes and enclosures

Boîtes et enveloppes pour appareillage électrique pour installations électriques fixes pour usages domestiques et analogues –
Partie 22: Exigences particulières pour les boîtes et enveloppes de connexion



IEC 60670-22:2024-12(en-fr)

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a) addition of cable joints as a new type of box with the related tests and requirements;
b) addition of tests and requirements for boxes and enclosures exposed to direct sunlight with the related Annex CC;

c) addition of connecting boxes and enclosures having encapsulation capability as a new type of boxes with the related tests, requirements and related Annex DD.

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BOXES AND ENCLOSURES FOR ELECTRICAL ACCESSORIES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 22: Particular requirements for connecting boxes and enclosures

1 Scope

Clause 1 of IEC 60670-1:2024 applies with the following addition:

Add the following after the third paragraph:

This document applies to junction connecting boxes or tapping connecting boxes or both.

NOTE Unless otherwise stated, throughout the document the term "boxes" also applies to "enclosures".

2 Normative references

Clause 2 of IEC 60670-1:2024 applies with the following additions:

IEC 60998 (all parts), *Connecting devices for low-voltage circuits for household and similar purposes*

IEC 60999-1:1999, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm^2 up to 35 mm^2 (included)*

ISO 62:2008, *Determination of water absorption*

ISO 178:2019, *Plastics – Determination of flexural properties*

ISO 179-1:2010*, Plastics – Determination of Charpy impact properties – Part 1: Non-instrumented impact test*

ISO 4892-2:2013*, Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps*
ISO 4892-2:2013/AMD1:2021

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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BOÎTES ET ENVELOPPES POUR APPAREILLAGE ÉLECTRIQUE POUR INSTALLATIONS ÉLECTRIQUES FIXES POUR USAGES DOMESTIQUES ET ANALOGUES –

Partie 22: Exigences particulières pour les boîtes et enveloppes de connexion

AVANT-PROPOS

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L'IEC 60670-22 a été établie par le sous-comité 23B: Prises de courant et interrupteurs, du comité d'études 23 de l'IEC: Petit appareillage. Il s'agit d'une Norme internationale.

Cette deuxième édition annule et remplace la première édition parue en 2003 et son Amendement 1:2015. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) des jonctions de câbles ont été ajoutées en tant que nouveau type de boîte, ainsi que les essais et exigences associés;
b) des essais et exigences ont été ajoutés pour les boîtes et enveloppes exposées à la lumière directe du soleil, ainsi que l'Annexe CC associée;
c) des boîtes et enveloppes de connexion avec aptitude d'encapsulage ont été ajoutées en tant que nouveau type de boîtes, ainsi que les essais, les exigences et l'Annexe DD associés.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
23B/1535/FDIS	23B/1553/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

La version française de la norme n'a pas été soumise au vote.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

Une liste de toutes les parties de la série IEC 60670, publiées sous le titre général *Boîtes et enveloppes pour appareillage électrique pour installations fixes pour usages domestiques et analogues*, se trouve sur le site web de l'IEC.

Le présent document doit être utilisé conjointement avec l'IEC 60670-1:2024. Il répertorie les modifications nécessaires pour transformer cette norme en une norme spécifique pour les boîtes et enveloppes de connexion.

Lorsque le présent document mentionne "addition", "modification" ou "remplacement", l'exigence, les modalités d'essais ou le texte explicatif correspondant de l'IEC 60670-1:2024 doit être adapté en conséquence.

Les articles et paragraphes, notes, figures ou tableaux qui sont ajoutés à ceux de l'IEC 60670-1:2024 sont numérotés à partir de 101.

Les annexes supplémentaires dans l'IEC 60670-1:2024 sont numérotées AA, BB, etc.

Dans la présente publication, les caractères d'imprimerie suivants sont utilisés:

- exigences proprement dites: caractères romains;
- *modalités d'essais: caractères italiques;*
- notes: petits caractères romains.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous webstore.iec.ch dans les données relatives au document recherché. À cette date, le document sera

- reconduit,
- supprimé, ou
- révisé.

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BOÎTES ET ENVELOPPES POUR APPAREILLAGE ÉLECTRIQUE POUR INSTALLATIONS ÉLECTRIQUES FIXES POUR USAGES DOMESTIQUES ET ANALOGUES –

Partie 22: Exigences particulières pour les boîtes et enveloppes de connexion

1 Domaine d'application

L'Article 1 de l'IEC 60670-1:2024 s'applique, avec l'ajout suivant:

Ajouter ce qui suit après le troisième alinéa:

Le présent document s'applique aux boîtes de connexion pour jonction ou aux boîtes de connexion pour dérivation, ou aux deux.

NOTE Sauf spécification contraire, le terme “boîtes” s'applique aussi aux “enveloppes” dans la suite du document.

2 Références normatives

L'Article 2 de l'IEC 60670-1:2024 s'applique, avec les ajouts suivants:

IEC 60998 (toutes les parties), *Dispositifs de connexion pour circuits basse tension pour usage domestique et analogue*

IEC 60999-1:1999, *Dispositifs de connexion – Conducteurs électriques en cuivre – Prescriptions de sécurité pour organes de serrage à vis et sans vis – Partie 1: Prescriptions générales et particulières pour les organes de serrage pour les conducteurs de 0,2 mm^2 à 35 mm^2 (inclus)*

ISO 62:2008, *Détermination de l'absorption d'eau*

ISO 178:2019, *Plastiques – Détermination des propriétés en flexion*

ISO 179-1:2010*Plastiques – Détermination des caractéristiques au choc Charpy – Partie 1: Essai de choc non instrumenté*

ISO 4892-2:2013, *Plastiques – Méthodes d'exposition à des sources lumineuses de laboratoire – Partie 2: Lampes à arc au xénon*
ISO 4892-2:2013/AMD1:2021