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Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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IEC 61156-1 has been prepared by subcommittee 46C: Wires and symmetric cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2007 and Amendment 1 published in 2009. This edition constitutes a technical revision.

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

- a) modification of the scope in Clause 1 and updating of normative references documents in Clause 2;
- b) addition of PoE-related definitions in Clause 3;
- c) clarification of differential-mode and common-mode resistors, correction of formulae and addition of IEC 62153-4-9 test method for coupling attenuation in Clause 6;
- d) introduction of balunless measurement method in 6.3.1, modification of equipment requirements of unbalance attenuation in 6.3.5 and updating of balun's performance in Table 1;
- e) deletion of 'three layers of cables on a drum' method in alien (exogenous) near-end crosstalk measurement in 6.3.8 and addition of terminated input impedance in 6.3.11.4.

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

Draft	Report on voting
46C/1242/FDIS	46C/1249/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 and French.

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/standardsdev/publications.

A list of all parts in the IEC 61156 series, published under the general title *Multicore and symmetrical pair/quad cables for digital communications*, can be found on the IEC website.

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- withdrawn,
- replaced by a revised edition, or
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MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 1: Generic specification

1 Scope

This part of IEC 61156 ~~is applicable to communication systems such as ISDN, local area networks and data communication systems and~~ specifies the definitions, requirements and test methods of multicore, symmetrical pair and quad cables.

This document is applicable to communication systems such as local area networks (LANs) and data communication cables. It is also applicable to cables used for industrial applications, customer premises wiring and generic cabling comprising installation cables and cables for work area wiring which are defined in ISO/IEC 11801 (all parts).

The cables covered by this document are intended to operate with voltages and currents normally encountered in communication systems. While these cables are not intended to be used in conjunction with low impedance sources, for example the electric power supplies of public utility mains, they are intended to be used to support the delivery of low voltage remote powering applications including but not restricted to Power over Ethernet as specified in ISO/IEC/IEEE 8802-3. More information on the capacity to support these applications according to the installation practices are given in IEC 61156-1-4, IEC TR 61156-1-6 and ISO/IEC TS 29125.

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 60028, *International standard of resistance for copper*

~~IEC 60050-726, International Electrotechnical Vocabulary (IEV) – Part 726: Transmission lines and wave guides~~

IEC 60068-2-1:2007, *Environmental testing – Part 2-1: Tests – Tests A: Cold*

~~IEC 60169-22, Radio-frequency connectors – Part 22: RF two-pole bayonet coupled connectors for use with shielded balanced cables having twin inner conductors (Type BNO)~~

IEC 60189-1:1986/2018, *Low-frequency cables and wires with PVC insulation and PVC sheath – Part 1: General test and measuring methods*¹⁾

IEC 60304, *Standard colours for insulation for low-frequency cables and wires*

~~IEC 60332-1-1, Tests on electric and optical fibre cables under fire conditions – Part 1-1: Test for vertical flame propagation for a single insulated wire or cable – Apparatus~~

¹⁾ ~~There exists a 2007 edition of 60189-1.~~

~~IEC 60332-2-1, Tests on electric and optical fibre cables under fire conditions – Part 2-1: Test for vertical flame propagation for a single small insulated wire or cable – Apparatus~~

IEC 60332-1-2, Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame

IEC 60332-2-2, Tests on electric and optical fibre cables under fire conditions – Part 2-2: Test for vertical flame propagation for a single small insulated wire or cable – Procedure for diffusion flame

~~IEC 60332-3-10, Tests on electric cables under fire conditions – Part 3-10: Test for vertical flame spread of vertically-mounted bunched wires or cables – Apparatus~~

IEC 60332-3-24, Tests on electric and optical fibre cables under fire conditions – Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category C

IEC 60332-3-25, Tests on electric and optical fibre cables under fire conditions – Part 3-25: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category D

IEC 60708, Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath

IEC 60754-2, Test on gases evolved during combustion of ~~electric~~ materials from cables – Part 2: ~~Determination of the degree of acidity of gases evolved during the combustion of materials taken from electric cables by measuring pH and conductivity~~ Determination of acidity (by pH measurement) and conductivity

~~IEC 60794-1-2:2003, Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures~~

IEC 60794-1-21:2015, Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical test methods

~~IEC 60811-1-1:1993, Common test methods for insulating and sheathing materials of electric cables and optical cables – Part 1: Methods for general application – Section 1: Measurement of thickness and overall dimensions – Tests for determining the mechanical properties~~

~~IEC 60811-1-2:1985, Common test methods for insulating and sheathing materials of electric and optical cables – Part 1: Methods for general application – Section Two: Thermal ageing methods~~

~~IEC 60811-1-3:1993, Common test methods for insulating and sheathing materials of electric and optical cables – Part 1: Methods for general application – Section Three: Methods for determining the density – Water absorption tests – Shrinkage test~~

~~IEC 60811-1-4:1985, Common test methods for insulating and sheathing materials of electric and optical cables – Part 1: Methods for general application – Section Four: Test at low temperature~~

~~IEC 60811-3-1:1985, Common test methods for insulating and sheathing materials of electric and optical cables – Part 3: Methods specific to PVC compounds – Section One: Pressure test at high temperature – Tests for resistance to cracking~~

~~IEC 60811-4-2:2004, Insulating and sheathing materials of electric cables – Common test methods – Part 4-2: Methods specific to polyethylene and polypropylene compounds – Tensile strength and elongation at break after conditioning at elevated temperature – Wrapping test~~

~~after conditioning at elevated temperature – Wrapping test after thermal ageing in air – Measurement of mass increase – Long-term stability test – Test method for copper-catalyzed oxidative degradation~~

IEC 60811-201, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 201: General tests – Measurement of insulation thickness*

IEC 60811-202, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 202: General tests – Measurement of thickness of non-metallic sheath*

IEC 60811-203, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 203: General tests – Measurement of overall dimensions*

IEC 60811-401, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 401: Miscellaneous tests – Thermal ageing methods – Ageing in an air oven*

IEC 60811-501, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 501: Mechanical tests – Tests for determining the mechanical properties of insulating and sheathing compounds*

IEC 60811-502, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 502: Mechanical tests – Shrinkage test for insulations*

IEC 60811-504, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 504: Mechanical tests – Bending tests at low temperature for insulation and sheaths*

IEC 60811-506, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 506: Mechanical tests – Impact test at low temperature for insulations and sheaths*

IEC 60811-508, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 508: Mechanical tests – Pressure test at high temperature for insulation and sheaths*

IEC 60811-509, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 509: Mechanical tests – Test for resistance of insulations and sheaths to cracking (heat shock test)*

IEC 60811-510, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 510: Mechanical tests – Methods specific to polyethylene and polypropylene compounds – Wrapping test after thermal ageing in air*

IEC 61034 (all parts), *Measurement of smoke density of cables burning under defined conditions*

IEC TR 61156-1-2², *Multicore and symmetrical pair/quad cables for digital communications – Part 1-2: Electrical transmission characteristics and test methods of symmetrical pair/quad cables*

IEC TR 61156-1-5, *Multicore and symmetrical pair/quad cables for digital communications – Part 1-5: Correction procedures for the measurement results of return loss and input impedance*

IEC 61196-1-105, *Coaxial communication cables – Part 1-105: Electrical test methods – Test for withstand voltage of cable dielectric*

² IEC TR 61156-1-2 is due to become a TS in 2023.

IEC 62012-1:20042002, *Multicore and symmetrical pair/quad cables for digital communications to be used in harsh environments – Part 1: Generic specification*

IEC 62153-4-3:2013, *Metallic communication cables test methods – Part 4-3: Electromagnetic compatibility (EMC) – Surface transfer impedance – Triaxial method*

~~IEC 62153-4-4, Metallic communication cables test methods – Part 4-4: Electromagnetic compatibility (EMC) – Shielded screening attenuation, test method for measuring of the screening attenuation α_s up to and above 3 GHz~~

IEC 62153-4-5, *Metallic communication cables test methods – Part 4-5: Electromagnetic compatibility (EMC) – ~~Coupling or screening~~ Screening or coupling attenuation – Absorbing clamp method*

IEC 62153-4-9, *Metallic communication cable test methods – Part 4-9: Electromagnetic compatibility (EMC) – Coupling attenuation of screened balanced cables, triaxial method*

IEC 62255 (all parts), *Multicore and symmetrical pair/quad cables for broadband digital communications (high bit rate digital access telecommunication networks) – Outside plant cables*

ISO/IEC TS 29125:2017, *Information technology – Telecommunications cabling requirements for remote powering of terminal equipment*

~~ITU-T Recommendation G.117:1996, Transmission aspects of unbalance about earth~~

~~ITU-T Recommendation O.9:1999, Measuring arrangements to assess the degree of unbalance about earth~~

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Multicore and symmetrical pair/quad cables for digital communications –
Part 1: Generic specification**

**Câbles multiconducteurs à paires symétriques et quartes pour transmissions
numériques –
Partie 1: Spécification générique**

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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/standardsdev/publications.

A list of all parts in the IEC 61156 series, published under the general title *Multicore and symmetrical pair/quad cables for digital communications*, can be found on the IEC website.

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MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 1: Generic specification

1 Scope

This part of IEC 61156 specifies the definitions, requirements and test methods of multicore, symmetrical pair and quad cables.

This document is applicable to communication systems such as local area networks (LANs) and data communication cables. It is also applicable to cables used for industrial applications, customer premises wiring and generic cabling comprising installation cables and cables for work area wiring which are defined in ISO/IEC 11801 (all parts).

The cables covered by this document are intended to operate with voltages and currents normally encountered in communication systems. While these cables are not intended to be used in conjunction with low impedance sources, for example the electric power supplies of public utility mains, they are intended to be used to support the delivery of low voltage remote powering applications including but not restricted to Power over Ethernet as specified in ISO/IEC/IEEE 8802-3. More information on the capacity to support these applications according to the installation practices are given in IEC 61156-1-4, IEC TR 61156-1-6 and ISO/IEC TS 29125.

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 60028, *International standard of resistance for copper*

IEC 60068-2-1:2007, *Environmental testing – Part 2-1: Tests – Tests A: Cold*

IEC 60189-1:2018, *Low-frequency cables and wires with PVC insulation and PVC sheath – Part 1: General test and measuring methods*

IEC 60304, *Standard colours for insulation for low-frequency cables and wires*

IEC 60332-1-2, *Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame*

IEC 60332-2-2, *Tests on electric and optical fibre cables under fire conditions – Part 2-2: Test for vertical flame propagation for a single small insulated wire or cable – Procedure for diffusion flame*

IEC 60332-3-24, *Tests on electric and optical fibre cables under fire conditions – Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category C*

IEC 60332-3-25, *Tests on electric and optical fibre cables under fire conditions – Part 3-25: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category D*

IEC 60708, *Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath*

IEC 60754-2, *Test on gases evolved during combustion of materials from cables – Part 2: Determination of acidity (by pH measurement) and conductivity*

IEC 60794-1-21:2015, *Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical test methods*

IEC 60811-201, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 201: General tests – Measurement of insulation thickness*

IEC 60811-202, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 202: General tests – Measurement of thickness of non-metallic sheath*

IEC 60811-203, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 203: General tests – Measurement of overall dimensions*

IEC 60811-401, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 401: Miscellaneous tests – Thermal ageing methods – Ageing in an air oven*

IEC 60811-501, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 501: Mechanical tests – Tests for determining the mechanical properties of insulating and sheathing compounds*

IEC 60811-502, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 502: Mechanical tests – Shrinkage test for insulations*

IEC 60811-504, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 504: Mechanical tests – Bending tests at low temperature for insulation and sheaths*

IEC 60811-506, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 506: Mechanical tests – Impact test at low temperature for insulations and sheaths*

IEC 60811-508, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 508: Mechanical tests – Pressure test at high temperature for insulation and sheaths*

IEC 60811-509, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 509: Mechanical tests – Test for resistance of insulations and sheaths to cracking (heat shock test)*

IEC 60811-510, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 510: Mechanical tests – Methods specific to polyethylene and polypropylene compounds – Wrapping test after thermal ageing in air*

IEC 61034 (all parts), *Measurement of smoke density of cables burning under defined conditions*

IEC TR 61156-1-2¹, *Multicore and symmetrical pair/quad cables for digital communications – Part 1-2: Electrical transmission characteristics and test methods of symmetrical pair/quad cables*

¹ IEC TR 61156-1-2 is due to become a TS in 2023.

IEC TR 61156-1-5, *Multicore and symmetrical pair/quad cables for digital communications – Part 1-5: Correction procedures for the measurement results of return loss and input impedance*

IEC 61196-1-105, *Coaxial communication cables – Part 1-105: Electrical test methods – Test for withstand voltage of cable dielectric*

IEC 62012-1:2002, *Multicore and symmetrical pair/quad cables for digital communications to be used in harsh environments – Part 1: Generic specification*

IEC 62153-4-3:2013, *Metallic communication cables test methods – Part 4-3: Electromagnetic compatibility (EMC) – Surface transfer impedance – Triaxial method*

IEC 62153-4-5, *Metallic communication cables test methods – Part 4-5: Electromagnetic compatibility (EMC) – Screening or coupling attenuation – Absorbing clamp method*

IEC 62153-4-9, *Metallic communication cable test methods – Part 4-9: Electromagnetic compatibility (EMC) – Coupling attenuation of screened balanced cables, triaxial method*

IEC 62255 (all parts), *Multicore and symmetrical pair/quad cables for broadband digital communications (high bit rate digital access telecommunication networks) – Outside plant cables*

ISO/IEC TS 29125:2017, *Information technology – Telecommunications cabling requirements for remote powering of terminal equipment*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

**CÂBLES MULTICONDUCTEURS À PAIRES SYMÉTRIQUES
ET QUARTES POUR TRANSMISSIONS NUMÉRIQUES –****Partie 1: Spécification générique****AVANT-PROPOS**

- 1) La Commission Électrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
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L'IEC 61156-1 a été établie par le sous-comité 46C: Câbles symétriques et fils, du comité d'études 46 de l'IEC: Câbles, fils, guides d'ondes, connecteurs, composants passifs pour micro-onde et accessoires. Il s'agit d'une Norme internationale.

Cette quatrième édition annule et remplace la troisième édition parue en 2007 et son Amendement 1 paru en 2009. Cette édition constitue une révision technique.

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

- a) modification du domaine d'application à l'Article 1 et mise à jour des documents de "Références normatives" à l'Article 2;
- b) ajout de définitions liées au PoE à l'Article 3;

- c) clarification des résistances en mode différentiel et en mode commun, correction des formules et ajout de la méthode d'essai de l'IEC 62153-4-9 pour l'affaiblissement de couplage à l'Article 6;
- d) introduction de la méthode de mesure sans symétriseur en 6.3.1, modification des exigences de l'équipement relatives à l'affaiblissement de symétrie en 6.3.5 et mise à jour du fonctionnement du symétriseur dans le Tableau 1;
- e) suppression de la méthode "trois couches de câbles sur un touret" de mesure de paradiaphonie exogène (due aux câbles voisins) en 6.3.8 et ajout de l'impédance d'entrée adaptée en 6.3.11.4.

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

Projet	Rapport de vote
46C/1242/FDIS	46C/1249/RVD

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

Les langues employées pour l'élaboration de cette Norme internationale sont l'anglais et le français.

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 61156, publiées sous le titre général *Câbles multiconducteurs à paires symétriques et quartes pour transmissions numériques*, se trouve sur le site web de l'IEC.

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:

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CÂBLES MULTICONDUCTEURS À PAIRES SYMÉTRIQUES ET QUARTES POUR TRANSMISSIONS NUMÉRIQUES –

Partie 1: Spécification générique

1 Domaine d'application

La présente partie de l'IEC 61156 spécifie les définitions, les exigences et les méthodes d'essai des câbles multiconducteurs, à paires symétriques et à quartes.

Le présent document est applicable aux systèmes de transmission tels que les réseaux locaux (LAN) et les câbles de transmission de données. Il est aussi applicable aux câbles utilisés pour les applications industrielles, le câblage des locaux des clients et le câblage générique comprenant des câbles d'installation et des câbles destinés au câblage d'espaces de travail qui sont définis dans l'ISO/IEC 11801 (toutes les parties).

Les câbles couverts par le présent document sont destinés à être exploités sous des tensions et courants rencontrés conventionnellement dans les systèmes de communication. Bien que ces câbles ne soient pas destinés à être utilisés en conjonction avec des sources de basse impédance, par exemple les alimentations électriques des réseaux de services publics, ils sont destinés à être utilisés pour prendre en charge les applications de téléalimentation basse tension, y compris notamment l'alimentation par Ethernet, comme spécifié dans l'ISO/IEC/IEEE 8802-3. L'IEC 61156-1-4, l'IEC TR 61156-1-6 et l'ISO/IEC TS 29125 fournissent davantage d'informations sur la capacité à prendre en charge ces applications en fonction des pratiques de pose.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60028, *Spécification internationale d'un cuivre-type recuit*

IEC 60068-2-1:2007, *Essais d'environnement – Partie 2-1: Essais – Essai A: Froid*

IEC 60189-1:2018, *Low-frequency cables and wires with PVC insulation and PVC sheath – Part 1: General test and measuring methods* (disponible en anglais seulement)

IEC 60304, *Couleurs de référence de l'enveloppe isolante pour câbles et fils pour basses fréquences*

IEC 60332-1-2, *Essais des câbles électriques et à fibres optiques soumis au feu – Partie 1-2: Essai de propagation verticale de la flamme sur conducteur ou câble isolé – Procédure pour flamme à prémélange de 1 kW*

IEC 60332-2-2, *Essais des câbles électriques et à fibres optiques soumis au feu – Partie 2-2: Essai de propagation verticale de la flamme sur conducteur ou câble isolé de petite section – Procédure pour une flamme de type à diffusion*

IEC 60332-3-24, *Essais des câbles électriques et des câbles à fibres optiques soumis au feu – Partie 3-24: Essai de propagation verticale de la flamme des fils ou câbles montés en nappes en position verticale – Catégorie C*

IEC 60332-3-25, *Essais des câbles électriques et des câbles à fibres optiques soumis au feu – Partie 3-25: Essai de propagation verticale de la flamme des fils ou câbles montés en nappes en position verticale – Catégorie D*

IEC 60708, *Câbles pour basses fréquences à isolation polyoléfine et gaine polyoléfine à barrière d'étanchéité*

IEC 60754-2, *Essai sur les gaz émis lors de la combustion des matériaux prélevés sur câbles – Partie 2: Détermination de la conductivité et de l'acidité (par mesure du pH)*

IEC 60794-1-21:2015, *Câbles à fibres optiques – Partie 1-21: Spécification générique – Procédures fondamentales d'essais des câbles optiques – Méthodes d'essai mécanique*

IEC 60811-201, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 201: Essais généraux – Mesure de l'épaisseur des enveloppes isolantes*

IEC 60811-202, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 202: Essais généraux – Mesure de l'épaisseur des gaines non métalliques*

IEC 60811-203, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 203: Essais généraux – Mesure des dimensions extérieures*

IEC 60811-401, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 401: Essais divers – Méthodes de vieillissement thermique – Vieillissement en étuve à air*

IEC 60811-501, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 501: Essais mécaniques – Détermination des propriétés mécaniques des mélanges pour les enveloppes isolantes et les gaines*

IEC 60811-502, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 502: Essais mécaniques – Essai de rétraction des enveloppes isolantes*

IEC 60811-504, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 504: Essais mécaniques – Essai d'enroulement à basse température pour les enveloppes isolantes et les gaines*

IEC 60811-506, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 506: Essais mécaniques – Essai de choc à basse température pour les enveloppes isolantes et les gaines*

IEC 60811-508, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non métalliques – Partie 508: Essais mécaniques – Essai de pression à température élevée pour les enveloppes isolantes et les gaines*

IEC 60811-509, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 509: Essais mécaniques – Essai de résistance à la fissuration des enveloppes isolantes et des gaines (essai de choc thermique)*

IEC 60811-510, *Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 510: Essais mécaniques – Méthodes spécifiques pour les mélanges polyéthylène et polypropylène – Essai d'enroulement après vieillissement thermique dans l'air*

IEC 61034 (toutes les parties), *Mesure de la densité de fumées dégagées par des câbles brûlant dans des conditions définies*

IEC TR 61156-1-2 ¹, *Multicore and symmetrical pair/quad cables for digital communications – Part 1-2: Electrical transmission characteristics and test methods of symmetrical pair/quad cables* (disponible en anglais seulement)

IEC TR 61156-1-5, *Multicore and symmetrical pair/quad cables for digital communications – Part 1-5: Correction procedures for the measurement results of return loss and input impedance* (disponible en anglais seulement)

IEC 61196-1-105, *Câbles coaxiaux de communication – Partie 1-105: Méthodes d'essai électrique – Essai pour la tension de tenue du diélectrique du câble*

IEC 62012-1:2002, *Câbles multiconducteurs à paires symétriques et quartes pour transmissions numériques utilisés en environnements sévères – Partie 1: Spécification générique*

IEC 62153-4-3:2013, *Metallic communication cables test methods – Part 4-3: Electromagnetic compatibility (EMC) – Surface transfer impedance – Triaxial method* (disponible en anglais seulement)

IEC 62153-4-5, *Méthodes d'essai des câbles métalliques de communication – Partie 4-5: Compatibilité électromagnétique (CEM) – Affaiblissement d'écran ou de couplage – Méthode de la pince absorbante*

IEC 62153-4-9, *Méthodes d'essai des câbles métalliques de communication – Partie 4-9: Compatibilité électromagnétique (CEM) – Affaiblissement de couplage des câbles symétriques écrantés, méthode triaxiale*

IEC 62255 (toutes les parties), *Câbles multiconducteurs à paires symétriques et quartes pour transmissions numériques large bande (réseau d'accès télécommunications numériques à haut débit) – Câbles pour installations extérieures*

ISO/IEC TS 29125:2017, *Technologies de l'information – Exigences de câblage des télécommunications pour téléalimentation d'équipement terminal*

¹ L'IEC TR 61156-1-2 est censée devenir une TS en 2023.