

**Testing of balanced communication cabling in
accordance with series EN 50173 - Part 2-20: Patch
cords and work area cords - Blank detail specification
for class D applications**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61935-2-20:2010 sisaldab Euroopa standardi EN 61935-2-20:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 28.02.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 23.12.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 61935-2-20:2010 consists of the English text of the European standard EN 61935-2-20:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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The standard is available from Estonian standardisation organisation.

ICS 33.120.20

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

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**Testing of balanced communication cabling
in accordance with series EN 50173 -
Part 2-20: Patch cords and work area cords -
Blank detail specification for class D applications
(IEC 61935-2-20:2008, modified)**

Essais de câblage de télécommunications
symétrique selon la série EN 50173 -
Partie 2-20: Cordons de brassage
et cordons de zones de travail -
Spécification particulière cadre
pour applications de classe D
(CEI 61935-2-20:2008, modifiée)

Prüfung der symmetrischen
Kommunikationsverkabelung
nach der Normenreihe EN 50173 -
Teil 2-20: Rangierschnüre
und Geräteanschlussschnüre -
Vordruck für Bauartspezifikation
für Anwendungen der Klasse D
(IEC 61935-2-20:2008, modifiziert)

This European Standard was approved by CENELEC on 2008-06-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 46/270/FDIS, future edition 1 of IEC 61935-2-20, prepared by IEC TC 46, Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61935-2-20 on 2008-06-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2010-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-06-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61935-2-20:2008 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

Title page

Replace "ISO/IEC 11801" by "series EN 50173".

Clause 1, Scope

Replace "ISO/IEC 11801" by "EN 50173-1" and "ISO/IEC 24702" by "EN 50173-3".

Clause 2, Normative references

Replace the references to ISO/IEC 11801 and ISO/IEC 24702 by

EN 50173-1, *Information technology - Generic cabling systems – Part 1: General requirements*

EN 50173-3, *Information technology - Generic cabling systems – Part 3: Industrial premises*

General

Replace all other occurrences of "ISO/IEC 11801" by "EN 50173-1". This replacement is to be made in Entry [5] of the table in Clause 4.

Replace all other occurrences of "ISO/IEC 24702" by "EN 50173-3". This replacement is to be made in Clause 3 (twice) and in footnotes d, g, h and i of the table in Clause 4.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
—	—	Information technology - Generic cabling systems - Part 1: General requirements	EN 50173-1	- ¹⁾
—	—	Information technology - Generic cabling systems - Part 3: Industrial premises	EN 50173-3	- ¹⁾
—	—	Communication cables - Specifications for test methods - Part 1-13: Electrical test methods - Coupling attenuation or screening attenuation of patch cords / coaxial cable assemblies / pre-connectorised cables	EN 50289-1-13	- ¹⁾
IEC 60603-7-2	- ¹⁾	Connectors for electronic equipment - Part 7-2: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz	EN 60603-7-2	2009 ²⁾
IEC 60603-7-3	- ¹⁾	Connectors for electronic equipment - Part 7-3: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 100 MHz	EN 60603-7-3	2009 ²⁾
IEC 60794-1-2	- ¹⁾	Optical fibre cables - Part 1-2: Generic specification - Basic optical cable test procedures	EN 60794-1-2	2003 ²⁾
IEC 61156-1	2007	Multicore and symmetrical pair/quad cables for digital communications - Part 1: Generic specification	-	-
IEC 61156-6	2007	Multicore and symmetrical pair/quad cables for digital communications - Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz - Work area wiring - Sectional specification	-	-
IEC 61935-2 (mod)	2005	Testing of balanced communication cabling in accordance with standards series EN 50173 - Part 2: Patch cords and work area cords	EN 61935-2 + corr. December	2005 2005

¹⁾ Undated reference.

²⁾ Valid edition at date of issue

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62012-1	- ¹⁾	Multicore and symmetrical pair/quad cables for digital communications to be used in harsh environments - Part 1: Generic specification	EN 62012-1	2002 ²⁾

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TESTING OF BALANCED COMMUNICATION CABLING IN ACCORDANCE WITH ISO/IEC 11801 –

Part 2-20: Patch cords and work area cords – Blank detail specification for class D applications

1 Scope

This blank detail specification describes work area cord for class D applications, as defined in ISO/IEC 11801 as well as in the ISO/IEC 24702.

This blank detail specification determines the layout and style for detail specifications describing cords with transmission characteristics up to 100 MHz for digital communications. Detail specifications, based on this blank detail specification, may be prepared by a national organization, a manufacturer, or a user.

Test configuration applicable to cords is detailed in the IEC 61935-2.

The designation "Category 5e" is used herein to describe an enhanced category 5 cable (see 1 of IEC 61156-6).

2 Normative references

The following referenced documents are indispensable for the application 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 60603-7-2, *Connectors for electronic equipment – Part 7-2: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz*

IEC 60603-7-3, *Connectors for electronic equipment – Part 7-3: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz*

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

IEC 61156-1:2007, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC 61156-6:2007, *Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Sectional specification*

IEC 61935-2:2005, *Testing of balanced communication cabling in accordance with ISO/IEC 11801 – Patch cords and work area cords*

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

ISO/IEC 11801, *Information technology – Generic cabling for customer premises*

ISO/IEC 24702, *Information technology – Generic cabling – Industrial premises*

EN 50289-1-13, *Electrical test methods – Coupling attenuation or screening attenuation of patch cords / coaxial cable assemblies / pre-connectorised cables*¹

3 Guidance for preparation of detail specifications

It is necessary to keep the transmission characteristics indicated in the relevant sectional specification for the referenced category number, i.e. 5e and the characteristic impedance.

The detail specification shall be written in accordance with the layout of the blank detail specification, which forms part of this standard.

NOTE 1 When a characteristic does not apply, then “na” (for not applicable) should be entered in the appropriate space.

NOTE 2 When a characteristic applies but a specific value is not considered necessary, then “ns” (for not specified) should be entered in the appropriate space. When ns is used, the appropriate requirement in the sectional specification should apply.

The numbers shown in brackets in this and the following pages correspond to the following items of required information, which should be entered in the spaces provided.

- [1] Name and address of the organization that has prepared the document.
- [2] IEC document number, issue number and date of issue.
- [3] Address of the organization from which the document is available.
- [4] Related documents.
- [5] Any other reference to the cable, national reference, trade name, etc.
- [6] A complete description of the cable which shall include
 - a) type and number of elements;
 - b) nominal impedance;
 - c) screening;
 - d) application;
 - e) category;
 - f) other distinguishing performance characteristics.

Example: 4-pair, unshielded twisted pair cable for use in work area wiring, having a nominal impedance of 100 Ω , and meeting the transmission requirements of category 5e and the coupling attenuation requirements of type III.

- [7] Details of the cable material and construction.
- [8] Special requirements for bending radius or operating temperatures.
- [9] List of cable characteristics. They are separated into electrical, transmission, mechanical and environmental characteristics.

The recommended environmental severities are derived from the MICE table requirements of ISO/IEC 24702. These recommendations were made to better reflect the cable behaviour.

It should be noted that ingress requirements using particles are not applicable to a cable.

The temperature requirements are addressed in [8]. Rapid change of temperature is irrelevant for cables.

¹ The EN 50289-1-13 will be replaced with equivalent IEC publication when available.