

INTERNATIONAL STANDARD

**Multicore and symmetrical pair/quad cables for digital communications –
Part 12: Symmetrical single pair cables with transmission characteristics up to
600 MHz – Work area wiring – Sectional specification**





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IEC 61156-12

Edition 1.0 2021-01

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.120.20

ISBN 978-2-8322-9230-3

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CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 Installation considerations	8
4.1 General remarks	8
4.2 Bending radius of installed cable.....	8
4.3 Climatic conditions.....	8
5 Materials and cable construction	8
5.1 General remarks	8
5.2 Cable construction	9
5.3 Conductor	9
5.4 Insulation	9
5.5 Cable element.....	9
5.6 Screening of the cable element.....	9
5.7 Cable make-up.....	9
5.8 Screening of the cable core	9
5.9 Sheath	9
5.10 Identification	10
5.11 Finished cable	10
6 Characteristics and requirements	10
6.1 General remarks	10
6.2 Electrical characteristics and tests	10
6.2.1 Conductor resistance	10
6.2.2 Resistance unbalance.....	10
6.2.3 Dielectric strength.....	11
6.2.4 Insulation resistance	11
6.2.5 Mutual capacitance	11
6.2.6 Capacitance unbalance	11
6.2.7 Transfer impedance	11
6.2.8 Coupling attenuation.....	11
6.2.9 Current-carrying capacity.....	12
6.3 Transmission characteristics	12
6.3.1 Velocity of propagation (phase velocity).....	12
6.3.2 Phase delay.....	12
6.3.3 Attenuation (α).....	12
6.3.4 Unbalance attenuation (<i>TCL</i> and <i>ELTCTL</i>).....	13
6.3.5 Alien (exogenous) near-end crosstalk (<i>PS ANEXT</i>)	13
6.3.6 Alien (exogenous) far-end crosstalk (<i>PS AACR-F</i>).....	14
6.3.7 Alien (exogenous) crosstalk of bundled cables	14
6.3.8 Impedance.....	14
6.3.9 Return loss (<i>RL</i>).....	14
6.4 Mechanical and dimensional characteristics and requirements.....	15
6.4.1 Dimensional requirements	15
6.4.2 Elongation at break of the conductor.....	15
6.4.3 Tensile strength of the insulation	15

6.4.4	Elongation at break of the insulation	15
6.4.5	Adhesion of the insulation to the conductor.....	15
6.4.6	Elongation at break of the sheath	15
6.4.7	Tensile strength of the sheath.....	15
6.4.8	Crush test of the cable.....	15
6.4.9	Impact test of the cable	15
6.4.10	Bending under tension	16
6.4.11	Repeated bending of the cable	16
6.4.12	Tensile performance of the cable.....	16
6.4.13	Shock-test requirements of the cable	16
6.4.14	Bump-test requirements of the cable	16
6.4.15	Vibration-test requirements of a cable	16
6.5	Environmental characteristics	16
6.5.1	Shrinkage of insulation	16
6.5.2	Wrapping test of insulation after thermal ageing	16
6.5.3	Bending test of insulation at low temperature.....	16
6.5.4	Elongation at break of the sheath after ageing	16
6.5.5	Tensile strength of the sheath after ageing	16
6.5.6	Sheath pressure test at high temperature	16
6.5.7	Cold bend test of the cable	17
6.5.8	Heat shock test.....	17
6.5.9	Damp heat steady state	17
6.5.10	Solar radiation (UV test)	17
6.5.11	Solvents and contaminating fluids.....	17
6.5.12	Salt mist and sulphur dioxide	17
6.5.13	Water immersion	17
6.5.14	Hygroscopicity	17
6.5.15	Wicking.....	17
6.5.16	Flame propagation characteristics of a single cable	17
6.5.17	Flame propagation characteristics of bunched cables	17
6.5.18	Halogen gas evolution	17
6.5.19	Smoke generation.....	17
6.5.20	Toxic gas emission	18
6.5.21	Integrated fire test method for cables in environmental air handling spaces.....	18
7	Bundled cable requirements	18
7.1	General.....	18
7.2	Single pairs sharing one sheath	18
7.2.1	General	18
7.2.2	Near-end crosstalk (<i>NEXT</i>).....	18
7.2.3	Attenuation to crosstalk ratio far-end (<i>PS ACR-F</i>)	18
	Annex A (informative) Blank detail specification	20
	Bibliography.....	25
	Table 1 – Transfer impedance	11
	Table 2 – Coupling attenuation	12
	Table 3 – Attenuation equation constants	13
	Table 4 – <i>TCL</i> requirements	13

Table 5 – <i>ELTCTL</i> requirements	13
Table 6 – <i>PS ANEXT</i> requirements	14
Table 7 – <i>PS AACR-F</i> requirements	14
Table 8 – <i>RL</i> requirements	15
Table 9 – <i>NEXT</i> and <i>PS NEXT</i> requirements	18
Table 10 – <i>ACR-F</i> and <i>PS ACR-F</i> requirements	19

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES
FOR DIGITAL COMMUNICATIONS –**
**Part 12: Symmetrical single pair cables with transmission characteristics
up to 600 MHz – Work area wiring – Sectional specification**

FOREWORD

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International Standard IEC 61156-12 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.

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

CDV	Report on voting
46C/1136/CDV	46C/1152/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 12: Symmetrical single pair cables with transmission characteristics up to 600 MHz – Work area wiring – Sectional specification

1 Scope

This part of IEC 61156 describes cables intended to be used for transmission of 1 Gbit/s over a single twisted pair for office, home and industrial application. An example of an existing application is 1000BASE-T1; see ISO/IEC TR 11801-9906. The transmission characteristics of these cables are specified up to a frequency of 600 MHz and at a temperature of 20 °C. The cable type recognised is intended to be used for the work area wiring of shielded channels with a nominal length of 40 m. Possible designs are U/FTP, X/UTP and X/FTP, where X stands for F, S or SF.

These cables can comprise more than one pair in case several systems are operated in parallel. In this case, refer to Clause 7 of this document.

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, e.g. the electric power supplies of public utility mains, they are intended to be used to support the delivery of low voltage remote powering applications.

Annex A provides a blank detail specification (BDS) that can be used to summarize design and performance requirements agreed upon between the supplier and the user of a specific cable type.

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

IEC 61156-1:2007, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*
IEC 61156-1:2007/AMD1:2009¹

IEC 62153-4-3, *Metallic communication cable 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) – Coupling or screening attenuation – Absorbing clamp method*

¹ A consolidated edition 3.1 of this publication exists, comprising IEC 61156-1:2007 and IEC 61156-1:2007/AMD1:2009.