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REDLINE VERSION

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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

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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 9
5.1 General remarks 9
5.2 Cable construction 9
5.2.1 Conductor 9
5.2.2 Insulation 9
5.2.3 Cable element 9
5.2.4 Cable make-up 9
5.2.5 Screening of the cable core 9
5.2.6 Sheath 10
5.2.7 Identification 10
5.2.8 Finished cable 10
6 Characteristics and requirements 10
6.1 General remarks 10
6.2 Electrical characteristics and tests 11
6.2.1 Conductor resistance 11
6.2.2 Resistance unbalance 11
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 12
6.2.9 Current-carrying capacity 13
6.3 Transmission characteristics 13
6.3.1 Velocity of propagation (phase velocity) 13
6.3.2 Phase delay and differential delay (delay skew) 13
6.3.3 Attenuation 13
6.3.4 Unbalance attenuation *(TCL)* 14
6.3.5 Near-end crosstalk (*NEXT*) 15
6.3.6 Attenuation to crosstalk ratio far end (*PS ACR-F*) 16
6.3.7 Alien (exogenous) near end crosstalk 16
6.3.8 Alien (exogenous) far-end crosstalk (*AACR-F*) 17
6.3.9 Alien (exogenous) crosstalk of bundled cables 17
6.3.10 Impedance 17
6.3.11 Return loss (*RL*) 18
6.4 Mechanical and dimensional characteristics and requirements 19
6.4.1 Dimensional requirements 19
6.4.2 Elongation at break of the conductors 19

6.4.3 Tensile strength of the insulation 19
6.4.4 Elongation at break of the insulation 19
6.4.5 Adhesion of the insulation to the conductor 19
6.4.6 Elongation at break of the sheath 19
6.4.7 Tensile strength of the sheath 19
6.4.8 Crush test of the cable 19
6.4.9 Impact test of the cable 19
6.4.10 Bending under tension 19
6.4.11 Repeated bending of the cable 19
6.4.12 Tensile performance of the cable 19
6.4.13 Shock-test requirements of the cable 20
6.4.14 Bump-test requirements of the cable 20
6.4.15 Vibration-test requirements of the cable 20
6.5 Environmental characteristics 20
6.5.1 Shrinkage of the insulation 20
6.5.2 Wrapping test of the insulation after thermal ageing 20
6.5.3 Bending test of the insulation at low temperature 20
6.5.4 Elongation at break of the sheath after ageing 20
6.5.5 Tensile strength of the sheath after ageing 20
6.5.6 Sheath pressure test at high temperature 20
6.5.7 Cold bend test of the cable 20
6.5.8 Heat shock test 20
6.5.9 Damp heat steady state 20
6.5.10 Solar radiation 21
6.5.11 Solvents and contaminating fluids 21
6.5.12 Salt mist and sulphur dioxide 21
6.5.13 Water immersion 21
6.5.14 Hygroscopicity 21
6.5.15 Wicking 21
6.5.16 Flame propagation characteristics of a single cable 21
6.5.17 Flame propagation characteristics of bunched cables 21
6.5.18 Halogen gas evolution 21
6.5.19 Smoke generation 21
6.5.20 Toxic gas emission 21
6.5.21 Integrated fire test 21
7 Introduction to the blank detail specification 22
Annex A (informative) Blank detail specification 23
Bibliography 28

~~Figure 1 – Impedance template ....~~

Table 1 – Cable categories 7
Table 2 – Transfer impedance 12
Table 3 – Coupling attenuation in dB 12
Table 4 – Attenuation, constant values 14
Table 5 – Near-end unbalance attenuation 15
Table 6 – Worst pair $PS\ NEXT(1)$ values 15

Table 7 – Worst pair *PS ACR-F*(1) 16
Table 8 – *PS ANEXT* 16
Table 9 – *PS AACR-F* ~~*(PS AELFEXT)*~~ 17
Table 10 – Return loss 18

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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

FOREWORD

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This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 61156-6 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.

This fourth edition cancels and replaces the third edition published in 2010 and Amendment 1:2012. This edition constitutes a technical revision.

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

a) additional balance levels with respect to MICE implementation by certain cabling specifications;
b) reference to current standards and technical reports with respect to measurement techniques and remote powering.

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

FDIS	Report on voting
46C/1141/FDIS	46C/1145/RVD

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.

This International Standard is to be used in conjunction with IEC 61156-1:2007 and IEC 61156-1:2007/AMD1:2009.

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,
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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

1 Scope

~~This part of IEC 61156 makes reference to IEC 61156-1. The cables described herein are intended primarily for work area wiring as defined in ISO/IEC 11801 and ISO/IEC 24702.~~

This part of IEC 61156 describes the cables intended primarily for working area wiring as defined in ISO/IEC 11801 (all parts).

It covers cable designs comprising individually screened, common screened and unscreened pairs or quads. The transmission characteristics and the frequency range (see Table 1) of the cables are specified at 20 °C.

Table 1 – Cable categories

Cable designation	Maximum referenced frequency MHz
Category 5e	100
Category 6	250
Category 6_A	500
Category 7	600
Category 7_A	1 000

These cables can be used for various communication channels which use as many as four pairs simultaneously. In this sense, this document provides the cable characteristics required by system developers to evaluate new systems.

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 ~~and~~ remote powering applications such as IEEE 802.3af (Power over Ethernet) ~~and~~ or further developments for example according to IEEE 802.3at ~~(Power over Ethernet Plus)~~ or IEEE 802.3bt. 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 61156-1:2007, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*
IEC 61156-1:2007/AMD1:2009

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

IEC 62153-4-3, *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) – Coupling or screening 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*

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Edition 4.0 2020-04

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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 61156-6:2020-04(en)

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
5.2.1 Conductor 9
5.2.2 Insulation 9
5.2.3 Cable element 9
5.2.4 Cable make-up 9
5.2.5 Screening of the cable core 9
5.2.6 Sheath 9
5.2.7 Identification 10
5.2.8 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 and differential delay (delay skew) 12
6.3.3 Attenuation 12
6.3.4 Unbalance attenuation (TCL) 13
6.3.5 Near-end crosstalk ($NEXT$) 14
6.3.6 Attenuation to crosstalk ratio far end ($PS\ ACR\text{-}F$) 15
6.3.7 Alien (exogenous) near end crosstalk 15
6.3.8 Alien (exogenous) far-end crosstalk ($AACR\text{-}F$) 16
6.3.9 Alien (exogenous) crosstalk of bundled cables 16
6.3.10 Impedance 16
6.3.11 Return loss (RL) 16
6.4 Mechanical and dimensional characteristics and requirements 17
6.4.1 Dimensional requirements 17
6.4.2 Elongation at break of the conductors 17

6.4.3 Tensile strength of the insulation 17
6.4.4 Elongation at break of the insulation 17
6.4.5 Adhesion of the insulation to the conductor 17
6.4.6 Elongation at break of the sheath 17
6.4.7 Tensile strength of the sheath 17
6.4.8 Crush test of the cable 17
6.4.9 Impact test of the cable 18
6.4.10 Bending under tension 18
6.4.11 Repeated bending of the cable 18
6.4.12 Tensile performance of the cable 18
6.4.13 Shock-test requirements of the cable 18
6.4.14 Bump-test requirements of the cable 18
6.4.15 Vibration-test requirements of the cable 18
6.5 Environmental characteristics 18
6.5.1 Shrinkage of the insulation 18
6.5.2 Wrapping test of the insulation after thermal ageing 18
6.5.3 Bending test of the insulation at low temperature 18
6.5.4 Elongation at break of the sheath after ageing 18
6.5.5 Tensile strength of the sheath after ageing 18
6.5.6 Sheath pressure test at high temperature 19
6.5.7 Cold bend test of the cable 19
6.5.8 Heat shock test 19
6.5.9 Damp heat steady state 19
6.5.10 Solar radiation 19
6.5.11 Solvents and contaminating fluids 19
6.5.12 Salt mist and sulphur dioxide 19
6.5.13 Water immersion 19
6.5.14 Hygroscopicity 19
6.5.15 Wicking 19
6.5.16 Flame propagation characteristics of a single cable 19
6.5.17 Flame propagation characteristics of bunched cables 19
6.5.18 Halogen gas evolution 19
6.5.19 Smoke generation 20
6.5.20 Toxic gas emission 20
6.5.21 Integrated fire test 20
7 Introduction to the blank detail specification 20
Annex A (informative) Blank detail specification 21
Bibliography 26

Table 1 – Cable categories 7
Table 2 – Transfer impedance 11
Table 3 – Coupling attenuation in dB 12
Table 4 – Attenuation, constant values 13
Table 5 – Near-end unbalance attenuation 14
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Table 9 – *PS AACR-F* 16
Table 10 – Return loss 17

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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