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# INTERNATIONAL STANDARD

## Multicore and symmetrical pair/ quad cables for digital communications – Part 15: Symmetrical pair/quad cables for horizontal floor wiring with transmission characteristics up to 1 000 MHz and resistance to fire performance characteristics – Sectional specification

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## Part 15: Symmetrical pair/quad cables for horizontal floor wiring with transmission characteristics up to 1 000 MHz and resistance to fire performance characteristics – Sectional specification

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IEC 61156-15 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.

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

| Draft | Report on voting |
|---|---|
| 46C/1272/CDV | 46C/1290/RVC |

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 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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

# INTRODUCTION

The demand for applications using cables maintaining power and data transmission under fire attack is rising. Current installation standards address mainly the "short circuit" protection issue, and some electrical parameters. Data transmission information is limited and further important parameters are not addressed.

For the evaluation of the circuit integrity (both short circuit protection and maintaining data transmission capability), two different samples and two different tests should be performed. The cable should pass the test as per IEC 60331-23:1999 and only then be evaluated to its data transmission integrity under flame attack as per IEC 60331-23:1999 by the definitions and instructions stated in this document.

Compliance with this document is not an indication that the cable will suite all types of applications or attack by any fire scenario. It only ensures that the circuit integrity, as defined, is maintained using the test procedures and flame application described.

# MULTICORE AND SYMMETRICAL PAIR/ QUAD CABLES FOR DIGITAL COMMUNICATIONS –

# Part 15: Symmetrical pair/quad cables for horizontal floor wiring with transmission characteristics up to 1 000 MHz and resistance to fire performance characteristics – Sectional specification

## 1 Scope

This part of IEC 61156 refers to cables as described in IEC 61156-5:2020 or cables containing element(s) from cables as described in IEC 61156-5 which are required to maintain both circuit integrity and data transmission capability before, during and after flame application under specified conditions.

In addition to the basic cable construction, it describes the means of sample preparation, checking arrangements and gives the performance requirements, means to evaluate the data transmission capability during and after subjecting to fire, and gives means for evaluating test results and the parameters that are specified in the detail specification.

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 and have no rated voltage and are used for extra low voltage circuits.

For the purpose of this document, fire conditions as currently listed in IEC 60331-23:1999 and basic test apparatus as per IEC 60331-11:1999 apply.

As the test method according to IEC 60331-23:1999 will not be developed further, other test methods could be used or added in future editions of this document.

IEC 60331-1 and IEC 60331-2 will be added in a future revision as the standard tests for circuit integrity and the test rig to be used for all testing.

## 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 60331-11:1999, *Tests for electric cables under fire conditions – Circuit integrity – Part 11: Apparatus – Fire alone at a flame temperature of at least 750 °C*

IEC 60331-23:1999, *Tests for electric cables under fire conditions – Circuit integrity – Part 23: Procedures and requirements – Electric data cables*

IEC 61156 (all parts), *Multicore and symmetrical pair/quad cables for digital communications*

IEC 61156-1:2023, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC 61156-5:2020, *Multicore and symmetrical pair/quad cables for digital communications – Part 5: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Horizontal floor wiring – Sectional specification*

ISO/IEC 11801-1:2017, *Information technology − Generic cabling for customer premises – Part 1: General requirements*