IEC 61196-6-3

Edition 1.0 2018-01

INTERNATIONAL STANDARD

Coaxial communication cables –
Part 6-3: Detail specification for 75-5 type CATV drop cables

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COAXIAL COMMUNICATION CABLES –

Part 6-3: Detail specification for 75-5 type CATV drop cables

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International Standard IEC 61196-6-3 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components.

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

FDIS	Report on voting
46A/1353/FDIS	46A/1359/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 61196-1:2005 and IEC 61196-6:2009.

A list of all parts in the IEC 61196 series, published under the general title *Coaxial communication cables*, 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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

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COAXIAL COMMUNICATION CABLES –

Part 6-3: Detail specification for 75-5 type CATV drop cables

1 Scope

This part of IEC 61196 applies to coaxial communication cables described in IEC 61196-6. It specifies the requirements for 75-5 type CATV drop cables. These cables are used in CATV distribution systems, surveillance and control systems, satellite television receiving systems and as bidirectional hybrid fibre coax (HFC). The operating frequency is from 5 MHz to 3 000 MHz.

This part of IEC 61196 is to be used in conjunction with IEC 61196-1:2005 and IEC 61196-6:2009. It determines the layout and style with respect to the model and 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.

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NOTE Documents which are needed to achieve the tests according to Clause 4, item [8] or item [9], respectively, are listed in IEC 61196-6.

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IEC 61196-1:2005, *Coaxial communication cables – Part 1: Generic specification – General, definitions and requirements*

IEC 61196-1-115, *Coaxial communication cables – Part 1-115: Electrical test methods – Test for regularity of impedance (pulse/step function return loss)*

IEC 61196-1-314:2015, *Coaxial communication cables – Part 1-314: Mechanical test methods – Test for bending*

IEC 61196-6:2009, *Coaxial communication cables – Part 6: Sectional specification for CATV drop cables*

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

IEC 62153-4-4, *Metallic communication cable test methods – Part 4-4: Electromagnetic compatibility (EMC) – Test method for measuring of the screening attenuation as up to and above 3 GHz, triaxial method*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 Detail specification

<table>
<tr><td colspan="5">COAXIAL COMMUNICATION CABLES –
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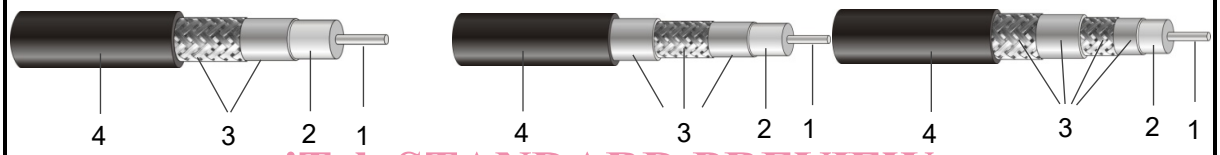
<tr><td colspan="2">[1] Prepared by:
IEC SC 46A</td><td></td><td colspan="2">[2] Document No.: IEC 61196-6-3
Issue: Edition 1.0
Date:</td></tr>
<tr><td colspan="2">[3] Available from:
IEC</td><td colspan="3">[4] Generic specification: IEC 61196-1
Sectional specification: IEC 61196-6</td></tr>
<tr><td colspan="5">[5] Additional references</td></tr>
<tr><td colspan="5">[6] Cable construction</td></tr>
<tr><td colspan="5">75-5S (Dual shield) 75-5T (Tri-shield) 75-5Q (Quad-shield)
 

1: Inner conductor 2: Dielectric 3: Shield 4: Sheath or jacket</td></tr>
<tr><td colspan="2">Variant [a] constructions</td><td>75-5S</td><td>75-5T</td><td>75-5Q</td></tr>
<tr><td rowspan="3">Inner conductor</td><td>Material</td><td colspan="3">BC or CCS</td></tr>
<tr><td>Diameter (mm)</td><td colspan="3">1,02</td></tr>
<tr><td>Tolerance (mm)</td><td colspan="3">± 0,02</td></tr>
<tr><td rowspan="3">Dielectric</td><td>Material</td><td colspan="3">Foamed PE</td></tr>
<tr><td>Diameter (mm)</td><td colspan="3">4,57</td></tr>
<tr><td>Tolerance (mm)</td><td colspan="3">± 0,13</td></tr>
<tr><td rowspan="6">Outer conductor or shield</td><td>Material</td><td>ALT+A or ALT+TC</td><td>ALT+A+ALT or ALT+TC+ALT</td><td>ALT+A+ALT+A or ALT+TC+ALT+TC</td></tr>
<tr><td>Inner shield diameter (mm)</td><td colspan="3">4,78</td></tr>
<tr><td>Tolerance (mm)</td><td colspan="3">± 0,13</td></tr>
<tr><td>Longitudinally overlap (%)</td><td colspan="3">18 – 35</td></tr>
<tr><td>Braid coverage (%)</td><td>≥ 59</td><td>≥ 59</td><td>Inner braid ≥ 59</td></tr>
<tr><td>Maximum outer diameter (mm)</td><td>5,55</td><td>5,75</td><td>6,40</td></tr>
</table>

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Sheath or jacket	Material	PE or PVC or LSZH		
	Minimum thickness (mm)	0,60	0,60	0,50
	Diameter (mm)	6,93	7,06	7,54
	Tolerance (mm)	± 0,20		

[a] Variants are shown in Annex A.

NOTE:

BC — Bare copper wire
CCS — Copper clad steel wire
ALT — Aluminium-polymeric laminated tape
A — Aluminium alloy wire
TC — Tinned copper wire
PE — Polyethylene
PVC — Polyvinylchloride
LSZH — Low smoke zero halogen polyolefin

[7] Engineering information (reference only)	
Operating temperature range	−40 °C to 70 °C (PE Sheath) −20 °C to 70 °C (PVC Sheath) −15 °C to 70 °C (LSZH Sheath)
Operating frequency range	5 MHz to 3 000 MHz
Nominal characteristic impedance	75 Ω
Minimum bending radius	10D (D is the nominal cable outer diameter)
Relative propagation velocity	85 % (nominal)
Maximum current carrying capacity	8 A (20 °C); 6 A (40 °C)
Cable identification and marking	See Annex A.

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[8] Parameter or characteristic	**[9] Subclause of IEC 61196-6:2009**	**[10] Value**	**[11] Remarks**
Electrical testing of finished cable	7.1		
Low-frequency and DC electrical measurements	7.1.1		
Conductor resistance			
Inner conductor	7.1.1.1	≤ 21,10 Ω/km (BC conductor)	at 20 °C
		≤ 102,00 Ω/km (CCS conductor)	
Outer conductor		≤ 33,00 Ω/km (ALT+A)	
		≤ 17,20 Ω/km (ALT+TC)	
		≤ 25,50 Ω/km (ALT+A+ALT)	
		≤ 14,50 Ω/km (ALT+TC+ALT)	
		≤ 22,00 Ω/km (ALT+A+ALT+A)	
		≤ 11,00 Ω/km (ALT+TC+ALT+TC)	
Insulation resistance	7.1.1.2	≥ 10 000 MΩ•km	
Withstand voltage of dielectric	7.1.1.3	1,5 kV AC, 1 min 2,1 kV DC, 1 min	
Withstand voltage of sheath	7.1.1.4	2,5 kV AC, 1 min 3,5 kV DC, 1 min	