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Fibre organisers and closures to be used in optical fibre communication systems - Product specifications -- Part 2-8: Microduct connectors, for air blown optical fibres, Type 1

I.S. EN 50411-2-8:2009

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EUROPEAN STANDARD

EN 50411-2-8

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May 2009

EUROPÄISCHE NORM

ICS 33.180.20

English version

**Fibre organisers and closures to be used
in optical fibre communication systems -
Product specifications -
Part 2-8: Microduct connectors, for air blown optical fibres, Type 1**

Organiseurs et boîtiers de fibres à utiliser
dans les systèmes de communication
par fibres optiques -
Spécifications de produits -
Partie 2-8: Connecteurs en microconduits
de Type 1, destinés aux fibres optiques
soufflées à l'air comprimé

LWL-Spleißkassetten und -Muffen
für die Anwendung in LWL-
Kommunikationssystemen -
Produktnormen -
Teil 2-8: ABF-Mikrorohrverbinder,
Bauart 1

This European Standard was approved by CENELEC on 2008-12-01. 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

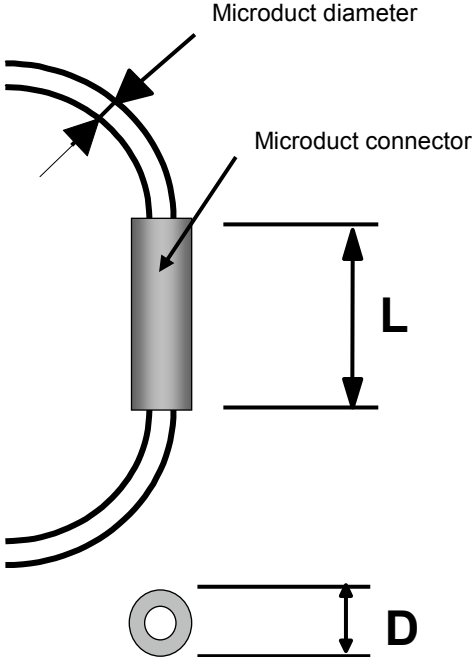
This European Standard was prepared by the Technical Committee CENELEC TC 86BXA, Fibre optic interconnect, passive and connectorised components.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50411-2-8 on 2008-12-01.

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) 2009-12-01

 - latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-12-01
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Fibre organisers and closures to be used in optical fibre communication systems - Product specifications																																									
Microduct connectors, for air blown optical fibres, Type 1																																									
Construction: Tube seals: Connector types:	Description Sealed microduct connector Cold applied Straight, Straight bulkhead, Reducer, Close down, Liquid block, Liquid block with barb end, End stop and Stem.	Performance Optical fibre cable networks EN 61753-1																																							
Related documents: EN 61300 series Fibre optic interconnecting devices and passive components – Basic test and measurement procedures (IEC 61300 series) EN 61753-1 Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance standards (IEC 61753-1) ETSI EN 300 019 series Environmental Engineering (EE) – Environmental conditions and environmental tests for telecommunications equipment																																									
Construction: 	Examples 'Straight through' Connector dimensions for non-bulkhead mounting																																								
	<table border="1"> <thead> <tr> <th rowspan="2">Nominal microduct outside diameter</th> <th>Diameter or across corners</th> <th>Length</th> </tr> <tr> <th>D</th> <th>L</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">max. mm</td> <td style="text-align: center;">max. mm</td> </tr> <tr> <td style="text-align: center;">3 mm</td> <td style="text-align: center;">9</td> <td style="text-align: center;">23</td> </tr> <tr> <td style="text-align: center;">4 mm</td> <td style="text-align: center;">14</td> <td style="text-align: center;">32</td> </tr> <tr> <td style="text-align: center;">5 mm</td> <td style="text-align: center;">15</td> <td style="text-align: center;">40</td> </tr> <tr> <td style="text-align: center;">6 mm</td> <td style="text-align: center;">15</td> <td style="text-align: center;">38</td> </tr> <tr> <td style="text-align: center;">7 mm</td> <td style="text-align: center;">18</td> <td style="text-align: center;">42</td> </tr> <tr> <td style="text-align: center;">8 mm</td> <td style="text-align: center;">20</td> <td style="text-align: center;">46</td> </tr> <tr> <td style="text-align: center;">10 mm</td> <td style="text-align: center;">24</td> <td style="text-align: center;">50</td> </tr> <tr> <td style="text-align: center;">12 mm</td> <td style="text-align: center;">25</td> <td style="text-align: center;">54</td> </tr> <tr> <td style="text-align: center;">14 mm</td> <td style="text-align: center;">29</td> <td style="text-align: center;">62</td> </tr> <tr> <td style="text-align: center;">15 mm</td> <td rowspan="2" style="text-align: center;">33</td> <td rowspan="2" style="text-align: center;">70</td> </tr> <tr> <td style="text-align: center;">16 mm</td> </tr> </tbody> </table>	Nominal microduct outside diameter	Diameter or across corners	Length	D	L		max. mm	max. mm	3 mm	9	23	4 mm	14	32	5 mm	15	40	6 mm	15	38	7 mm	18	42	8 mm	20	46	10 mm	24	50	12 mm	25	54	14 mm	29	62	15 mm	33	70	16 mm	
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Contents

1	Scope	7
1.1	Product identification	7
1.2	Operating environment.....	7
1.3	Reliability	7
1.4	Quality assurance.....	7
1.5	Safety labelling – Warning: need for an ‘over pressure device’ in sealed closures.....	7
2	Normative references	8
3	Definitions and abbreviations	9
3.1	Definitions.....	9
3.2	Abbreviations.....	11
4	Description	11
4.1	Microduct connector housing	11
4.2	Burst pressure.....	15
4.3	Microduct seals	15
4.4	Materials.....	15
4.5	Marking.....	15
5	Variants	16
6	Dimensional requirements	17
6.1	Dimensions diagram	17
6.2	‘Straight’ connectors – Equal microduct.....	17
6.3	‘Straight bulkhead’ connectors – Equal microduct	18
6.4	‘ID reducer/enlarger stem’ connectors	18
6.5	‘ID reducer/enlarger’ connectors	19
6.6	‘OD reducer/enlarger stem’ connectors	19
6.7	‘OD reducer/enlarger’ connectors	20
6.8	‘ID and OD reducer/enlarger stem’ connectors.....	20
6.9	‘ID and OD reducer/enlarger’ connectors.....	21
6.10	‘Close Down’ connectors.....	21
6.11	‘Liquid Block’ connector.....	22
6.12	‘Liquid Block with barb end’ connectors	22
6.13	‘End Stop’ connectors	22
7	Tests	23
7.1	Sample size.....	23
7.2	Test sample preparation	23
7.3	Test and measurement methods	24
7.4	Test sequence.....	24
7.5	Pass/fail criteria	24
8	Test report	24
9	Performance requirements	24
9.1	Bend radius	24
9.2	Dimensional and marking requirements.....	24
9.3	Sealing, optical and appearance performance criteria.....	24
9.4	Mechanical sealing performance requirements	26
9.5	Environmental sealing performance requirements.....	28

Annex A (informative) Sample size and product sourcing requirements	30
Annex B (informative) Air blown fibre microduct – Mean outside diameter range	31
Annex C (normative) Test method – High pressure resistance – Safety	32
Annex D (normative) Test method – Installation	33
Annex E (normative) Test method – Insertion force	34
Bibliography	35

Figures

Figure 1 – Fibre flow impedance	11
Figure 2 – Fibre flow impedance – Both direction step.....	11
Figure 3 – Fibre flow impedance – One direction step	12
Figure 4 – Fibre flow impedance – Acute angled step.....	12
Figure 5 – ‘Typical’ connector elements – Cross sectional view.....	13
Figure 6 – ‘Straight’ – Equal microduct outside diameters	13
Figure 7 – ‘Straight bulkhead’ – Equal microduct outside diameters.....	13
Figure 8 – ‘ID reducer/enlarger stem’– Unequal microducts with a different ID ‘OD reducer/enlarger stem’ – Unequal microducts with a different OD ‘ID and OD reducer/enlarger stem’ – Unequal microducts with a different ID and OD	13
Figure 9 – ‘ID reducer/enlarger’ – Unequal microducts with a different ID ‘OD reducer/enlarger’ – Unequal microducts with a different OD ‘ID and OD reducer/enlarger’ – Unequal microducts with a different ID and OD	14
Figure 10 – Close down assembly access for blowing head equipment	14
Figure 11 – Liquid block transition point to stop liquid migration	14
Figure 12 – Liquid block with a barb end transition point to stop liquid migration.....	14
Figure 13 – End stop.....	14
Figure 14 – Microduct interconnection geometry.....	15
Figure 15 – Microduct connector overall dimensions	17
Figure 16 – Sealing performance test sample (tank to source).....	23
Figure 17 – Optical test chamber – Liquid block connectors (only).....	24
Figure E.1 – Test apparatus for insertion force method	34

Tables

Table 1 – Micro-duct connector – Variants EN 50411-2-8 – XXX/XXX ₁ - XXX/XXX ₂ – XXX ₃ – X ₄	16
Table 2 – ‘Straight’ connector design – Maximum dimensions	17
Table 3 – ‘Straight bulkhead’ connector – Maximum dimensions	18
Table 4 – ‘ID reducer/enlarger stem’ connector – Maximum dimensions	18
Table 5 – ‘ID reducer/enlarger’ connector – Maximum dimensions	19
Table 6 – ‘OD reducer/enlarger stem’ connector – Maximum dimensions.....	19
Table 7 – ‘OD reducer/enlarger’ connector – Maximum dimensions	20
Table 8 – ‘ID and OD reducer/enlarger stem’ connector – Maximum dimensions	20
Table 9 – ‘ID and OD reducer/enlarger’ connector – Maximum dimensions	21
Table 10 – ‘Close Down’ connector – Maximum dimensions	21
Table 11 – ‘Liquid Block’ connectors – Maximum dimensions	22
Table 12 – ‘Liquid Block with barb end’ connectors - Maximum dimensions	22
Table 13 – ‘End Stop’ connector.....	22
Table 14 – Tightness, optical and appearance performance criteria.....	25
Table 15 – Mechanical requirements.....	26
Table 16 – Environmental sealing performance requirements	28
Table A.1 – Minimum sample size requirements.....	30
Table B.1 – Air blown fibre microduct – Mean outside diameter range	31

1 Scope

1.1 Product identification

This specification contains the initial, start of life dimensional, optical, mechanical and environmental performance requirements of a fully installed blown fibre 'microduct' connector in order for it to be categorised as an EN standard product.

This product specification covers the following 'microduct connectors' to suit a wide range of blown fibre applications, for floating or fixed:

- joining the same size microduct, or different sizes of microduct;
- joining same size protected microduct, to same or different size of microduct or protected microduct;
- disconnection of the connector to gain access, for example, to insert blowing equipment;
- a means to seal the fibre inside the connector to prevent the flow of liquids;
- close off open-ended microducts.

This product specification covers blown fibre microduct connectors for use in 'sub-ducts or protected micro-duct cable closures' as specified in EN 50411-2-5 for use in outside environments, and for both sealed and non-sealed closures. The outside environment includes both subterranean (underground) and/or aerial applications.

This document includes reducer/enlarger products. It may not be possible to blow through these devices. Manual feeding may be required because of the pressure gradient step.

This product specification does not apply to microduct connectors for use in direct sunlight.

1.2 Operating environment

The tests selected, combined with the severity and duration, are representative of an outside plant environment for both subterranean and aerial environments defined by

- ETSI EN 300 019 series: class 8.1: underground locations,
- EN 61753-1: all categories.

1.3 Reliability

Whilst the anticipated service life expectancy of the product in these environments is 20 years, compliance with this specification does not guarantee the reliability of the product. This should be predicted using a recognised reliability assessment programme.

1.4 Quality assurance

Compliance with this specification does not guarantee the manufacturing consistency of the product. This should be maintained using a recognised quality assurance programme.

1.5 Safety labelling – Warning: need for an 'over pressure device' in sealed closures

All air blown fibre connectors, supplied to this standard, must have a warning on the product or packaging to read as follows:

Where the air blown fibre connector is installed inside a sealed airtight closure or housing, the closure must be able to be fitted with an over pressure safety system that is able to exhaust air to atmospheric pressure.

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