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Irish Standard
I.S. EN 50411-2-5:2009

Fibre organisers and closures to be used in optical fibre communication systems - Product specifications -- Part 2-5: Sealed closures for air blown fibre microduct, type 1, for category S & A

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I.S. EN 50411-2-5:2009

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W **NSAI.ie**

Sales:
T +353 1 857 6730
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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50411-2-5

May 2009

ICS 33.180.20

English version

Fibre organisers and closures to be used in optical fibre communication systems - Product specifications - Part 2-5: Sealed closures for air blown fibre microduct, type 1, for category S & A

Organiseurs et boîtiers de fibres à utiliser dans les systèmes de communication par fibres optiques - Spécifications de produits - Partie 2-5: Boîtiers scellés pour microconduits de fibres soufflées à l'air comprimé, pour les catégories S & A

LWL-Spleißkassetten und -Muffen für die Anwendung in LWL-Kommunikationssystemen - Produktnormen - Teil 2-5: Abgedichtete LWL-Muffen für ABF-Mikrorohre, Bauart 1, für die Kategorien S und A

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

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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 50411-2-5 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– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-12-01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

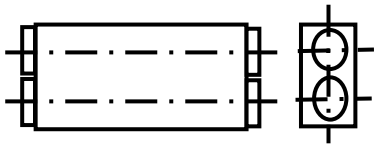
Sealed closures for air blown fibre microduct, type 1, for category S & A

Description		**Performance**	
Construction:	Multiple ported closure	**Applications:**	
Cable management:	Microduct , protected microduct, ducts and/or sub-ducts.	Blown optical fibre cable networks:	
Cable seals:	Heat activated and or cold applied	for underground:	EN 61753-1 Category S
		for aerial:	EN 61753-1 Category A

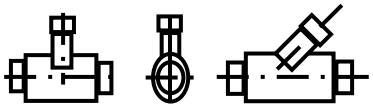
Related documents:

EN 60793-2-50	Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres (IEC 60793-2-50)
EN 60794-5	Optical fibre cables – Part 5: Sectional specification – Microduct cabling for installation by blowing (IEC 60794-5)
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)
EN 61756-1	Fibre optic interconnecting devices and passive components – Interface standard for fibre management systems – Part 1: General and guidance (IEC 61756-1)
EN 61758-1	Fibre optic interconnecting devices and passive components – Interface standard for closures – Part 1: General and guidance (IEC 61758-1)
ETSI EN 300 019 series	Environmental Engineering (EE) – Environmental conditions and environmental tests for telecommunications equipment

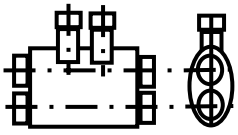
Construction:

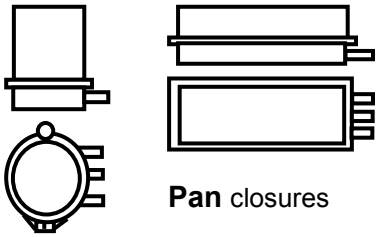


Inline closures

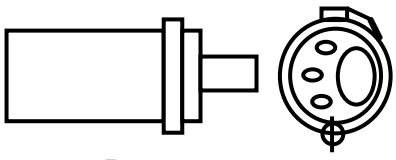


Tee closures





Pan closures



Dome closures

Duct and cable port entries and dimensions (Direct burial or jointing pit mounted)

Closure		**Max sizes of protected microduct cables** mm	**Closure designs (Type and/or sub-group)**	**Maximum physical dimensions** in mm **Length L Width W Depth D**
Central split access	**Inline (multiple ports)**	112	Type 1a	975 x 394 x 330
		35	Type 2a	648 x 274 x 152
		26	Type 2b	828 x 274 x 401
	Tee (single and double port)	32	Single port ends	300 x 200 x 100
		50	Double port ends	720 x 435 x 210
Single end entry	**Pan (circular or rectangular)**	30	Rectangular	710 x 515 x 148
		40	Circular	450 x 350 x 700
		40	Elliptical	520 x 450 x 300
	Dome (single end entry)	19	Type 1a	600 x 185 x 265
		26	Type 1b	750 x 270 x 310
		35	Type 1c	1 050 x 275 x 310

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1 Scope

1.1 Product definition

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

These products are suitable for installation of and use with microduct fibre units, microduct optical fibre cables, microduct and protected microduct as defined within EN 60794-5.

1.2 Operating environment

The tests selected combined with the severities and duration are representative of an outside plant for subterranean and/or aerial environment defined by:

- ETSI EN 300 019 series: Class 8.1: underground locations (without earthquake requirement);
- EN 61753-1: Category S: subterranean environment;
  Category A: aerial environment.

1.3 Reliability

Whilst the anticipated service life expectancy of the product in this environment is a minimum of 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 Allowed fibre and cable types

This closure standard covers all IEC standard optical fibre microducts, and protected microducts with their various fibre capacities, types and designs. This includes, but is not limited to, optical fibre cable standard EN 60794-5.

This product specification has only considered protected microduct cables containing microducts of same outside diameters. There are other hybrid protected microduct cables with microducts of differing OD's, with too many variants to be included in this PS.

1.6 Allowed microduct connector types

This closure standard covers all EN standard microduct connectors, including: straight, reducer/enlarger stem, reducer/enlarger, close down, liquid block, liquid block with barb end, and end stop connectors. This includes, but is not limited to, EN 50411-2-8.

1.7 Microduct storage constraints

Microduct excess storage is not required in all air blown fibre closures. Some closure types do not have sufficient internal space to provide storage. The need for microduct storage is provided inside the closure when opened, typically to ensure that there is enough microduct to fulfil the following functions:

- remove the coiled microduct attached to the 'closedown' connectors, to a remote location, close to blowing equipment, in the process uncoiling the microducts to aid blowing;
- provide additional microduct if repeated cut backs for connectors are planned or likely to be fitted throughout the closure life.

The minimum microduct storage bend radius is based on the outside diameter and material selection, typically based on 12 times the outside diameter (below 8 mm) and 20 times above. During fibre blowing the bend radius is typically 20 times the microduct diameter.

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Product Page

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