

Fibre organisers and closures to be used in optical fibre communication systems - Product specifications - Part 2-4: Sealed dome fibre splice closures Type 1, for category S & A

EESTI STANDARDI EESSÕNA

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ICS 33.180.20

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English version

**Fibre organisers and closures to be used in optical fibre communication systems -
Product specifications -
Part 2-4: Sealed dome fibre splice closures 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 2-4: Boîtiers à épissure de fibres
sous dôme scellés Type 1, pour
catégories S & A

LWL-Spleißkassetten und -Muffen für die
Anwendung in LWL-
Kommunikationssystemen -
Produktnormen -
Teil 2-4: LWL-Muffen Bauart 1 mit
abgedichteter Haube 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

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Foreword

This document (EN 50411-2-4:2012) has been prepared by CLC/TC 86BXA, "Fibre optic interconnect, passive and connectorised components".

The following dates are fixed:

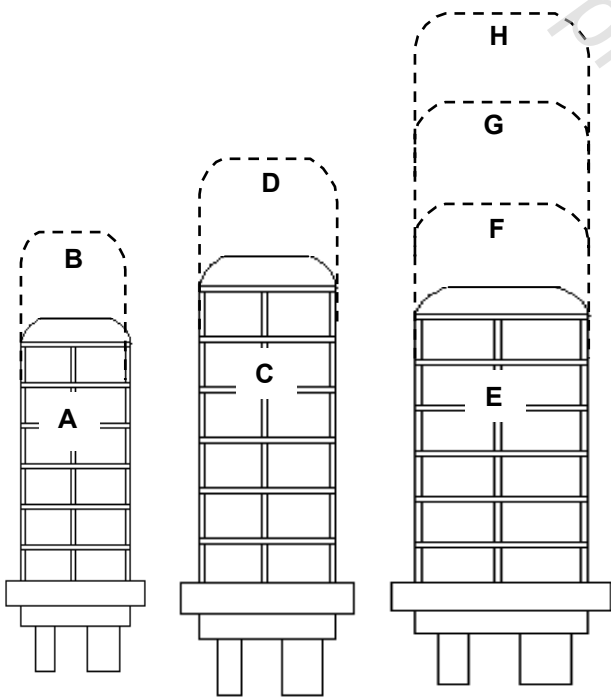
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-12-21
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2012-12-21

This document supersedes EN 50411-2-4:2006.

EN 50411-2-4:2012 includes the following significant technical changes with respect to EN 50411-2-4:2007:

- the variant XX2 additional distribution closures with more cable entrance ports were defined (new versions D2, D3 and D4 were added);
- no other technical changes were made to the document.

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Fibre organisers and closures to be used in optical fibre communication systems – Product specifications						
Part 2-4: Sealed dome fibre splice closures Type 1, for category S & A						
Description		Performance				
Construction:	Sealed dome ended	Applications:				
Cable seals:	Heat activated and or cold applied	Optical fibre cable networks				
Fibre management:	Single Circuit, Single Element, Multiple Element and/or Single/Multiple Ribbon	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 60794-2	Optical fibre cables – Part 2: Indoor cables – Sectional specification (IEC 60794-2)					
EN 60794-3	Optical fibre cables – Part 3: Sectional specification – Outdoor cables (IEC 60794-3)					
EN 61753-1 ¹⁾	Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance standard (IEC 61753-1)					
EN 61300 series	Fibre optic interconnecting devices and passive components – Basic test and measurement procedures (IEC 61300 series)					
ETS 300 019	Environmental Engineering (EE) - Environmental conditions and environmental tests for telecommunications equipment					
Construction and splice capacity:		Variant: Number fibre splices - Maximum capacity & fibre management system – SC, SE, SR, ME and MR				
		S organiser			M organiser	
		Single Circuit (SC)	Single Element (SE)	Single Ribbon (SR)	Multiple Element (ME)	Multiple Ribbon (MR)
		B 12 splices	B 72 splices	B 36 splices	A 72 splices	
		C 24 splices	C 144 splices	C 72 splices	C 144 splices	
		D 48 splices	D 288 splices	D 144 splices	D 576 splices	
		E 84 splices	E 216 splices	E 144 splices		
		F 144 splices	F 432 splices	F 288 splices		
		G 192 splices	G 624 splices	G 384 splices		G 288 splices
		H 240 splices	H 864 splices	H 432 splices		H 1 152 splices

¹⁾ At draft stage.

1 Scope

1.1 Product definition

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

1.2 Operating environment

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

ETSI EN 300 019 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 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

Although the performance tests are carried out on test samples with dispersion unshifted single mode fibre (see Annex A), the closure, once tested according to this product specification, will be also suited for other fibre types like dispersion shifted, non-zero dispersion shifted and multi-mode fibres.

This closure standard allows both singlemode and multimode fibre to be used and covers all IEC standard optical fibre cables with their various fibre capacities, types and designs. This includes, but is not limited to, optical fibre cable standards EN 60794-2 (indoor), EN 60794-3 (outdoor).

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 60793-2-50, *Optical fibres — Part 2-50: Product specifications — Sectional specification for class B single-mode fibres (IEC 60793-2-50)*

EN 61300 (all parts), *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures (IEC 61300 all parts)*

EN 61300-2-1, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-1: Tests — Vibration (sinusoidal) (EN 61300-2-1)*

EN 61300-2-4, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-4: Tests — Fibre/cable retention (EN 61300-2-4)*

EN 61300-2-5, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-5: Tests — Torsion (EN 61300-2-5)*

EN 61300-2-10, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-10: Test — Crush resistance (EN 61300-2-10)*

EN 61300-2-12, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-12: Tests — Impact (EN 61300-2-12)*

EN 61300-2-22, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-22: Tests — Change of temperature (EN 61300-2-22)*

EN 61300-2-23, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-23: Tests — Sealing for non-pressurized closures of fibre optic devices (EN 61300-2-23)*

EN 61300-2-26, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-26: Tests — Salt mist (EN 61300-2-26)*

EN 61300-2-33, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-33: Tests — Assembly and disassembly of fibre optic closures (EN 61300-2-33)*

EN 61300-2-34, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-34: Tests — Resistance to solvents and contaminating fluids of interconnecting components and closures (EN 61300-2-34)*

EN 61300-2-37, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-37: Tests — Cable bending for fibre optic closures (EN 61300-2-37)*

EN 61300-2-38, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 2-38: Tests — Sealing for pressurized fibre optic closures (EN 61300-2-38)*

EN 61300-3-1, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 3-1: Examinations and measurements — Visual examination (EN 61300-3-1)*

EN 61300-3-3, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 3-3: Examinations and measurements — Active monitoring of changes in attenuation and return loss (EN 61300-3-3)*

EN 61300-3-28, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 3-28: Examinations and measurements — Transient loss (EN 61300-3-28)*

EN 61753-1, *Fibre optic interconnecting devices and passive components performance standard — Part 1: General and guidance for performance standards (IEC 61753-1)*

3 Description

3.1 Closure housing

An optical closure comprises a closure housing that is attached to the ends of the joined cable sheaths and a means for containing and protecting the fibres, splices and other passive optical devices.

This is not to be confused with an optical closure for blowing cable or fibre. This comprises an access housing that allows the interconnection of cable ducts or tubes and is attached to the ends of the ducts or cables containing empty tubes. However, this document shall be used when air blown fibres are spliced inside this type of closure.