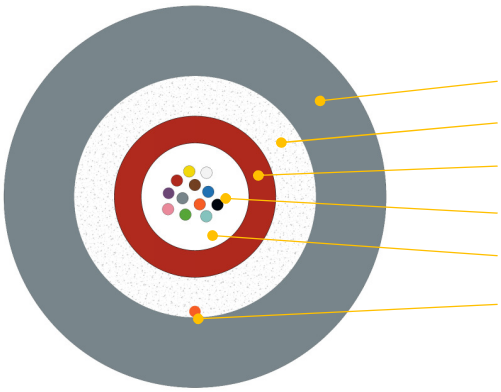
Type:	EXO-FD75 LH	REV: 0
Issued:	26/01/2024	NJ
Modified:		
Project:	017-23	

Universal Single LS0H Jacket Central Loose Tube Cable with Fiberglass Reinforcement
EXO-FD75 *(CPR $B2_{CA}$ – s1, d1, a1)*



*schematic drawing of 12F design, not to scale

DESIGN

Thermoplastic, UV stabilized, flame retardant outer jacket; Various colours available on demand
Central tube (Ø 3.0mm) with thixotropic filing compound and up to 24pcs optical fibres
Glass yarns as a strain relief and water absorbent elements
Polyester ripcords – two pieces on opposite sides

VARIANTS

Variant	Nominal diameter	Nominal sheath thickness	Tube diameter	Fibres	Nominal weight	Max short term load	Max long term load
	[mm], ±5%	[mm]	[mm]	[pcs]	[kg/km], ±10%	[N]	[N]
1T 2-24F	7,2	1,5	3,0	2 - 24	65	2000	1000

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Test	Specification	Method	Requirements
Tensile strength	IEC60794-1-21 Method E1	**Mandrel diameter**: ≥ 30 x OD **Max long term load:** 1000N **Sample Length:** 100 m *All fibres to be spliced*	**Attenuation increment:** Δα≤0.05 dB/km @ 1550nm (during test) No significant damage to fibre unit
		Mandrel diameter: ≥ 30 x OD **Max short term load**: 2000N **Sample Length:** 100 m *All fibres to be spliced*	**Attenuation increment:** Δα≤0.05 dB/km @ 1550nm (after test) No significant damage to fibre unit
Crush resistance	IEC60794-1-21 Method E3	**Load:** 1600 N / 10 cm / 5 minutes **Plate size:** 100 mm x 100mm **Number of pts**: 3 (500mm apart) *All fibres to be monitored*	Δα≤0.1dB @ 1550nm (after test) No jacket cracking and fibre breakage
Impact resistance	IEC60794-1-21 Method E4	**Impact energy**: 10J **Radius**: 300 mm **No. of impacts**: 3 at different points 500mm apart *All fibres to be monitored*	Δα≤0.1dB @ 1550nm (after test) No jacket cracking and fibre breakage
Torsion	IEC60794-1-21 Method E7	**Cable length to be twisted:** 2m **No. of cycles:** 5 **Twist angle:** starting position to -180° to starting position to +180°, and back (±360° total) **Load:** 100N *All fibres to be monitored*	Δα≤0.1dB @ 1550nm (after test) No jacket cracking and fibre breakage
Bending	IEC60794-1-21 Method E11	**Mandrel radius**: 12 x OD / 5 turns (wrapped and unwrapped) / 3 flexing cycles *All fibres to be monitored*	Δα≤0.1dB @ 1550nm (after test) No jacket cracking and fibre breakage

Abrasion resistance	IEC60794-1-21 Method E2B (Method 2)	**No. of cycles**: 200 **Load:** 4N (LSOH sheath)	Legend shall remain legible
Water penetration	IEC 60794-1-22 Method F5A, F5B	**Water head**: 1m **Sample length**: 3m (max penetration 1m) **Time**: 24 hrs	Water must not penetrate more than 1metre along the cable.
Tube kink	IEC 60794-1-21 Method G7	**Length(L1):** 350mm **Moving length:** 100mm/60mm **Number of cycles:** 5 **Number of samples:** 5	No tube kink
Ripcord test	IEC 60794-1-21 Method E25	Keeping the test samples 12h @ -10℃ 400mm of the cable sample should be ripped through and the cable core revealed. **No. of samples:** 3	The rip cord shall rip through the cable sheath and not break for the entirety of the pull
Temperature cycling	IEC 60794-1-22 Method F1	Temperature steps: **1 cycle** +23℃→-10℃(T_{A1})→+60℃(T_{B1})→+23℃ **2 cycle** (last cycle) +23℃→-10℃(T_{A1})→-40℃(T_{A2})→ +60℃(T_{B1})→+70℃(T_{B2}) →+23℃ **Step time**: 8h	For T_{A2} and T_{B2} reversible For T_{A1} and T_{B1} ≤ 0,10dB/km Test wavelength: 1550nm
CPR class	EN 50575:2014+A1:2016.	$B2_{CA}$ - s1, d1, a1	DoP No: 0097

OPTICAL FIBRES AND LOOSE TUBES COLOUR IDENTIFICATION

For optical fibres and loose tube identification information please see DSH_Colors_CODE_XXXX document.

FIBRES PARAMETERS

For selected post-production optical fibres parameters please see DSH_OFP document.

MARKING

The following print (inkjet printer) is applied at 1-meter intervals.

"HANDSET SYMBOL" – EN 50575 B2ca – s1, d0, a1 – " DOUBLE SINE" – FIBRAIN – Fibre Optic Cable – " YEAR OF MANUFACTURE " – EXO-FD75 “TOTAL FIBRE COUNT” “FIBRE TYPE” CT 3,0 LSOH – “LENGTH MARKING” – “BATCH NUMBER”

Example:

– EN 50575 B2ca – s1, d1, a1 – ~ – FIBRAIN – Fibre Optic Cable - 2024 – EXO-FD75 12F G657A1 CT 3,0 LSOH – 00001M – 12345/1

The accuracy of marking is ± 0.5%. Remarking is in accordance with Bellcore GR 20 and supersedes earlier markings. Occasional loss of marking is possible. Cables can be supplied with a range of single mode or multimode fibres and customized print.

PACKING

Cables are shipped on disposable wooden or treated wooden drums. Both ends of the cable are capped and at least one is accessible for testing. Identification information are placed on a drum. Typical spool length is 4000 meters ± 5%, with possibility of supplying up to 5% of total contract quantity as short length cables which should be above 1000 meters long. Tolerance of 5 % of order quantity shall be allowed.