

FIBRAIN 

  
EPP



PATENT PENDING

# Easily Pullable

Pre-connectorized Cable

Smart solution providing fast installation



# FIBRAIN EPP

The FIBRAIN's EPP preterminated drop cable solution is designed to be pulled through microducts or corrugated tubes in FTTH networks.

The solution is based on a ready-made pre-connectorized cable kit with special ending for direct pulling operation.

Available with LCA and SCA connector type.

## Key features



### Fast installation

cable kit ready for installation by pulling through the microducts or corrugated tubes



### Terminated with special ending for direct pulling

the plug protect the connector's body during pulling operation and allows to install cord



### Large pulling ranges

up to 100m



### High performance

high quality ferrule ensures best optical parameters



### Cost saving solution

no need to install additional pulling eye. Removing the plug and equipping connector body with lever for LCA connector and housing for SCA connectors takes few second

## Fast installation in 4 easy steps



**1** Unpack



**2** Pull through the microduct/corrugated tube



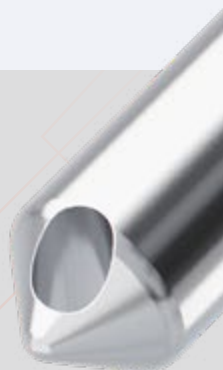
**3** Assemble the connector



**4** Inspect & connect

## Tube compatibility

CONNECTOR	INSTALLATION	PULLING RANGE
LC APC	Micropipe 12/8	100m
SC APC	Corrugated tube 20/16	100m

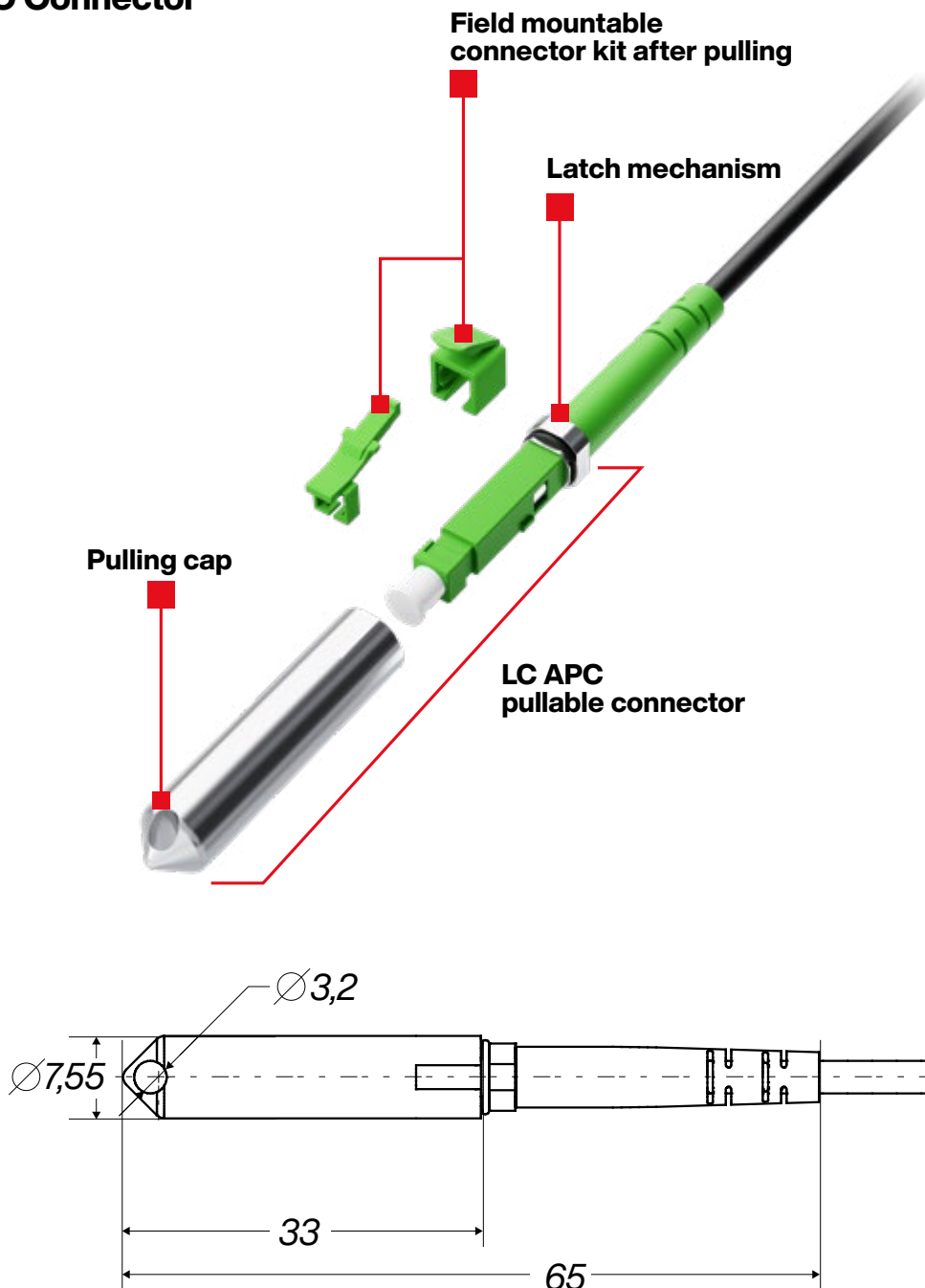




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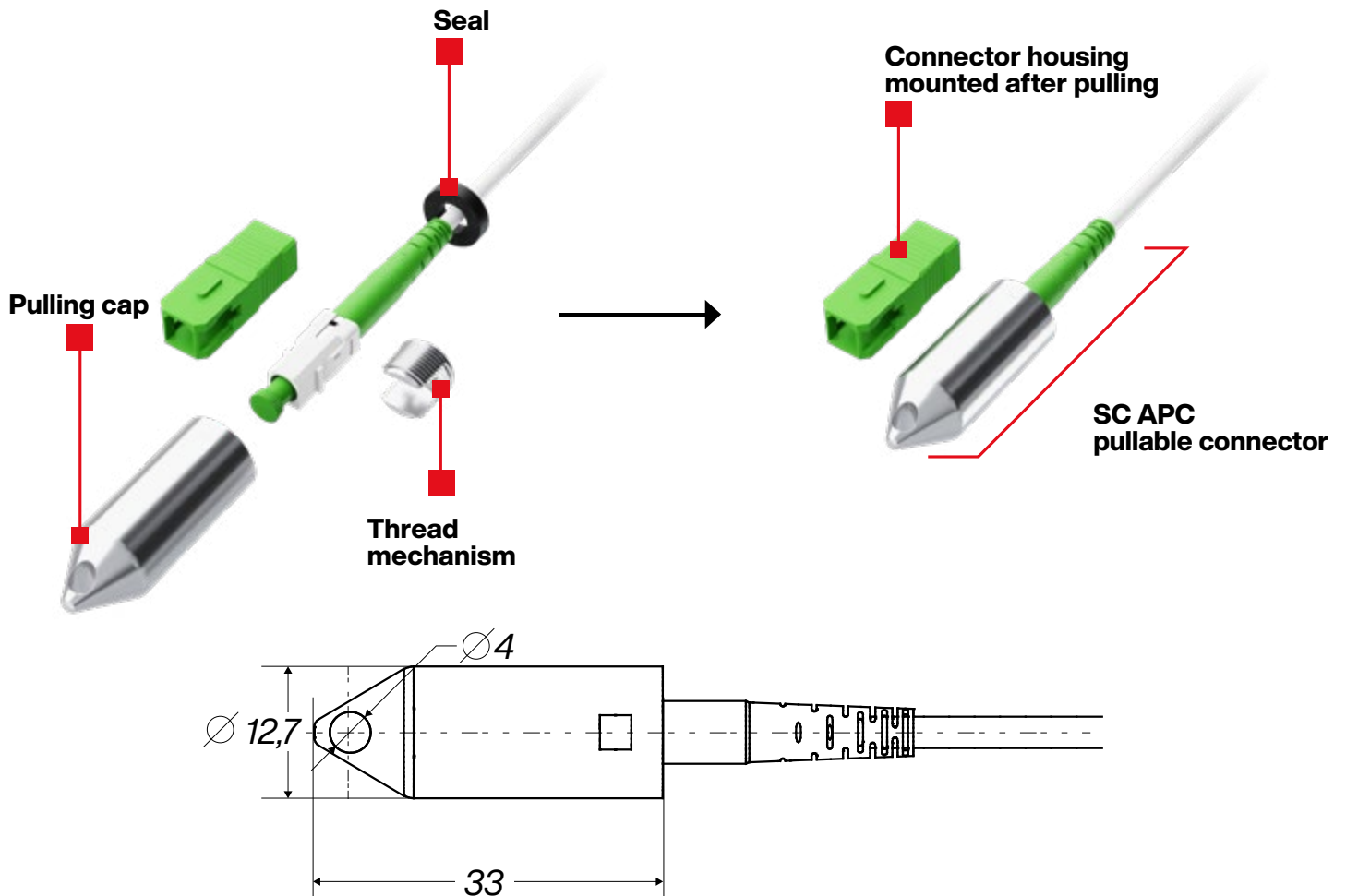
## Construction LC APC Connector



LC APC connector is terminated with a pulling plug, fastened with a latching mechanism with a lock. Locking points are marked on the housing and the cap. Turn the cap down, then pull it and remove.

Cables terminated with LC APC connectors can be pulled through the microduct pipe 12/8 mm up to 100m.

## Construction SC APC Connector



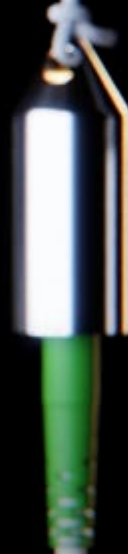
SC APC connector is terminated with a pulling plug, fastened with a thread mechanism. Unscrew the cap, then remove it and install the connector housing.

Cables terminated with SC APC connectors can be pulled through the corrugated tubes up to 100m.

PARAMETER	SM APC
Max. Insertion Loss $IL_{max}$ acc. to IEC 61300-3-4	$\leq 0.20$ dB
Typical Insertion Loss $IL_{typ}$ acc. to IEC 61300-3-4	$\leq 0.16$ dB
Return loss $RL$ acc. to IEC 61300-3-6	$\geq 65$ dB
Operating temperature	$-20 + 60$ [°C]
Retention force acc. to IEC 61300-2-4	80N for LCA connectors on AERO-DR03 and VC-D30 cables 150N for SCA connectors on AERO-DR03 and VC-D30 cables
Durability	1000 mating cycles, $\Delta IL_{500 \text{ cycles}} \leq 0,2$ dB
Pulling length	100m



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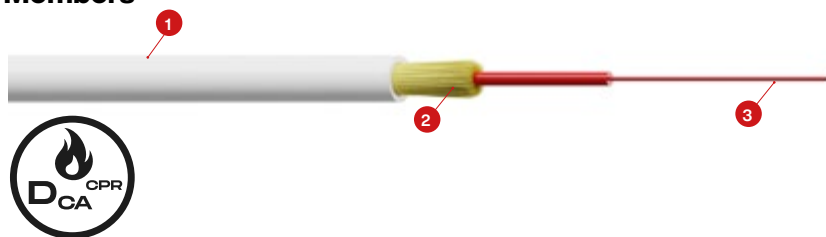


**PATENT PENDING**

# VC-D30



## FTTH Single Jacket LSOH Minibreakout – 1F 900µm – Drop Cable with Aramid Strength Members



1. LSOH outer jacket
2. High modulus aramid yarns
3. Optical fibre in 900µm buffer

### APPLICATIONS

Optical cable with aramid yarns reinforcement  
 Customer connection  
 Fully dielectric  
 Last mile connection  
 LAN and FTTX networks  
 Distribution network  
 ODF connections  
 Inside house OLT connection

### DESIGN

Aramid yarns as a strain relief  
 Optical fibre into 900µm semi tight buffers  
 LSOH outer jacket

### Configuration

Number of fibres [pcs]	1F 900µm
Outer diameter [mm]	3,0
Tensile load permanent [N] installation	60 / 170
Weight [kg/km]	8
Min Bending radius [mm]	10-60mm (depends on fibre type)

### Technical and environmental cable characteristics

TEST	SPECIFICATION	REQUIREMENTS	
Max tensile load short term	IEC 60794-1-21-E1, $\Delta\alpha \leq 0,05$ dB/km	170 N ( $\epsilon_r \leq 0,50\%$ )	
Max tensile load long term	IEC 60794-1-21-E1, $\Delta\alpha \leq 0,05$ dB/km	60 N	
Crush performance	IEC 60794-1-21-E3, $\Delta\alpha \leq 0,05$ dB	500 [N/10 cm]	
Bending performance	IEC 60794-1-21-E6, R=15mm, 20N, 35 cycles	no damage	
Temperature range	Installation	-5... +55 [°C]	
	Operation	IEC 60794-1-22-F1, $\Delta\alpha \leq 0,05$ dB/km	-20... +70 [°C]
	Transport & Storage		-40... +70 [°C]
CPR Class	EN 50575:2014+A1:2016	Dca-s1bd0a1	

(\* ) values for single-mode fibres, all optical measurements performed at 1550nm



# AERO-DR03

## Last mile aerial cable with PUR sheath



1. PUR outer sheath (black by default)
2. Aramid yarns
3. Optical fibre

### APPLICATIONS

**Installation on poles**  
**Fully dielectric**  
**Aerial applications**

### DESIGN

**Flame retardant, halogen free PUR outer jacket**  
**UV resistant additive**  
**Aramid yarns reinforcement**  
**1 optical fibre in 900µm buffer or guided directly into the cable**

### Configuration

VERSION	FIBRES [pcs]	ACTIVE TUBES OR MODULES	TOTAL ELEMENTS	Ø NOMINAL (±5%) [mm]	NOMINAL WEIGHT (±10%) [kg/km]	MAX ALLOWED TENSION [N]
1F	1	1 (900 µm)	1	3,0	8	300

### Technical and environmental cable characteristics

TEST	TEST STANDARD	SPECIFIED VALUE	REQUIREMENT*
Max allowed tension	IEC 60794-1-21-E1	Load: as provided in table above	$\Delta\epsilon_r \leq 0,6\%$ , $\Delta\alpha \leq 0,1$ dB/km
Crush	IEC 60794-1-21-E3	2000 N / 100 mm, max. 15 min	$\Delta\alpha$ reversible, no significant damage
Impact	IEC 60794-1-21-E4	10 Nm, 3 impacts, R= 300 mm	$\Delta\alpha \leq 0,05$ dB after the test
Torsion	IEC 60794-1-21-E7	50N, $\pm 180^\circ$ , 10 cycles	$\Delta\alpha \leq 0,05$ dB, no damage
Repeated Bending	IEC 60794-1-21-E6	R=12x D, 50N, 20 cycles	no damage
Temperature range	Installation		-5... +55 [°C]
	Operation	IEC 60794-1-22-F1	$\Delta\alpha \leq 0,1$ dB/km
	Transport & Storage		-40... +70 [°C]
CPR Class	IEC 60794-1-22-F5B	Sample=3m, water column=1m, 24h	no water leakage

(\*) values for single-mode fibres, all optical measurements performed at 1550nm

### Application and cable SPAN characteristic

LOADING CONDITIONS	SPAN [m]	SAG (INSTALLED) (2%) [mm]	TENSION UNDER LOADING CONDITIONS [N]	TOTAL SAG [m]	HORIZONTAL SAG [m]	VERTICAL SAG [m]
Wind load: max 94,4 km/h Ice load: max 0 mm	55	1,1	300	2,1	1,8	1,0
Wind load: max 62,8 km/h Ice load: max 3,0 mm	40	0,8	300	1,6	1,34	0,87
Wind load: max 70 km/h Ice load: max 4,0 mm	30	0,6	300	1,23	1,09	0,57



# EPP variants

- **One-side termination with easily pullable connector – as a pigtail.**

Can be supplied as a cable coil or on the drum.

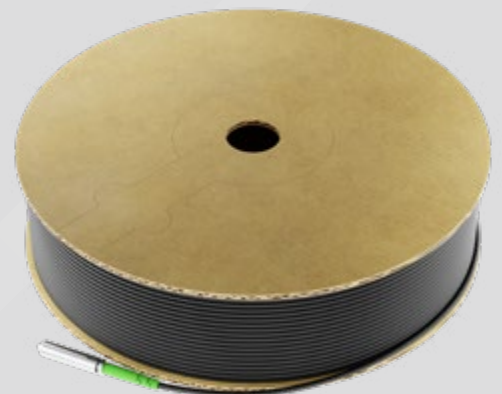


- **Both-side termination with easily pullable connector – patch cord**

Cable can be terminated both-side with a pullable connector or second side with a standard fiber optic connector.



- **Possibility to order the EPP on the drum for fast installation and easy unwinding**

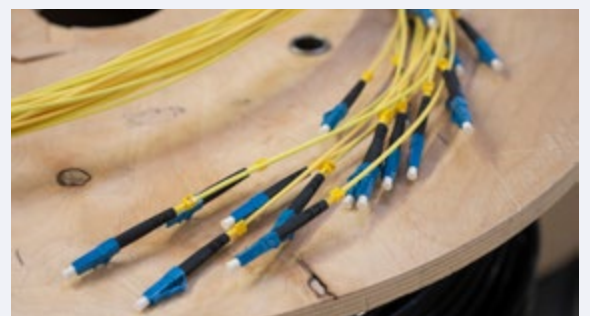




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