



# FIBRE TAP

## TECHNICAL OVERVIEW



*THE ULTIMATE PLUG & PLAY  
**RUGGEDISED DROP SOLUTION***

**Pre-connectorised  
cables & closures**

**Durable for  
external use**

**Ruggedised  
connector on one  
end & small form  
connector on drop end**

***3 market leading companies***

# **ONE Solution**



**EMTELLE**

**HellermannTyton**

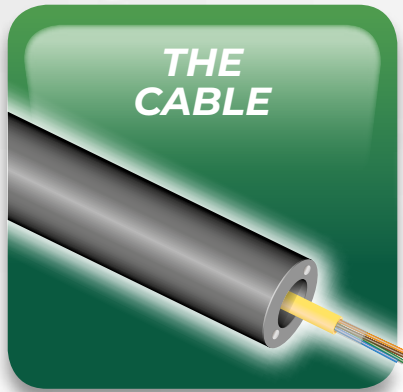


**SENKO**  
SENKO GROUP® Advanced Components

# THE ULTIMATE PLUG & PLAY RUGGEDISED DROP SOLUTION



**THE  
CLOSURE**



**THE  
CABLE**



**THE  
CONNECTOR**

## FIBRETAP - TAPPING A FIBRE TO PREMISES 'INSERT, TWIST & GO' HOW DID IT COME ABOUT ?

In FTTP networks, we need quality networks to the home. Installation teams have spent decades building the best quality fibre networks around the globe connecting country to country, city to city and town to town. These networks were heavily invested in so they would last the test of time and give the ability for huge amounts of data to be passed through networks across the globe.

Looking at the numbers of premises around the world that still need a fibre connection, you wonder how this can be done. Tens upon tens of millions of households need a fibre connection. If this fibre connection is to last for 25 years or more, and be able to accommodate large increases in bandwidth in the future, then it needs to be installed easily, and give reliability as soon as you take the drop cables out of their packaging.

One of the most reliable ways to get a good fibre connection is to have the drop fibre connected at both ends; however, you need a small fibre cable connector at the home end, so you can install the fibre connector through potentially congested ducts, and possibly through the home wall. In order to do this in minimal time, with

minimal disruption, **FIBRETAP** features this type of connector on the customer end making FTTP connections easier than they have ever been before, with the added knowledge that the fibre network has no 'untested' fibre connectors used in the network.

In the current FTTH climate, where all these fibre connections are to be made, the number of people involved in installing such networks inevitably means that there will be shortages in trained personnel, skillsets and little willingness to invest in fibre splicing technology. The drop to the home is also the part that needs high quality from the initial install. Homeowners don't want operators to return to their home to fix a faulty connection.

Therefore, three market leading companies - Emtelle, HellermannTyton and Senko - discussed what can be done to make the cable installation to the home as easy as possible; we discussed, we designed, we tested and we believe that we've brought a solution - **FIBRETAP** - to the market which can be easily installed with the minimum of training, giving the maximum opportunity for high quality fibre connections.



ø6mm cable OD    Small Fibre Cable    Cable Connector

*From this...*



*...to this, in 30 seconds!*

# THE SOLUTION

The **FIBRETAP** solution consists of some cleverly designed closures, a ruggedised fibre connector and series of fibre cables, one of which is hollow to allow for a specialised miniature fibre connector to be installed which is nearly half the size of the diameter of the cable.



**CABLE LOOP JOINT AND COMBINED MULTI-PORT TERMINAL**

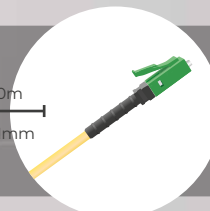
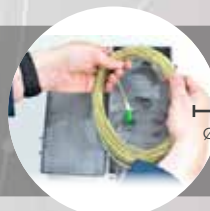
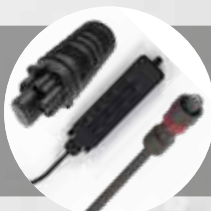
Three experts in their own fields; Emtelle for fibre, cabling & microduct solutions, HellermannTyton for fibre splice closure & cable management and Senko for optical interconnect solutions.

Between the 3 companies, we have designed a ruggedised drop solution that gives multiple benefits to customers compared to other solutions available on the market

## FIBRETAP BENEFITS

- A solution that we have ensured gives optimum performance that are fully compatibly with each other
- A solution that has been designed & tested by the designers, installers and fibre trainers from 3 different sectors in the FTTX industry
- A solution that can be used for above ground, underground and façade applications
- Ø17mm Ruggedised Connector. Small enough to be ensure the closure is compact, but large enough to be strong and easily handled
- -40 to +70 C ( -40 to +158F)
- Ø7mm cable allows for an LC ferrule to be pre terminated onto the opposing end of the ruggedised cable, it's protected during installation (overhead or underground), then is simply built up after cable installation
- Small footprint closures for the top of poles and for access chambers
- Multiport cable loop joint eliminates the need to have a loop through joint and a **FIBRETAP** terminal on the pole or underground
- Full compatibility with the standard SC and LC connectors
- Factory tested at 1310, 1550 and 1625nm

**POLE OR ACCESS CHAMBER**



**HOME**



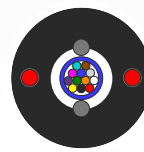
## FEATURES & BENEFITS

### THE CABLE

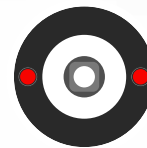
- Ø6mm cable with Ø17mm ruggedised connector
- LC miniature protected within Ø6mm footprint ready for connecting after cable installation
- Tested for overhead and underground use
- Class leading low friction outer jacket can be installed in to microducts or PVC outer ducts by pushing or pulling
- High tensile strength 1600-1800N
- Recyclable plastic reels for housing cables and connectorised closures
- FRP (dielectric) or 3x0.32mm (toneable) twisted steel wire strength members – Copper pair hybrid available
- Excess fibre cable is Ø1.1mm diameter which is easy to store and has the option of a buffer tube for up to 2.5m for additional protection within the wall outlet.
- Up to 50m of excess fibre in the HellermannTyton CCE wall box



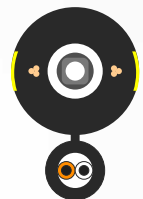
Ø5MM CABLE  
SINGLE END  
TERMINATION  
G657A2 FIBRE



Ø6MM CABLE  
DOUBLE END  
TERMINATION  
G657A1 OR  
G657A2 FIBRE



COPPER PAIR  
HYBRID



### THE CLOSURE

- Small footprints in an IP68 rated shell
- Can be used on poles or underground
- Cable loop joint reduces the number of closures needed connect the ruggedised connectors
- PON and P2P options available
- New FIBRETAP closure can be fed by a ruggedised connector, so cabling can be done separately
- Pole and chamber mounting brackets available

**HellermannTyton**



### THE CONNECTOR

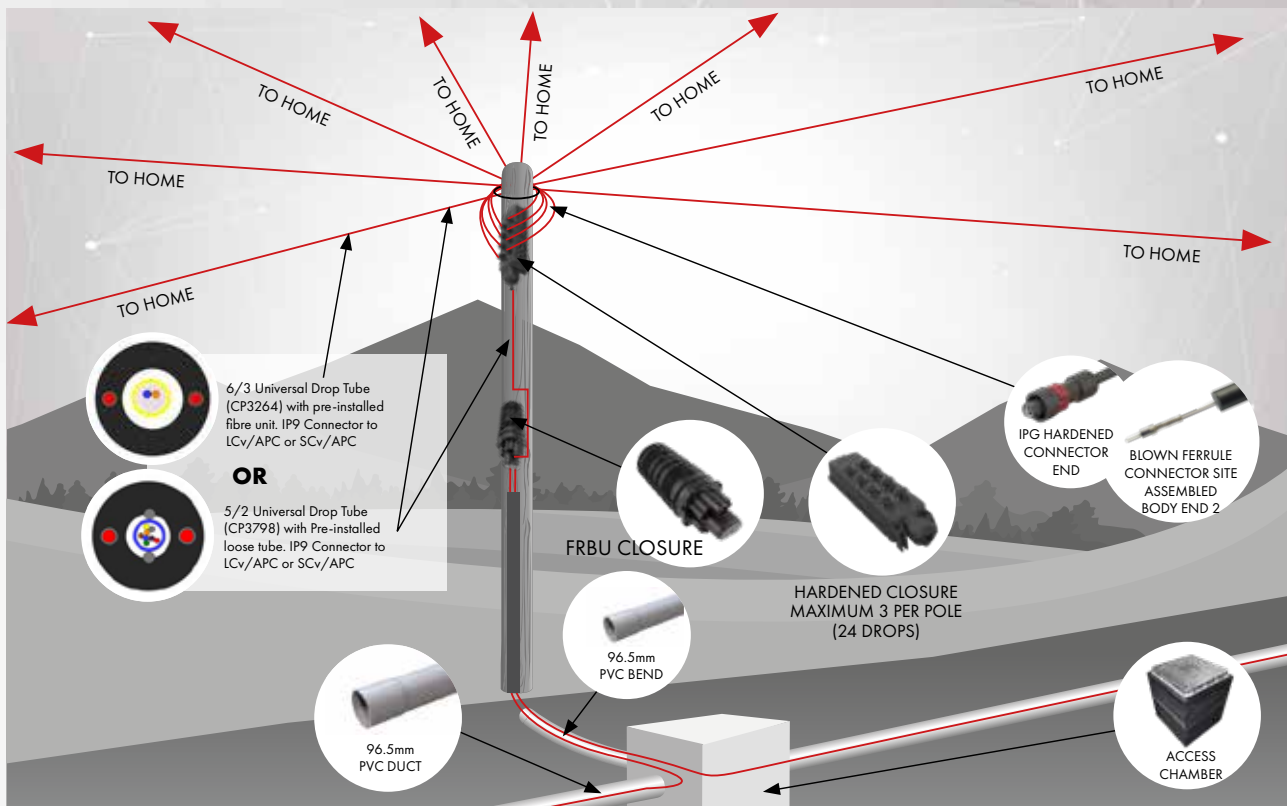
- Ruggedised connector has bayonet fixing to eliminate risk of cross threading
- Ruggedised connector secured in place by "safelock" system.
- LC ferrule based connector has an o/d of 2.85mm during installation for easy install in 5mm micro duct. Snap on connector housing.
- Technically friendly for installers
- Easy, fully supported and documented installation for both connectors.
- Proven performance, ruggedised to fit requirements
- terminated cable assemblies available in 25m increments

 **SENKO**  
SENKO GROUP® Advanced Components

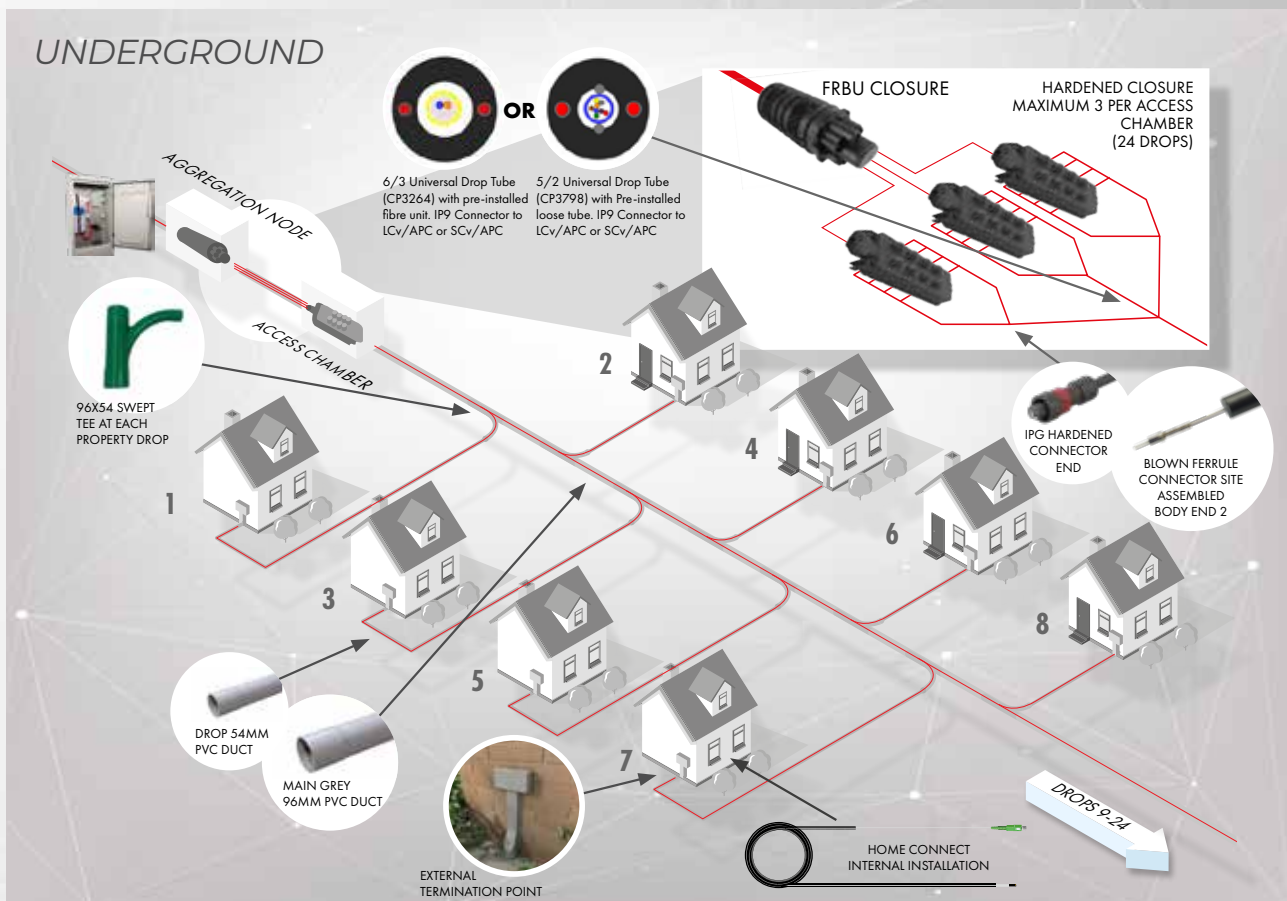


# NETWORK DESIGN OVERVIEW

OVERGROUND



UNDERGROUND



# PERFORMANCE

## THE CABLE

The fibre cables have been environmentally tested, installed overhead with wind and ice loading tests completed. Mechanical tests have also been completed. The Ø6mm cable is a derivative of a cable that has been supplied by Emtelle for many years with a proven record which have been used by a number of national operators in the UK.

TESTS	DUAL ENDED CABLE	SINGLE ENDED CABLE	CLOSURE FEEDER CABLE
Installation	Aerial/ UG / Façade	Aerial/ UG / Façade	Aerial/ UG / Façade
Outer dimensions	6/3.2mm	5/2.0mm	7mm
Max tensile strength of cable	1800N break 535N @ 0.6% fibre strain	1620N break 600N @ 0.6% fiber strain	1850N with metal
Retention (cable/connector/adapter)	220N	220N	220N
Operating temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
Crush resistance	5500N/dm	4500N/dm	3000N/dm
Dielectric	Metal-free	Metal-free	Metal or Metal-free
Fibre type	G657. A1	G657. A1	G657. A1
Coated fibre diameter	250µm	250µm	250µm
Min bend radius (static)	25mm	25mm	70mm
Jacket colour	Black	Black	Black
Jacket material	PE	PE	PE
UV Stability	UV-resistant	UV-resistant	UV-resistant

## THE CLOSURE

TESTS	
Test Standard	BS EN
Connector Type	SC/APC
Dimensions (WxLxH)	from 70x270x60mm
Colour	Black
UV Stability	Yes
No. Output Ports	Variety available
No. Input Ports	1 (Cable or IP9)
Chamber Mounting	Yes
Pole Mounting	Yes

## THE CONNECTOR

TESTS	RUGGEDISED CONNECTOR	LC BLOWN FIBRE CONNECTOR
	SC/APC	
Connector Endface	SC Connector footprint	LC Connector Footprint
Insertion Loss SM	Max 0.25dB Typically ≤0.20 dB	Max 0.25dB Typically ≤0.15dB
Return Loss SM	65dB for APC and 55dB for UPC	65dB for APC and 55dB for UPC
Connector size	Diameter 17mm, Length 48mm from ferrule tip to rear of connector	Length 44mm from ferrule tip to rear of the boot
Flammability	UL-94-V0 & IEC 60754-2 Halogen free	UL94V-0
UV Resistance	ISO-4892-2	N/A
IP Rating	IP68	N/A
Retention force	265N	9N
Mating durability	100 times	500 times
Salt Mist	IEC61300-2-25	N/A
Vibration	IEC61300-2-1, 10-500HZ/10g	IEC61300-2-1, 10-500HZ/10g
Environmental standard	IEC 61753-1 Cat E	IEC61753-1 Cat C
Storage temperature	-20°C to +75°C	-20°C to + 75°C
Operational temperature	-40°C to +75°C	-40°C to + 75°C

## PRODUCT CODES

The following **FIBRETAP** product codes have been set up to allow for easy ordering and identification.

### Ø6MM EMTELLE CABLE OVERHEAD & UNDERGROUND METAL-FREE

LENGTHS (M)	SKU connectorised one end Ruggedised → Bare	SKU connectorised both ends Ruggedised →LCv
25	FT625IP91	FT625IP92
50	FT650IP91	FT650IP2
75	FT675IP91	FT675IP92
100	FT6100IP91	FT6100IP92
125	FT6125IP91	FT6125IP92
150	FT6150IP91	FT6150IP92
175	FT6175IP91	FT6175IP92
200	FT6200IP91	FT6200IP92
225	FT6225IP91	FT6225IP92
250	FT6250IP91	FT6250IP92
275	FT6275IP91	FT6275IP92
300	FT6300IP91	FT6300IP92

### Ø5MM EMTELLE CABLE OVERHEAD METAL-FREE

LENGTHS (M)	SKU connectorised one end
25	FT525IP91
50	FT550IP91
75	FT575IP91
100	FT5100IP91
125	FT5125IP91
150	FT5150IP91
175	FT5175IP91
200	FT5200IP91
225	FT5225IP91
250	FT5250IP91
275	FT5275IP91
300	FT5300IP91

### 8 PORT CLOSURE SC/APC + ULW 7.0MM CABLE

LENGTHS (M)	PON	P2P
25	FT7258PCPON	FT7258PCP2P
50	FT7508PCPON	FT7508PCP2P
75	FT7758PCPON	FT7758PCP2P
100	FT71008PCPON	FT71008PCP2P
125	FT721258PCPON	FT721258PCP2P
150	FT71508PCPON	FT71508PCP2P
175	FT71758PCPON	FT71758PCP2P
200	FT72008PCPON	FT72008PCP2P
225	FT72258PCPON	FT72258PCP2P
250	FT72508PCPON	FT72508PCP2P
275	FT72758PCPON	FT72758PCP2P
300	FT73008PCPON	FT73008PCP2P

Further number of port variations available.  
The closures above can have a feeder cable attached which is a pulled cable. Alternatives are available such as blown fibre minicables for microducts and using a **FIBRETAP** connection for the PON closures.

# CONTACT US



**Colin Kirkpatrick**

Solutions Director  
e: [colink@emtelle.com](mailto:colink@emtelle.com)  
t: +44(0) 1450 364 077  
m: +44(0) 7810 378 854



**Jason James**

Technical Director  
e: [jason.james@htdata.co.uk](mailto:jason.james@htdata.co.uk)  
t: +44(0) 1604 707 416  
m: +44(0) 7714 013 809



**Michael Griggs**

UK & Ireland Account Manager  
e: [michael.griggs@senko.com](mailto:michael.griggs@senko.com)  
t: +44(0) 1256 700 880  
m: +44(0) 7792 619 995

# FIBRE TAP

