

# Excel Enbeam FTTx Solution

[www.excel-networking.com/fttx-solution](http://www.excel-networking.com/fttx-solution)

Section 11



**NEW**  
for **V5**

## Excel Enbeam FTTx Solution

Fibre to the x (FTTx) is a collective term for various optical fibre delivery topologies that are categorized according to where the fibre terminates.

Fibre optic cabling is the leader in the long-distance parts of the access network, but metal cabling has traditionally been used for the stretches from the telecom facilities to the customer. FTTx deployments cover varying amounts of that last distance.

This can be split down into different architectures: Fibre to the Home (FTTh), Fibre to the Building (FTTb), Fibre to the Kerb (U.S. spelling 'Curb' - FTTc) and Fibre to the Node (FTTn).

**FTTh:** Fibre is distributed from the Central Office Optical Line Terminal (OLT) to residential areas via distribution points and splitters to feed off into the end users' home.

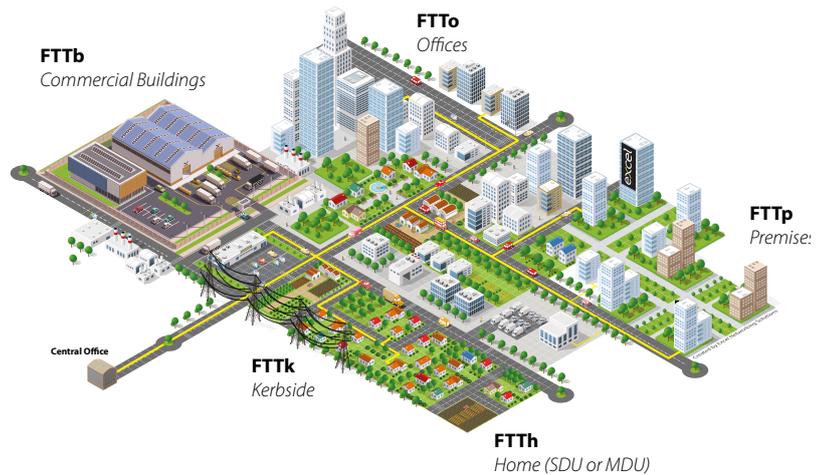
This solution does not use copper cabling in the outside plant and can typically provide speeds from 30 to 100Mbps.

**FTTb:** Fibre is distributed using a point-to-point architecture in outside plant giving a dedicated connection to each building or blocks of buildings. This is achieved using remote terminals, however these need power and are normally situated in a secure area such as basements or communication rooms and will then use the existing building infrastructure to distribute the signal.

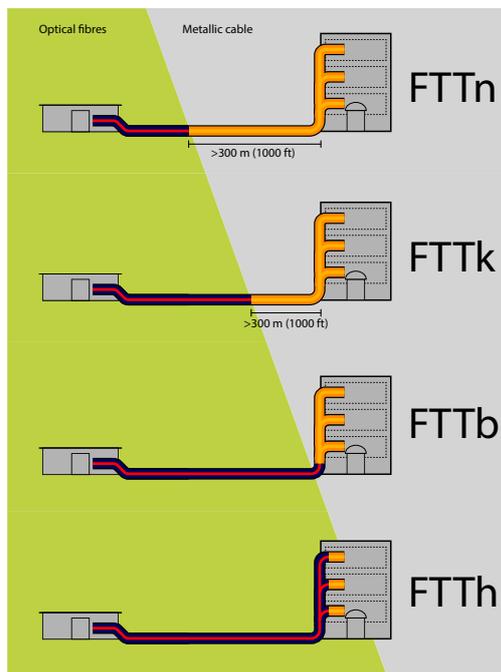
**FTTk:** Fibre is distributed to remote terminals located at the roadside between 150 and 300m from the end user, where existing copper infrastructure - normally existing Copper based Phone lines are used to bring the signal into the residence.

**FTTn:** The same as FTTC but the remote terminal is further away - around 1500m from the residential area and service between 300 to 500 end user nodes.

**FTTp:** Fibre to the Premises, used to encompass both FTTh and FTTb or is sometimes used to indicate that a particular network includes both homes and businesses.



The FTTh Councils of Europe, North America and Asia-Pacific have agreed upon definitions for FTTh and FTTb. Standard definitions of the other terms have not yet been established. The table below provides a graphical comparison of the most common FTTx topologies.



Excel has achieved a market leading position in the LAN and campus cabling environment with 21% market share in the UK according to BSRIA in 2019. Internationally the brand is present and growing in most European countries, and via the Mayflex Middle East location has strong market share in the UAE, Qatar and across the gulf region.

Enbeam is the Excel fibre optic product family now well established in the LAN and campus space. In 2018 the Enbeam PON solution was launched to meet growing demand in the Multi Dwelling Unit (MDU) space for high density, high speed fibre cabling and associated splitter and distribution systems. In 2020 the range was extended further with the launch of cables, ducts and distribution enclosures intended to service the rapidly expanding FTTx market.

Whilst the breadth and flexibility of these solutions make them suitable for a range of FTTb environments, the majority are specifically designed to meet the demand created by accelerated FTTh build out programmes, resulting in our partnering with a growing number of established and new-to-market service providers.

*The table to the left was created by Wikipedia user Riick and is published under the terms of a Creative Commons Attribution-Share Alike license.*

## Why Choose Enbeam FTTx Solutions?



### Sourcing Expertise

Proven global sourcing experience providing the right solution at a competitive and stable price point without compromising on quality or performance. Our professional, experienced product management and supply chain teams work alongside our customer facing associates to ensure we meet or exceed both commercial and technical requirements.



### Logistics Services

With our 160,000 square feet of distribution space including capacity for over 12,000 pallets/drums of cable, our ability to hold large volumes of stock enables risk-free planning of installation programmes. Our support capabilities include cut-to-length cable service, kitting and packaging removal services, next day or scheduled delivery, reverse logistics and returns.



### Dedicated Support

A dedicated team will service and support all aspects of the day to day and strategic business relationship, with experienced professionals providing account management, material and logistics planning, and product management. We will get to know your business, understand what's important, adapt to your requirements and deliver on our commitments every time.



### Environmentally Conscious

We care about the environment and take our responsibility to act in a sustainable manner seriously. Amongst a range of internal and customer facing initiatives, in August 2019 we become the first cabling solutions provider to remove all single use plastic from our product packaging.



### Financial Stability

The Excel brand is owned by Mayflex, a Sonepar company. Sonepar is a privately owned €24bn B2B distribution group present in over 40 countries with experience in the FTTx market across Scandinavia, Germany, India and China. We are here for the long term and can support large scale contract based stock holding and credit facilities.



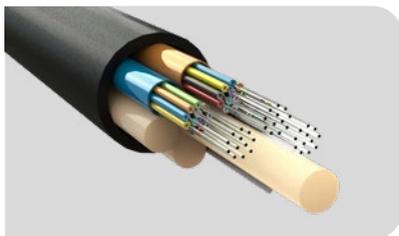
### Guaranteed Availability

As FTTh network builds accelerate and more providers enter the market demand for fibre and duct will grow to record highs leading to production capacity and ability to secure guaranteed supply becoming a 'key critical' requirement of any service provider. Our agreements with some of the world's leading producers mean we can enter into preferential SLA-based supply agreements. The peace of mind this, together with our financial stability, creates enables you to focus on satisfying customer and stakeholder expectations.

## Excel Enbeam FTTx Cable

Our fibre optic cable offering covers the following product families with customer defined optical specifications including G652D, bend insensitive G657-A1 and G657-A2 available subject to cable design.

All cables are compliant with relevant IEC mechanical / electrical and ITU optical performance standards. Our internal grade cables are CPR-compliant cables as standard with choices of Euroclass dependent on cable design up to B2ca. Our designs ensure each cable is reliable, fast to install and easy to work with in the field.

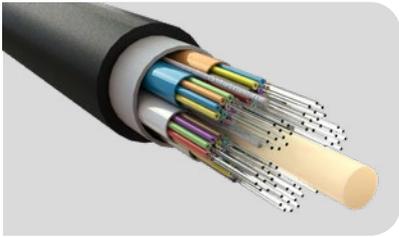


### Blown Fibre

2f to 24f EPFU through to 432f micro-cables with compact designs including 200µm cores for fast blowing into existing or Enbeam ducting systems.

More details of the complete Blown Fibre range and applications is contained within the [Blown Fibre section](#).

[Browse our Blown Fibre Range](#)



**External Grade**

PIA Approved Ultra Lightweight (ULW) through to uni- and multi-loose tube armoured and unarmoured cables up to 432f, plus ribbon cables with fibre density of 576f and 864f.

[Browse our range of External Grade Cable](#)



**Internal Grade**

Armoured and unarmoured uni- and multi-loose tube designs up to 288f. Tight buffered distribution cables up to 384f as well as 1, 2 and 4f drop cables - supplied in either pre-terminated, or un-terminated formats.

[Browse our range of Internal Grade Cable](#)

## Enbeam Distribution, Termination and Splicing

Our distribution offering covers enclosures and domes that can be used across all types of environments including externally within underground chambers, cabinets or in pole or other aerial positions. Within the building we have solutions for cable distribution in basements/entry points, risers and options for customer premise outlet points. Available connectivity styles include coupler, splice or splitter with SC and LC connector designs with either UPC or APC ferrules.

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**Excel Enbeam FTTh Customer Outlets**

Excel have a range of FTTh customer outlets aimed to feed the FTTh market offering dedicated internal fibre management to protect the incoming fibre. Shuttered adapters can be installed to requirements for customer safety.

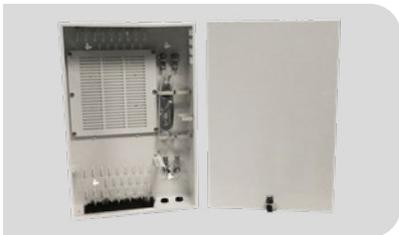
Customer outlets are available loaded just with couplers or with lengths of CPR Euroclass B2ca,S1a,d0,a1 drop cable. The latter come in 30, 50 or 70m options.



**Fibre Access Terminal (FAT) Boxes**

Plastic and metal enclosures ranging from single fibre through to 96 fibre including lockable distribution boxes ideal for MDU riser applications. Both loaded and unloaded versions.

[Browse our range of Internal Applications](#)



**Riser Enclosures**

The Excel range of wall enclosures has been designed to be a multifunctional set of products, which can form part of a network in multiple locations. With the ability to change the internal structures to fit most applications within a passive optical network and edge of network cabling designs, these enclosures can be adapted to house either fibre or copper (or both) within a confined space. These enclosures are suitable for risers, equipment rooms and remote locations.



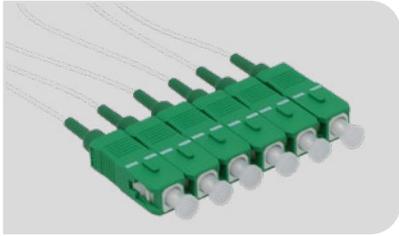
**External Enclosures**

Dome enclosures and boxes with up to 720 fibre capacity with optional entry styles including compression glands and heatshrink.

[Browse our range of External Enclosures](#)

## Enbeam Interconnect Cables and Splitters

Our interconnect range includes cable assemblies and splitter distribution products that can be used internally or externally in central office, cabinet, distribution or customer premise settings.



### Pigtails and Patch Leads

G657 - bend insensitive fibre used as standard in a range of lengths and connectivity options.

Excel OS2 9/125µm simplex patch leads are manufactured from the highest quality 900µm G657A2 buffer/jacket optical fibre, terminated with ceramic ferrule connectors. Each cable has strain relief boots to prolong and maintain performance levels of the assembly. A label containing a unique batch number is fixed to the centre of cable for quality and traceability purposes.

Excel singlemode fibre optic pigtails are manufactured from the highest quality 900-micron optical fibre, terminated with ceramic ferrule connectors of various types. To assist in fast cable preparation and splicing semi tight buffered, easy strip, cable is used as standard. Cable preparation, termination and testing is carried out to strictly managed procedures in an Excel approved, ISO9001 registered manufacturing facility.



### Splitters

1 to N splitters available in open ended fan out, 19" pre-loaded rack mount, modular card style and populated trays for use in a range of dome and enclosure designs.

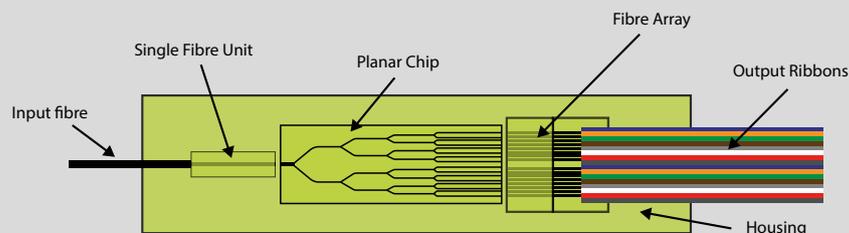
Excel only uses PLC splitters to gain the maximum performance, the key factors being:

- Uniform Output
- Most appropriate for outdoor use
- Manufacturing
  1. Waveguide used to split the optical signal is fabricated using a silicon dioxide chip
  2. Involves a lithographic process like that used in the manufacture of silicon computer chips. PLC splitters provide the most uniformity between Fibre outputs (the downstream fibre) with respect to the amount of optical loss measured on each Fibre.
- Best choice when loss is critical

[Browse our range of Splitters](#)

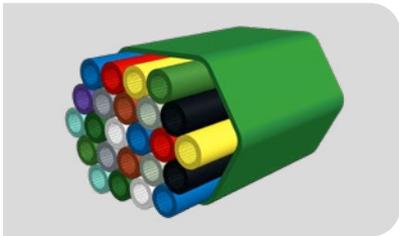


### Planar Light Circuit/ Planar Waveguide



## Enbeam Duct and Sub-Duct

Our duct and sub duct offering covers the following product families with customer defined colours and bundled multiduct designs available subject to minimum product quantities. Duct walls, dependent on the product chosen are either SuperSilicore™ lined or have a corrugated finish to ensure fast, trouble free installation of cables.



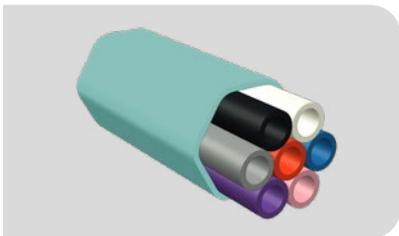
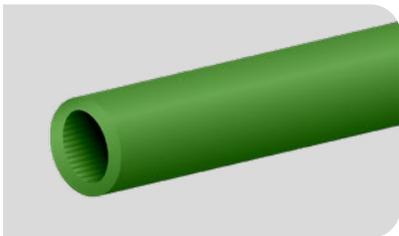
### External Sub-Duct

Microduct single and multiway high-density polyethylene (HDPE) available in a range 5/3.5mm diameter with a range from single to 24 tube for the blowing of EPFU (Enhance Performance Fibre Unit) up to an 18/14mm construction suitable for up to 432f microcables.

Full details of all the options and combinations can be found in the [Blown Fibre Section](#).

Enbeam duct installable blowing tubes have been designed for direct installation into existing ducts to allow blown fibre to be distributed externally. All tube bundles are over-sheathed with High Density Polyethylene (HDPE) to withstand the friction when installing the micro ducts.

[Browse our External Duct Range](#)



### Internal Sub-Duct

Low Smoke Zero Halogen (LS0H) designs with 5/3.5mm internal diameters and a choice of single or multiduct constructions designed to typically accommodate EPFU low fibre counts.

Enbeam Internal blowing tubes are ice blue in colour and have been designed to allow blown fibre to be distributed internally. The internally grade tubes are over-sheathed with Polyethylene and Halogen free (HF) flame retardant material foil. The tubes have a low friction inner coating to reduce drag & maximise blowing distances. The compact tubes can accommodate Excel fibre units containing from 2 to 12 fibres and are colour-coded for identification.

[Browse our Internal Duct Range](#)

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## Head over to **Section 2** of the Encyclopaedia

to read more about our  
plastic free packaging

