

FIBRE CABLING

FIBRE CABLING SYSTEMS



Connectix have been supplying networking products to the data and voice industry since 1993, and since then have grown to become one of the leading UK based manufacturers in the market. With a product portfolio spanning UTP, FTP and fibre cabling systems along with cabinets and active electronics, Connectix strive to design and develop reliable, economical products that exceed all the relevant standards.

For over ten years, Connectix have been at the forefront of providing fibre optic solutions to the communications market. Having one of the largest termination facilities in the UK, fibre has always been a core part of Connectix business. The Connectix Optix range of fibre products has developed into one of the most comprehensive and widely respected fibre solutions available.

Connectix don't stop at providing superior products. They are also committed to offering training for installers, comprehensive warranty solutions and outstanding pre and post sales customer support; resulting in total piece of mind for both installers and end users.



Fibre Cabling

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The first steps towards using fibre optics as a form of communication stretch back to the 1960's when lasers were introduced as a source of coherent light. Interest in the use of light as a carrier for information grew significantly from then on. At first the transmission distances were very limited but as manufacturing techniques became more advanced, and very pure glass arrived in the 1970's, it became feasible to use optical fibres as a practical transmission medium. Around this time semiconductor light source and detector development meant that by 1980 world wide installation of optical fibre communication systems had been achieved.

Fibre optic technology is a cutting edge method of transmitting information over great distances using pulse lights. Fibre optic cabling is currently the best long distance communications method because it provides much faster data transfer speeds when compared to traditional interconnection media such as copper cable. The signal cannot be interrupted by external influences, a few examples being: electricity, rain or humidity. But they tend to damage a conventional copper wire signal, which is why fibre optic cable is the ideal solution in volatile conditions. Optical fibre is also lightweight compared with copper.

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Advantage of Fibre Installation

Capacity

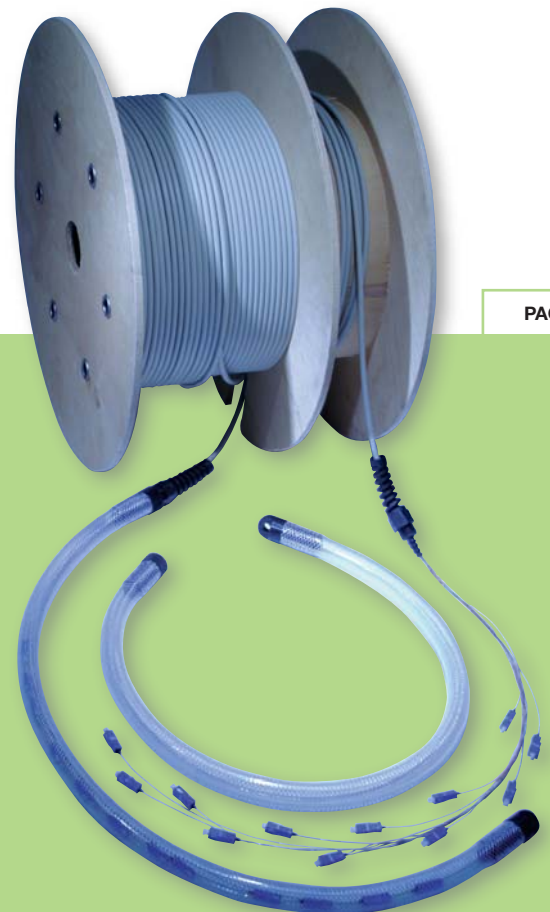
Optical fibres will carry signals with much less energy loss than their copper counterparts and at a much higher bandwidth. Bandwidth equates to data carrying capacity therefore more channels of information can be carried over longer distances with fewer repeaters.

Size & Weight

Optical fibres are much thinner and lighter than copper cables; this means there is less space required in ducting and trunking when installing a system.

Security

Optical fibres are almost impossible to tap into without detection, making it an ideal media for banks & information sensitive environments. They are immune from radio signals, ignition systems, lightning etc, so they can be safely routed through explosive or flammable atmosphere and potentially hazardous sites.



Typical Areas of Application

Telecommunications

Singlemode optical fibres are now standard point to point cable links between telephone exchanges and substations with a carrying capacity of thousands of simultaneous telephone calls.

LANs

Multimode fibre is commonly used as a backbone fibre for networks to link buildings together. Copper is still the current favourite to the desktop, but with growing bandwidth requirements fibre is rapidly being employed as a standard PC connection.

Cable TV

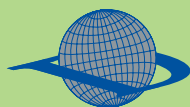
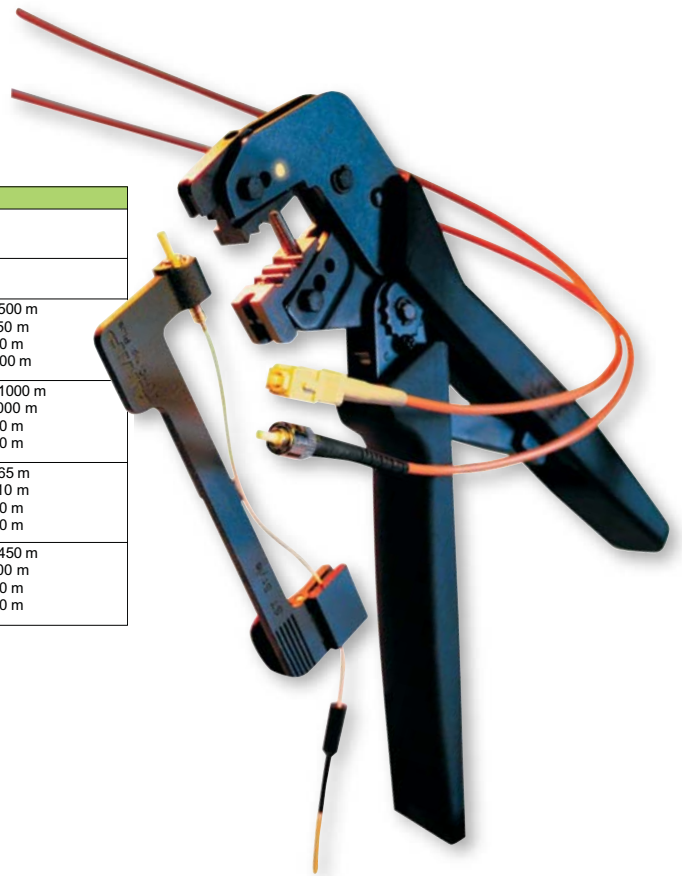
Cable TV is one of the main users of optical fibre. Low power consumption and excellent distance carrying abilities enable a relatively inexpensive installation.

CCTV

Closed Circuit Television Systems require security and reliability with no interface for the camera transmission; optical fibres provide the solution.

Distance for multimode and singlemode fibre transmission

Application	Standard fibre	Draka premium fibre
10MB IEEE 802.3 og ISO/IEC 8802-3 10BASE-FL og FB (850 nm)	OM1 62.5 µm: 2000 m OM2 50 µm: 1514 m	
100MB IEEE 802.3 og ISO/IEC 8802-3 100BASE-FX (1300 nm)	OM1 62.5 µm: 2000 m OM2 50 µm: 2000 m	
1GB IEEE 802.3 1000BASE-SX (850 nm)	OM1 62.5 µm: 275 m OM2 50 µm: 550 m	OM1 HiCap® 62.5 µm: 500 m OM2 HiCap® 50 µm: 750 m OM3 MaxCap® 300: 900 m OM3 MaxCap® 550: 1100 m
1GB IEEE 802.3 1000BASE-LX (1300 nm)	OM1 62.5 µm: 550 m OM2 50 µm: 550 m	OM1 HiCap® 62.5 µm: 1000 m OM2 HiCap® 50 µm: 2000 m OM3 MaxCap® 300: 550 m OM3 MaxCap® 550: 550 m
10GB IEEE 802.3ae 10GBASE-SR/SW (850 nm)	OM1 62.5 µm: 35 m OM2 50 µm: 82 m	OM1 HiCap® 62.5 µm: 65 m OM2 HiCap® 50 µm: 110 m OM3 MaxCap® 300: 300 m OM3 MaxCap® 550: 550 m
10GB IEEE 802.3ae 10GBASE-LX4 (1300 nm)	OM1 62.5 µm: 300 m OM2 50 µm: 300 m	OM1 HiCap® 62.5 µm: 450 m OM2 HiCap® 50 µm: 900 m OM3 MaxCap® 300: 300 m OM3 MaxCap® 550: 300 m



Draka Comteq



Connectix have been working closely with Draka Comteq, their leading supplier of fibre optic cable for many years.

Draka are committed to continuous product development and research, manufacturing optical cables at the cutting edge of technology.

This ensures that Connectix are always able to supply the ideal cable for telecommunications and data transmission, that has been manufactured to far exceed industry standard specifications.

Fibre Standards & Warranty

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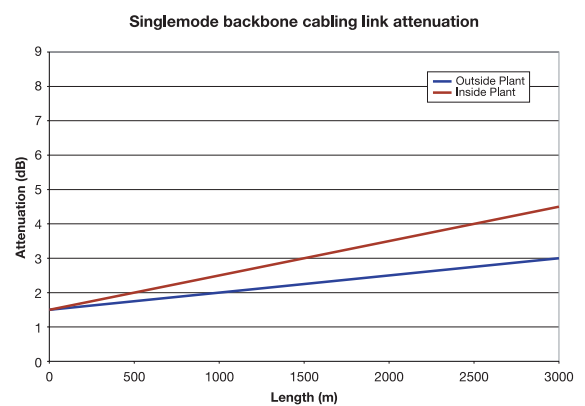
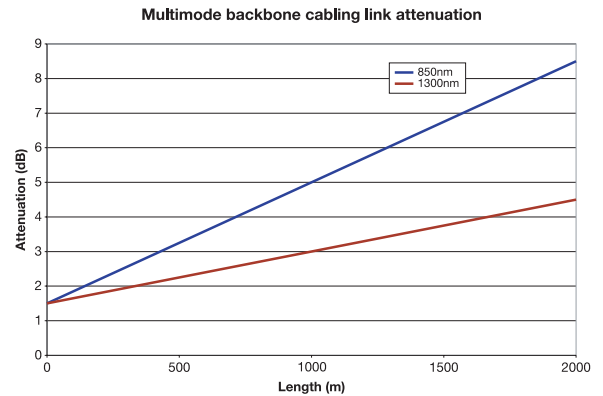
Fibre Standards

Fibre performance standards for commercial building telecommunications cabling are set out in TIA/EIA-568-B.1. This defines the minimum Link Segment performance, and the test methods to be employed. The Link Segment is the passive cabling, including cable, connectors and splices between two connecting hardware termination points.

When testing standard compliant components, the only parameter that needs to be tested is Link Attenuation. Other important parameters – such as Bandwidth or Dispersion are tested in the factory and cannot be adversely affected by installation practices.

For horizontal links (up to 90m) the maximum attenuation should be 2.0dB. For Backbone links the maximum attenuation is shown in the charts.

There are many other standards that define the grade of fibre cables such as FDDI or OM3, the choice of which is usually determined by the required application.



Warranty

Connectix offer a 15 year system warranty for Connectix fibre systems installed and tested by our Approved Installers. This warrants that the installed fibre links will perform the requirements of TIA/EIA-568-B.1 for a period of 15 years from the date of installation.

Draka say 'Our highly qualified research and development division challenges future developments. Multipurpose cables for the data industry featuring LSZH jackets and new technology for the cable TV industry are fine examples of why we are more than prepared to meet future demands'.

This is just one of the reasons why Connectix choose Draka as their preferred supplier of fibre optic cables.



High Performance Equipment

High Performance Equipment

The Connectix Optix range offers a vast choice of fibre products including: cable, connectors, leads, termination kits, panels and enclosures.

Details of the full range of fibre products are available in the Connectix product and service catalogue.

Patch Panels

Connectix manufacture a full range of panels designed to house splice connections safely and securely. All connector styles are available, and panels can be configured to meet non-standard requirements.



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Connectors

Optix fibre connectors include ST, SC, LC, FC, FDDI, MT-RJ and SMA. A full range of adaptors is also available, with the option of both singlemode and multimode variations on most types.

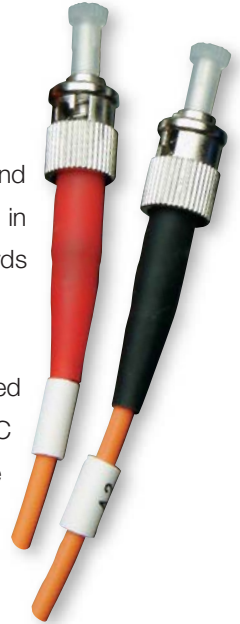
All Optix connectors are manufactured to high quality standards, conforming to the relevant specifications.



Terminated Assemblies

The Optix range of patchcords, pigtails and terminated assemblies are manufactured in house and surpass the high standards required within the relevant specifications.

Singlemode terminations can be supplied with all polish finishes including SPC, UPC and APC variants. The full Optix range includes ST, SMA, SC, LC, FC, SC Duplex, FDDI and ESCON assemblies.



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Other fibre related products we offer include:

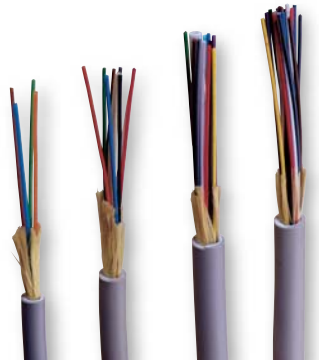
- ✕ Testers
- ✕ Fyberscope
- ✕ Termination kit
- ✕ MT-RJ panels
- ✕ Switches



Tight Buffered Fibre Cable

This fibre is typically used as an internal link. The buffer is 900 microns which means it has a more rugged construction and is more flexible than loose, protected tube cable. The outer jacket size increases considerably as the number of fibres increase.

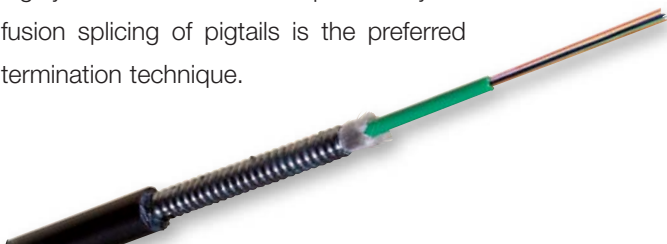
This highly cost effective cable is available in multimode 50/125, OM3 50/125 and 62.5/125 or singlemode variations.



Loose Tube Fibre Cable

This is typically an external use fibre, although it can be used internally. The basic construction consists of the outer jacket and Kevlar surrounding a gel filled hard plastic tube, available with up to 24 x 250 micron buffered fibres.

Available in multimode 50/125, OM3 50/125, and 62.5/125 or singlemode variations, this cable provides a highly cost effective solution particularly where on site fusion splicing of pigtails is the preferred termination technique.



Pre-Terminated Fibre Optic Cable

Connectix has developed Opal, a pre-terminated fibre optic cabling solution which allows a fibre optic network to be installed in a fraction of the time taken by conventional on-site direct termination or fusion splicing. It requires no special installation skills or equipment and can therefore be installed by non-specialist personnel, vastly reducing the installation cost.

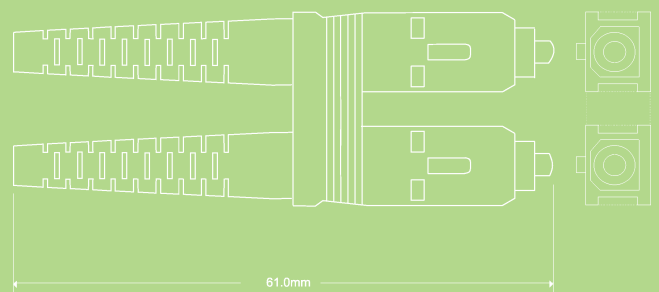
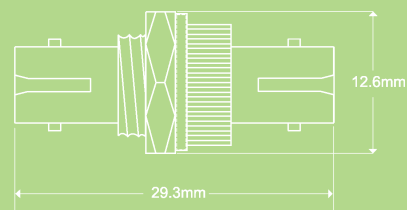


Wall Mount Enclosures

Locking wall mount enclosures provide an ideal solution for secure patching when a cabinet or other enclosure is not available. Internal panels are available for ST, SC, FC, SCC Duplex, FDDI and ESCON. The enclosures can be supplied both loaded or unloaded and with the option of fibre/splice management kit.



We have data sheets available on each of our fibre products, detailing technical specifications and diagrams as well as general information about the product.



connectix™

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