FAQS for Fibre Internet

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What is Fibre?

Fibre optic internet or simply “fibre,” is a broadband connection that uses thin glass or plastic fibres to transport data. Pulsed beams of light travel at a speed of about 70% of the speed of light. In most locations, fibre-optic lines replaced older copper lines forming the “backbone” of our current internet networks.

Many people believe fibre to be a new technology but the first fibre-optic cables were laid beneath the ocean, connecting the U.S. to Europe, in 1988. Over time, more fibre-optic cables were laid under the ocean for communication, resulting in a huge network around the world.

Compared to copper phone lines, fibre optic cables are more reliable. Fibre optic cables can carry a greater amount of data over longer distances, which means they have a stronger signal strength. They are less prone to electrical interference and cold weather, which minimizes outages.

What are the benefits of full-fibre broadband?

Full-fibre broadband uses future-proofed technology, which is more reliable than traditional broadband, keeping a strong signal with less interference over a much longer distance.

This means greater bandwidth is achieved, which allows faster connection speeds. Full fibre also requires less power —meaning both your energy bills and carbon footprint will fall.

Full fibre allows lighting quick download speed which means it continues to work reliably, no matter how many people are using the same connection, eliminating the struggles traditional broadband has at peak times.

Residents can enjoy fast streaming of their favourite movies, music or games, while businesses can benefit from reliable fast access to a range of digital services to help them expand and grow, including cloud-based apps and software, voice-over-internet telephony and greater security.

What is the difference between traditional broadband and full fibre?

Fibre-to-the-Property (FTTP) is full fibre broadband which provides a stable connection running directly from the exchange to your property.

Traditional broadband, called Fibre-to-the-Cabinet (FTTC), uses fibre optic cables to the main exchange, using old copper wires to connect to your property.

FTTP is capable of far higher speeds for both downloads and uploads going up to 1000Mbps through fibre cables with a glass core transmitted through light.

Whereas FTTC provides a much lower speed, averaging around 35-75mbps due to the copper element from the cabinet to the home being transmitted through electrical signals.

How does it work?

Two key components of fibre-optic Internet are optical fibres and the network's last mile.

An **optical fibre** is about 125 microns in diameter, or slightly larger than a human hair. It consists of several fibres bundled together to form a core. Your data is converted to code - 0s and 1s (a binary form) - then carried through pulses of laser or LED light reflecting down the line. A special layer of plastic or glass, called a cladding is wrapped around the core to keep the beam of light inside the filament (up to 60 miles).

Once **The Last Mile** is reached, an optical network terminal (ONT) converts the light pulses into electrical Ethernet, decoding it into a form you can use to connect your devices to the Internet.

Where can I get it?

There are many telecom operators which provide fibre broadbrand in the UK, of which some of the best known are BT, Virgin Media, Hyperoptic, Community Fibre, Sky, Vodafone, and EE.

What is the process?

To install infrastructure, telecom operators may require:

1. Planning permission
2. Land access agreements, such as wayleaves or leases, with the landowner
3. Permission to undertake street works.

All domestic communications services are regulated by the **Electronic Communications Code** enforced by Ofcom. Local authorities and industry alike will find this to be a valuable resource for information on digital infrastructure building.

Contact details

Further information is available on the Digital West London website:
https://digitalwestlondon.co.uk

For further questions, guidance or advice, please email:
digitalwestlondon@ealing.gov.uk

Digital West London

West London Alliance