

# Ducts





# The Building Blocks for Excellent End-to-End Networks



**From local exchange points to the front door. And from the smallest fibers and tubes to prefab PoPs. Netceed delivers fiber networks from start to finish, by combining our six modular building blocks.**

Our networks connect people. And when it comes to bringing people together, nothing but the best will do. It's why we believe in delivering the highest possible quality in all our work. From using the best components and materials to top-notch network design and engineering. It's how we realise highly reliable networks that require little maintenance. The evidence: our 25-year system warranty.

## Reliable protection

Ducts are essential in protecting cables from damage and ensuring the reliability of any network. Netceed supplies a wide range of both macro- and microducts, made of PVC, or HDPE. With our broad selection, we can deliver the right solution for all feeder, distribution, or drop networks.





# 01

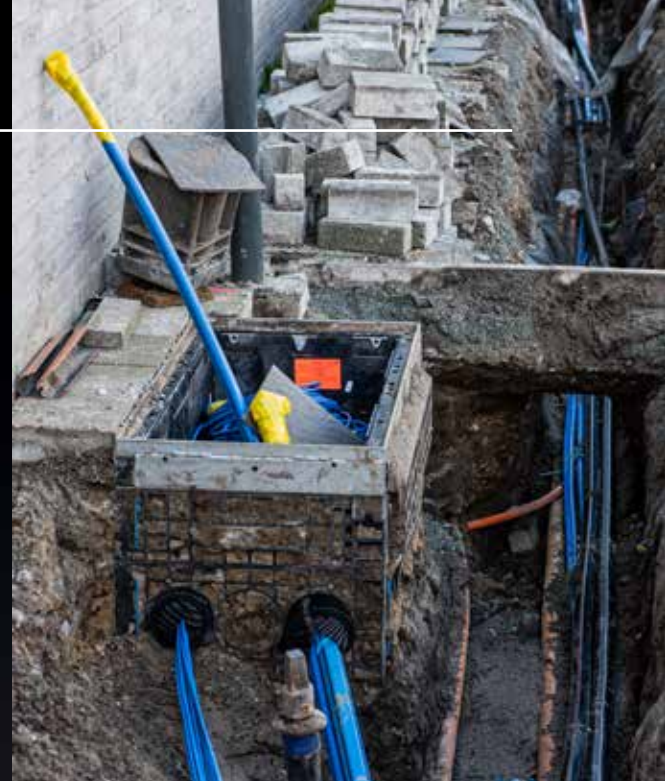
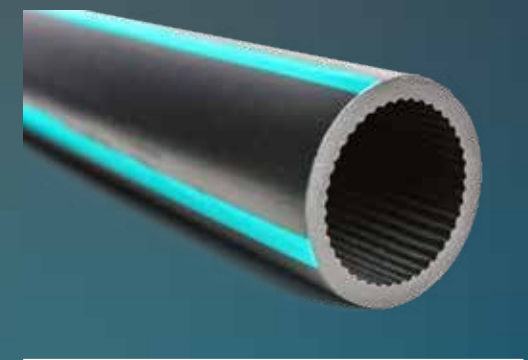
## Macroducts

### Single HDPE duct

HDPE cable protection tubes have been used for many years to blow fiber into backbone networks. Today, they are also commonly used in network upgrades in which they are filled with microducts to realise a higher fiber capacity in the street.

The cable protection tubes are made of high-density polyethylene, have a smooth outer wall, are grooved or smooth on the inside, and are available in various DIN standards. The outer jacket can be produced in a single colour or as one solid colour with coloured lines. The inside is always black.

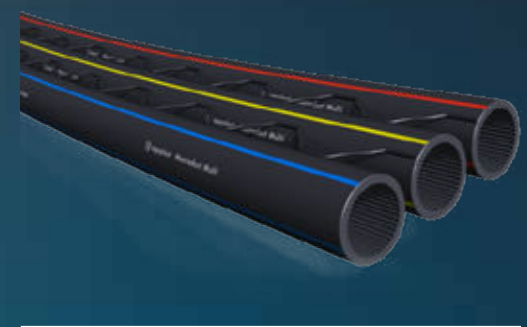
Application area	open trench, directional drilling, plough installation
Dimensions	32 mm, 40 mm, 50 mm, 63 mm, (other sizes available upon request)
Available in	ring bundle, metal/wooden reel, rigid lengths



### HDPE multiducts

The HDPE multiducts are a combination of several single HDPE ducts. This is achieved through an additional PE sheathing, by bonding the tubes, or by separately winding them on a reel. The individual ducts can have the same dimensions, but it is also possible to combine ducts of different diameters. The physical properties are the same as those of a single HDPE duct.

Application area	open trench, directional drilling
Dimensions	32 mm, 40 mm and 50 mm
Amounts	from 2 to 4 pieces
Available in	metal/wooden reel



### Macroducts accessories

#### Connection types

HDPE cable protection tubes can be joined together in various ways. It can be done through an electro fusion socket, mechanical coupling, or through a mirror weld, though this last option is used rarely.



#### Sealing empty ducts

To keep the pipe free from water and dirt, it is recommended to seal it with a Blank Duct Plug after installation.



#### Sealing filled duct

After a cable has been inserted into the pipe, a Simplex plug can be installed to seal the space between the duct and the cable, preventing gas, water and dirt from entering the conduit.





# 02 Microducts

## Single microduct

Single microduct pipes are suitable for network applications such as Fiber to the Home (FttH), Fiber to the Building (FttB), Fiber to the Curb (FttC), or the last mile. Single microducts are used to realise branches from new or existing pipe routes to the end customer connection or to switching points.

Microduct pipes can either be placed in the classic HDPE cable protection tubes, or be buried directly in the ground. The pipes are available in a DI (Direct Install) or DB (Direct Buried) version. The main difference between these versions is wall thickness.

The outer jacket can be produced in a single colour or can be transparent with coloured lines.

Application area	Thin-walled: in existing HDPE pipes, cable protection tubes, cable ducts, ... Thick-walled: open trench, plough installation, cable protection tubes, cable trays, ...
Dimensions	4 mm to 25 mm (thin and thick-walled)
Available in	wooden reel



## Shotgunproof microduct

This metal-free microduct is shotgunproof, making it the ideal choice for installation near railways or in agricultural environments. It is suitable for microcable and can be installed aerially or underground, either in ducts or buried directly.



## Multi-microduct

A multi-microduct is a bundle of microduct pipes. These pipe bundles are used in network applications such as Fiber to the Home (FttH), network backbones, or the last mile.

They are suitable for direct buried installation, but can also be inserted or pushed into cable shafts, macroduct pipes, or other pipe systems.

Application area	Thin-walled: in existing HDPE pipes, cable protection tubes, cable ducts, ... Thick-walled: open trench, plough installation, cable protection tubes, cable trays, ...
Dimensions	4 mm to 25 mm (thin and thick-walled)
Amounts	from 2 to 24 pieces
Available in	wooden reel



## Double-sheathed multi-microduct

Double-sheathed multi-microducts were developed especially for trenchless installation of multi-microduct pipes. Trenchless installation allows network operators to expand their grid in an economically efficient manner. A flexible double layer with an outer sheathing made of a modified material increases the wear resistance and hardness of this multi-microduct and prevents damage to the inner pipes. This solution is especially well-suited for network applications such as backbones, Fiber to the Home (FttH) or the last mile.



## LSZH Microducts

Microduct LSZH (Low Smoke Zero Halogen) pipes are made of a special halogen-free, low-smoke material of low flammability. The pipes are highly suitable for use in network applications inside of buildings, such as Fiber to the home (FttH).

The pipes are available in single or multi-microduct versions.



## Microducts accessories

### Connection types



### Seal empty duct



### Seal filled duct

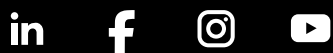


microfocus 

# beyond fiber

## Get in touch

Our team of experts looks forward to helping you find the right solution for your project. Feel free to get in touch to discuss your project's requirements.



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