



# Microduct system for FTTx networks





# Why Us?

With a legacy of over 40 years, Sanbor is a well-established name in the plastic pipe industry.

Our story began as a family-owned business — a foundation that continues to shape our values today. What started with a strong entrepreneurial spirit has grown into a globally trusted organization serving the global telecommunications, water, and infrastructure sectors.

Our strength lies in combining deep-rooted heritage and industry know-how with a forward-thinking, corporate mindset. While our roots keep us grounded, our vision keeps us growing.

At our production facility in Turkey, over 100 dedicated professionals work with advanced technologies to meet the highest industry standards. To better support our European partners, we have established Sanbor GmbH in Germany — ensuring close collaboration and seamless logistics.

In today's fast-moving, technology-driven world, Sanbor is committed to enabling the expansion of high-speed fiber networks. Sanbor specialized in high-performance Microduct systems ranging from 5 mm to 20 mm, with bundling options of up to 25 ducts. They are used in various applications such as direct burial, direct install, and indoor applications, providing flexible and reliable solutions.

What sets us apart is our ability to deliver flexible and customized production. Whether it's tailored bundling configurations, specific dimensions, or project-based solutions, our manufacturing adapts quickly to meet your needs.

We take pride in being a trusted supplier to major operators such as Deutsche Glasfaser — one of Germany's foremost players in fiber deployment.

We look forward to continued growth and to contributing to the next generation of high-speed networks worldwide.



Deutsche Glasfaser



# Microduct Solutions

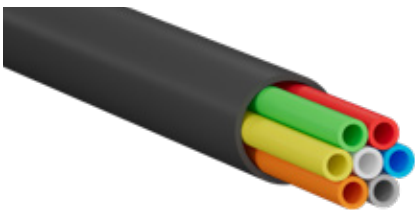
## Direct Buried Microducts



Designed for direct burial applications, these bundles feature thicker inner ducts that provide durability and long-term reliability without the need for additional protection.

The thin outer sheath allows for quick and easy termination, while the wall thickness of each inner tube makes them suitable for use as standalone ducts in buried installations. Ideal for various installation methods, including: Open cut, Micro-trenching, Mini-trenching, and Horizontal Directional Drilling (HDD).

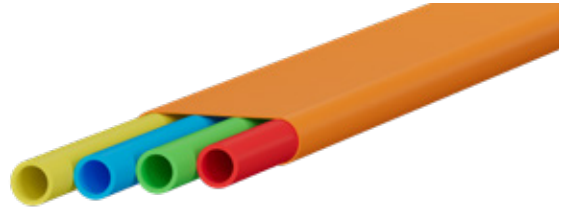
## Direct Install Rugged Microducts



Direct Install MicroDucts are specifically designed for installation within existing ducts or subducts, offering a durable solution for expanding fiber networks without the need for excavation.

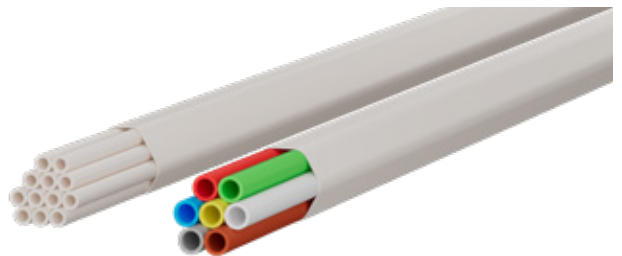
Its high-strength construction provides excellent resistance to crush and mechanical stress, making it suitable for environments where physical protection is critical.

## Flat Microducts



Flat MicroDucts are perfectly suited for micro-trenching in narrow-width applications. Their design allows vertical placement, making them an excellent fit for limited trench space.

## LSZH Indoor Microducts

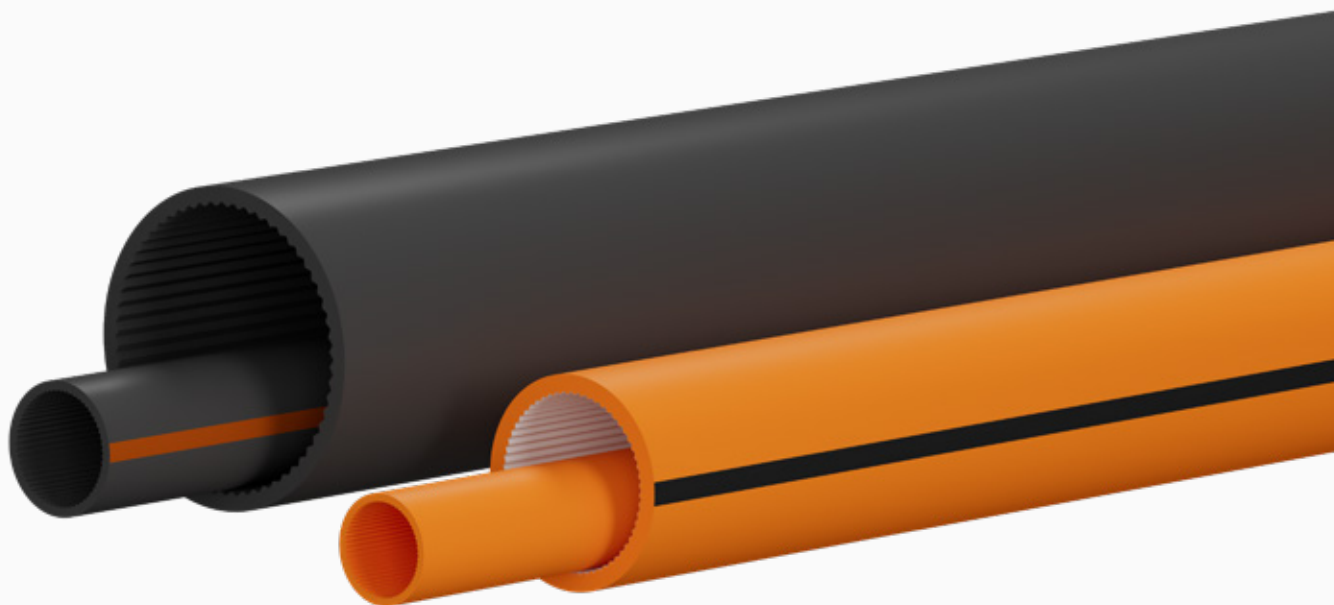


Sanbor's halogen-free, flame-retardant microducts are designed for safe and efficient fiber installations within buildings, providing low smoke and zero halogen emissions in the event of fire. They are ideal for areas with strict fire safety requirements, such as office buildings, residential complexes, and data centers.

Fully compliant with UL94 fire safety standards, these microducts are available in configurations from 1 to 24 ducts, with typical outer diameters ranging from 5 mm to 12 mm, and inner diameters between 3.5 mm and 10 mm.



# HDPE Cable Protection Pipes



Sanbor manufactures high-quality HDPE conduits designed to protect telecommunications (fiber optic or copper) and power cables. Produced from high-density polyethylene (PE100), these ducts offer exceptional flexibility, strength, and resistance to both environmental and mechanical impacts.

Their durability makes them ideal for underground installations and for use as innerducts within existing conduits. Manufactured in accordance with **DIN 8074** standards, these pipes meet pressure pipe quality requirements and perform reliably even in low-temperature conditions.

## Dimensions:

Outer diameter **25 to 160 mm**; SDR-classes **9, 11, 13.6 and 17**; further SDR-classes and outer diameters on request

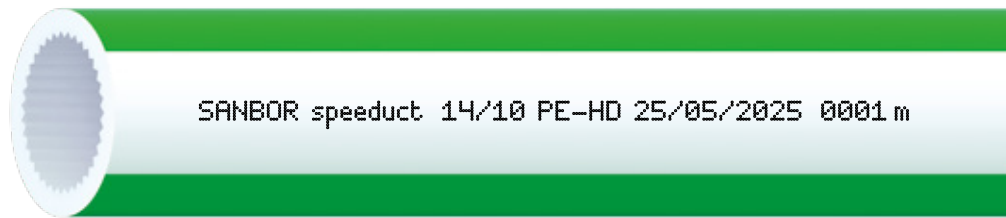
## Pipe construction: Standard version:



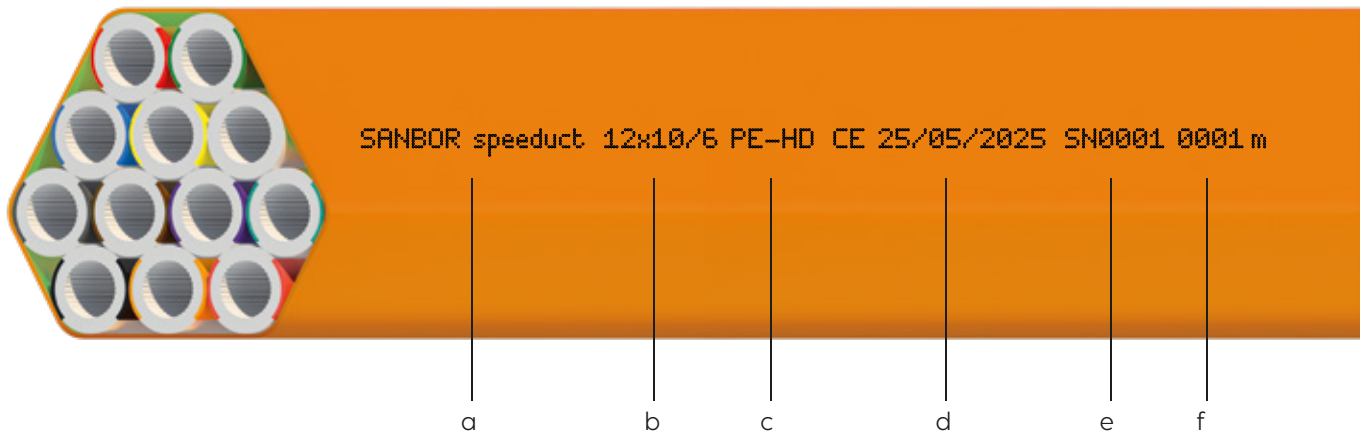
# Identification

## Single Duct

The diversity in broadband expansion results in increased demand for individually designed pipe bundles. With our production know-how and advanced mold workshop, we are able to respond quickly to these requirements with a variety of options and enable you to create your own individual combination by combining channels of various numbers and sizes.



## Multi Duct



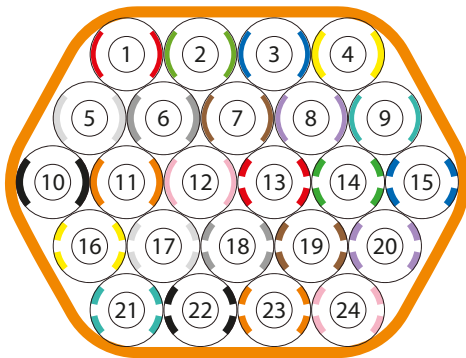
The jacket is permanently marked with inkjet printing. It is possible to additionally apply the company name when signing the jacket of the pipe bundles. If necessary, the signature can be offset by 180°. Two vertical stripes can be extruded additionally. The color design of the jacket can be made according to customer requirements.

The identification of microducts is carried out using permanent, abrasion-resistant inkjet printing with a 1 m spacing with the following information:

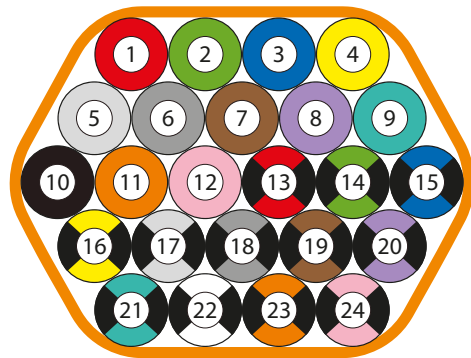
- Manufacturer and range of application
- Outer diameter / inner diameter in mm
- Material
- Production date (day, month, year)
- Drum Serial Number
- Meterage



# Color Coding



Translucent ducts, 1-12 tubes, with single stripe, 13-24 tubes with double stripes



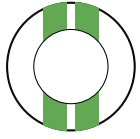
Colored outer layer. From tube 13, colors with single stripe



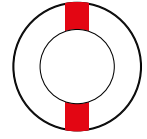
Custom colors are available for Microducts and Oversheath

The color requirement for individual pipes is made with approx. 6.0 mm extruded wide color stripe or a colored outer layer. The tube colors are manufactured according to DIN VDE 0888.

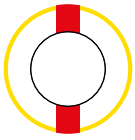
The jacket can be produced in customer-specific colors, thus enabling clear assignment on planning. In addition to the standard color design, it is also possible to have two or four longitudinal stripes of the same color extruded into the jacket to differentiate duct bundles while laying on ground.



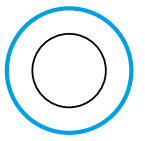
Translucent with two stripes of the same color



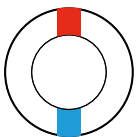
Translucent with two double stripes of the same colour



Colored outer layer with two stripes of the same color



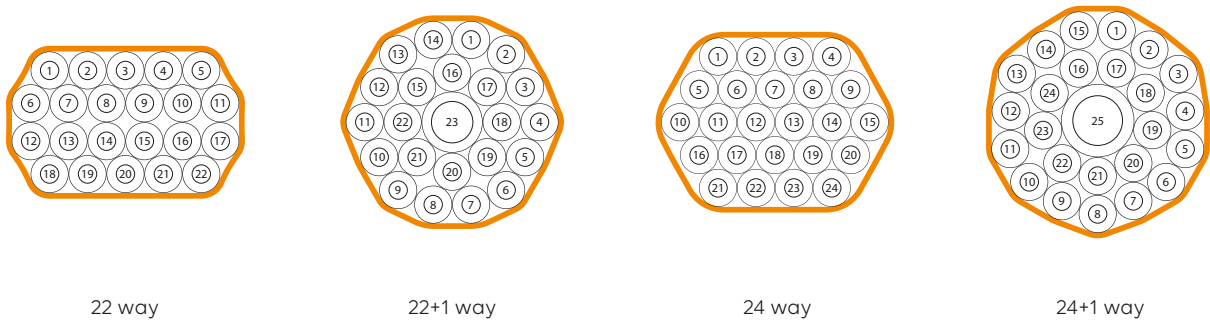
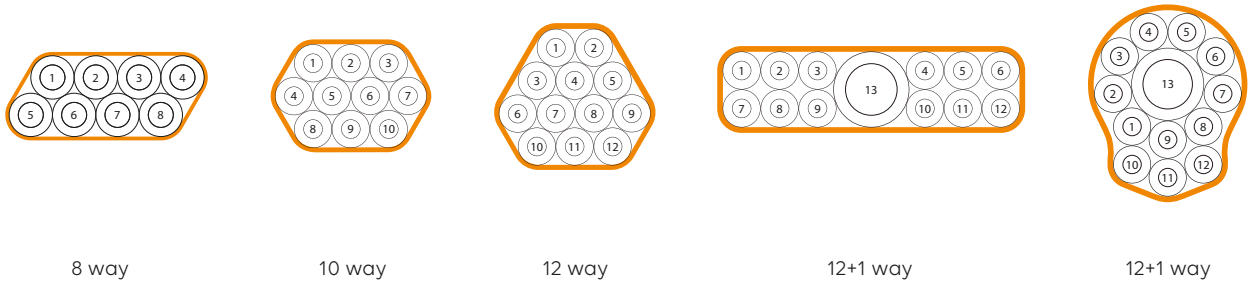
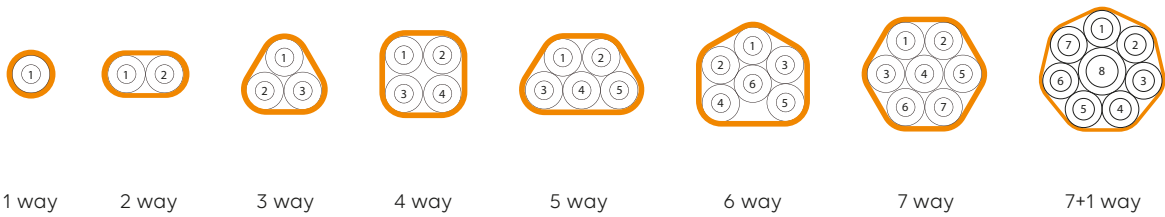
Colored outer layer



Translucent with two different color stripes



# Configuration



The diversity in broadband expansion results in increased demand for individually designed pipe bundles. With our production know-how and advanced mold workshop, we are able to

respond quickly to these requirements with a variety of options and enable you to create your own individual combination by combining single microproducts of various numbers and sizes.



# Materials



All our products are made only from virgin HDPE, so we can always guarantee the top quality final product.

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## Material properties at 23 °C:

- Average density: > 0.94 g/cm<sup>3</sup>
- Modulus of elasticity: min. 800 N/mm<sup>2</sup>
- Internal pressure test: 170 h / 80°C / 4 N/mm<sup>2</sup>
- UV Resistance: 2 years Central Europe climate according to EN ISO 4892-2
- Fire behaviour: Normal flame-resistance according to DIN 4102, class B2

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## Inner Layer

Microduct Installations are done by an air blowing technique that reduces the risk of damage to the fiber cable, accelerates installation time and increases the installation distance. Sanbor Microducts and ducts can be produced with a permanent Silicone lining.

Permanent solid silicone is co-extruded inside the tube of microduct, creating a permanent slippery wall. Upgrade Silicone Lining helps to increase the blowing speed and reduce the time on installation by reducing the coefficient of friction.



HDPE External Layer  
SILICONE Inner Lining



Legacy Silicone Lining



Enhanced Silicone Lining

# Accessories

The microduct system is integrated with our large scale accessories and tools. In addition to the following selection, you will find more accessories at [www.sanbormicroduct.com](http://www.sanbormicroduct.com)



Straight Connector



Endstop Connector



Reducing Connector



Duct Bundle End Caps



Gas Block Connector



Duct End Caps

# Packaging

The duct bundle drum is delivered on special drum support pallet. The ducts are sealed on both ends with protective caps and wrapped in black film.



Wooden Drums



Metal Drums



Plywood Drums

# Quality, in Real Time

At SANBOR, quality isn't just promised — it's continuously measured during production with real-time X-ray control.



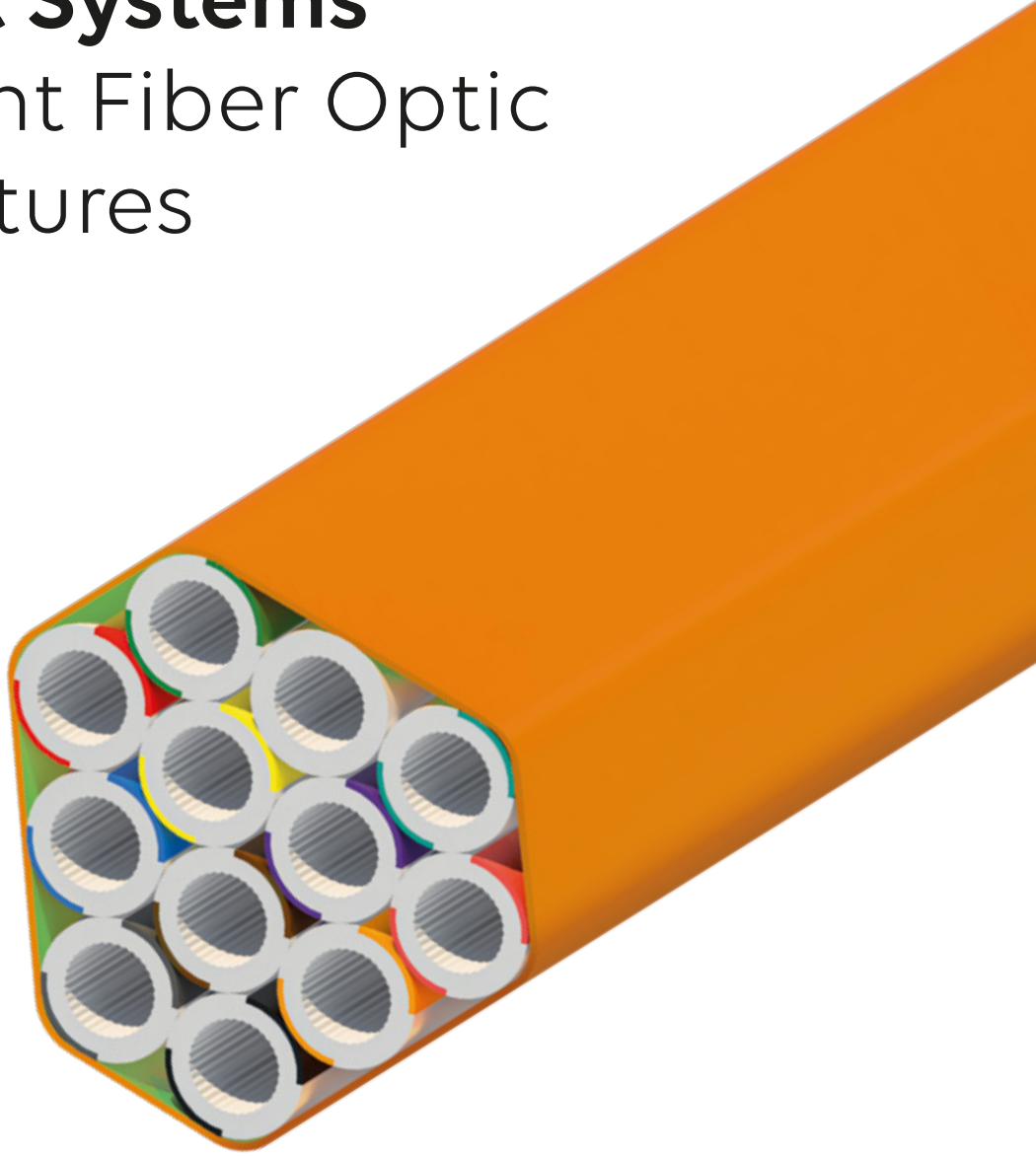
**SIKORA**  
X-RAY 6070 PRO

X-Ray Device for  
Measuring Diameter,  
Wall Thickness and Ovality



# High-performance Microduct Systems

for efficient Fiber Optic  
Infrastructures



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