



VARIOFLAT DB is designed to be laid directly into the ground, for the installation and mechanical protection of micro-cables with optical fibres for advanced FTTx network technologies.

The VARIOFLAT DB set is a patent-protected set of microducts, which are individually connected by a thin-walled foil.

One of the VARIOFLAT main advantage is a microduct **size combination variability** suits any requirements. Other advantages include **high double-sided shape flexibility** - horizontal, vertical, compound shapes, making them easy to handle when installing the set.

The shape-flexible packaging allows **fast** access to any microduct during the installation process. The flat shape and thin packaging of the bundle, allows the individual microducts to be **identified immediately**.

It is **very quick and easy** to remove microducts from the casing. No special tools are required to branch them.

Simple and quick branching from the main route through watertight and gas-tight micro-connectors **cuts the cost** of using junction boxes.

The way the set is designed **prevents** microducts to be tangled up (spaghetti effect).

Microducts remain the same length also, if the route is uncoiled.

VARIOFLAT DB is the ideal solution for microchannels/cutting the costs of excavation work.

The thin packaging makes the shape of microducts **easily modifiable** to suit the excavation trench.

On customer's request an insulated copper wire can be fitted into the bundle, making it **quick** and easy to find (identify) a route after the trench has been filled in.

On request we can also make a **VARIOFLAT DI version** (using thin-walled MIKROHARD DI microducts).

VARIOFLAT DB combinations

| dimensions \ number of lines | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 11 | 12 |
|------------------------------|---|---|---|---|---|---|---|----|----|----|
| 7/3,5 | • | • | • | • | • | • | • | • | • | • |
| 7/4 | • | • | • | • | • | • | • | • | • | • |
| 10/5,5 | • | • | • | • | • | • | • | • | • | • |
| 12/8 | • | • | • | • | • | • | • | • | • | |
| 14/10 | • | • | • | • | • | • | • | • | | |
| 16/12 | • | • | • | • | • | • | • | | | |

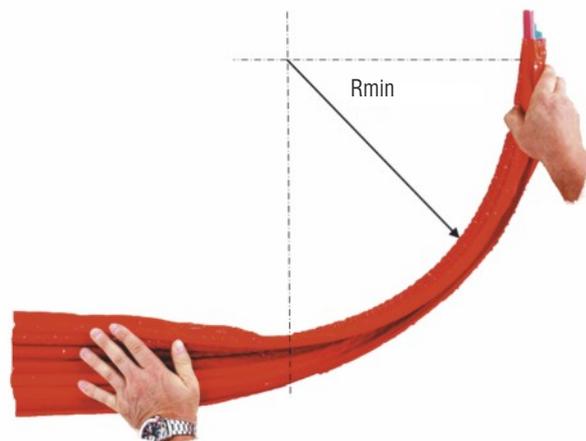
- a microduct size combination variability suits any requirements

Variations of VARIOFLAT DB

- different foil colours - transparent, opaque; standard packing - wound flat on the drum.

Example of bending

- minimum bending radius of "Rmin" bundle with multiple MT dimensions is always limited by the "R" value of the microduct with the largest outer diameter.



Design

- We produce MIKROHARD DB microducts with a smooth or grooved inner wall, with a sliding layer included.

Material

- Microducts - high-density polyethylene (PE-HD).
- Bundle package - low-density PE (LDPE).

Temperature resistance

- Installation temperature: PE-HD ducts can be handled from -10°C to +50°C.
- Operating temperature: from -40°C to +70°C.
- Storage temperature: from -40°C to +60°C.

Resistance to induced currents

- Basic polyethylene is a very good insulator. No induction currents occur in the line, even if laid close to high voltage power lines.

Resistance to environmental influences

- Chemical resistance of microducts guaranteed by use of PE-HD.

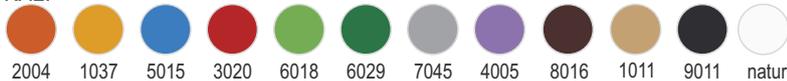
Bend radius

- According to microduct bend radiuses.

Colours

- Foil is generally in clear, transparent and orange. Other foil colours may be ordered on request; a certain minimum volume must be ordered.
- Microducts are manufactured in various colours according to customer requirements. Colour differentiation is an advantage for identifying the various microducts if multiple microducts are used in one system.

RAL:



Marking

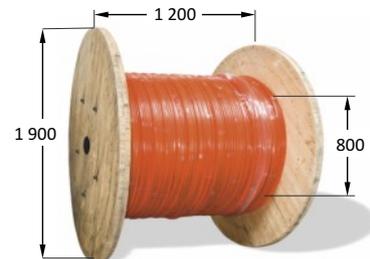
- On request can be VARIOFLAT marked with a data description.
- Individual microducts are marked as standard with an identifier, including length in metres. The lettering is generally black, min. 2 mm high.
- Description is repeated every 1 m and is printed in black.

Environment

- VARIOFLAT DB bundles do not harm the environment. The material is fully recyclable.

Packaging

- The set comes wound up on a reel and secured in place with a stretch film.
- On returnable wooden drums.



| | outer ø (mm) | drum core ø (mm) | drum width, including ends (mm) |
|-----------------|--------------|------------------|---------------------------------|
| drum dimensions | 1 900 | 800 | 1 200 |

| number and types of lines | 7/3.5 (4) | 10/5.5 | 12/8 | 14/10 | 16/12 |
|---------------------------|----------------|----------------|----------------|----------------|----------------|
| | length on drum |
| | m | m | m | m | m |
| 2 | 4 000 | 2 500 | 2 000 | 1 500 | 1 000 |
| 3 | 4 000 | 2 500 | 2 000 | 1 500 | 1 000 |
| 4 | 4 000 | 2 500 | 2 000 | 1 500 | 1 000 |
| 5 | 3 500 | 2 100 | 1 700 | 1 200 | 1 000 |
| 6 | 2 700 | 1 900 | 1 300 | 1 000 | 800 |
| 7 | 2 500 | 1 700 | 1 200 | 850 | 700 |
| 8 | 2 300 | 1 300 | 1 000 | 750 | 550 |
| 9 | 2 200 | 1 200 | 850 | 600 | - |
| 10 | 2 100 | 1 100 | 750 | 500 | - |
| 11 | 1 900 | 1 000 | 600 | - | - |
| 12 | 1 800 | 850 | - | - | - |

Transport

- It is essential to prevent mechanical damage and deformation of the bundles during loading, transport and unloading.

Storage

- Storage environment in accordance to ETS 300 019-1-1, class 1.3E.
- Up to 3 months in outdoor conditions in Central Europe.
- Sets must be protected against direct sunlight.

ACCESSORIES TO VARIOFLAT DB

connector

end piece

cable knife

