

1. Basic system overview:

Duraflat™ DB design is intended for direct burial installations. This specially designed flat bundle of Duramicro DB microducts is suitable for last mile deployment of FTTH networks. Thick wall microducts give enough protection and thin oversheathing allows easy access and flexibility during installation.

Duraline CT offers complete portfolio of Duraflat™ DB bundles which meets all the requirements of fibre optic telecommunications networks construction.

Basic portfolio of Duraflat™:

Duraflat	Min wall thickness	Cable Max OD/fibres	Max length	Drum type
6x 8/3.5mm	2.25	2.1 mm / 12vl.	4500m	DB 1
6x 10/5.5mm	2.25	3.9 mm / 24vl.	2500m	DB 1
6x 12/8mm	2.00	6.3 mm / 72vl.	2000m	DB 1,MS1
4x 14/10mm	2.00	7.6 mm / 96vl.	1300m	DB1, MS1
5x 16/12mm	2.00	9.1 mm / 144vl.	900m	DB1, MS1
... other configurations on request				

Benefits of Duraflat™ DB solution

- *Fast and easy installation of more microducts at once*
- *Increase of the route capacity*
- *Minimum accessories required – easy branching, no need of branching closures*
- *High flexibility*
- *Easy access to microducts – thin wall sheathing*

2. Installation of Duraflat™ DB

Installation of Duraflat™ DB is easy and fast. But it is very important to follow some basic rules specified below.

1. Duraflat™ DB laying

- 1.1. The bottom of the trench has to be dug even and level. To avoid cavities and such in soft areas, the bottom of the pipe trench has to be completely stable and firm.
- 1.2. Firm and leveled bottom is **essential!** Otherwise Duraflat™ DB will copy bumps and cavities and this may result in many microbends which shorten maximum length of cable blowing. (pic. 1,2)
- 1.3. Trench should be as direct as possible without any unnecessary bends. Bend radius of the whole Duraflat™ DB bundle should meet minimum radius of microducts themselves
Min R = OD(MT) x 20
- 1.4. Duraflat™ DB has to be tense in the trench. Sun rays and heat can cause elongation of DURAFLAT and its sprawling.
- 1.5. When covering trench with soil, continuously tighten the pipe to secure a frictionless blowing. The DURAFLATS™ DB can also be placed on top of each other, in order to save digging more trenches. Different stripe colors allow easy identification.
- 1.6. Filling has to be done by hand then the ground has to be compressed to stabilize the pipe trench.



Pic. 1 Duraflat copying trench bottom



Pic. 2 Sandy compact trench bottom

2. Duraflat™ DB branching

- 2.1. Duraflat™ DB flexible properties allow it to be molded into round shaped configurations which can follow the bends of the trench and prevent Duraflat™ DB from twisting. (pic. 3)
- 2.2. At the branching point selected microduct is cut off and separated from Duraflat™ DB in the length of 30cm. The oversheet is removed by knife and once the branching microduct is exposed, it keeps perfect shape to guarantee proper connection by microduct connector.
- 2.3. Standard microduct connectors shall be used to properly connect branched microducts. This connection provides pressure and watertight connections without any need of manhole or special branching closures. (pic. 4)
- 2.4. If you need extra mechanical protection of connectors you can use some basic protection boxes or just special flexible tape.



Pic.3 Flexible shape of Duraflat™ DB



Pic 4. Microduct branching

3. Duraflat™ DB installation pictures



Essential steps for proper Duraflat™ DB installation

- *High quality of the trench bottom*
- *Keep minimum bend radius*
- *Sand covering of Duraflat™ DB*
- *Avoid any DURAFLAT™ DB ondulation*
- *Respect physical microduct limits – tension, temperature, pressure etc.*