DuctShell®
Size 1 (750 mm)/Size 2 (1500 mm)

Technical Datasheet

Application

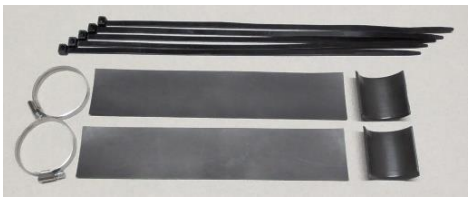
To improve and secure the joint of microducts and microduct bundles the DuctShell® was developed. For connection of microduct at a joint, usually used connectors have a tensile force to keep ducts in place and tight. Since the microducts in a joint have different lengths, the entire tensile load will appear on the shortest ones if the whole microduct bundle would be lifted or moved. Those shortest microducts will slide out of the connector. The DuctShell® has a strain relief fort the microduct bundles which keeps extra load away from connectors and thus prevent microducts from sliding out of the connectors.
Due to high compressive strength of the DuctShell®, it also protects microducts and connectors from mechanical stress applied by stones or rocks after back fill. The connectors are evenly distributed within the DuctShell® by integrated recesses inside of shell. Also, the whole joint of microducts keeps straight and ensure max range of cable jet in.

Technical Data:

Attribute	**Value**
Application	installation in soil class 1-5, lifetime ≥ 20 years
Temperature range	Operating: -40°C to +60°C Installation: +5°C to +35°C
Compressive strength	> 250 kg installed DuctShell applied over whole length
Tensile force	2000N installed strain relief
Protection class	Protection against solid objects over 1mm according to IP40, Protection against mechanical impact IK09 (5kg/20cm 10J)
Size	∅ inside 110mm, ∅ outside 130mm, length 750/1500mm
Weight	750mm 0,9kg, 1500mm 1,8kg
Material DuctShell	Top and bottom shell made from PP (Polypropylene) (color black) UV- and weather resistant
Material sealing	Rubber stripe self-adhesive CR rubber (Chloroprene)
Material accessory	Cable tie PA 6.6 (Polyamide), length 45cm (color black) Hose clamp W4 stainless steel V2A Clamp shell made from Polypropylene (color black)
Recycling	All materials are recyclable
Order No. 750mm **1500mm**	01-005-09 A For duct bundles with up to 12 microducts we recommend to use size 1 DuctShell 750 01-001-09 A For duct bundles with more than 12 microducts we recommend to use size 2 DuctShell 1500

Tolerances shall apply for microducts according to DIN EN 50411-6-1 und DIN EN 60794-5-ff
Listed values apply for properly installed product according to installation instruction

Scope of delivery
4 piece cable ties, (5 piece for size 1500mm)
2 piece rubber stripe self-adhesive,
2 piece clamp shell
2 piece hose clamp
Installation instruction



Application of DuctShell®
Microducts for fiber optic networks are designed to keep their performance for 20-30 years lifetime. Over this long period problems and vulnerabilities may occur which are not in the responsibility or warranty of the installation company.
For example, renewed opening of a trench with microducts for access to installations under need or constructions of the road could lead to severe damage of a microduct junction.

The Elitex DuctShell has proven many times for years as the best solution for protecting of microduct joints.

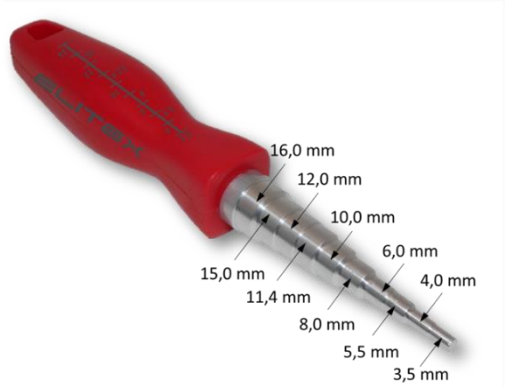
- Consistent joint quality due to graded distribution of connectors over the inner space of DuctShell.
- DuctShell prevents bends of ducts caused by concentration of connectors and thus cable stops during jet in process.
- No more tedious search and identification of dedicated microduct due to well organized microduct joint, because all related connections of a duct bundle are in one DuctShell
- No damage of microduct joint or connectors at renewed opening of a trench
- Due to high compressive strength of DuctShell no more squeezed microduct or connectors, caused by stones or rocks in compressed back filling.
- Most common microduct bundle sizes covered by two sizes of DuctShell 750 or 1500.

Tool for microduct bundles
For safe opening of the outer jacket from microduct bundle, this jacket/sheet stripper with safety blade is available. The shape of the safety blade enable cutting into the jacket of a continuous bundle without access to an open end. The skate at bottom side of the blade avoid cutting into microducts. The safety blade can cut front and backwards and can be rotated during cutting for radial cuts. Thus, you can cut a window in the sheath of a continuous microduct bundle. Due to the particular shape of the safety blade risk of injury for installer will minimize. The tool is suitable for tight and loose coatings of microduct bundles.

Item	Order No	Dimensions HxBxT [mm]	Weight [kg]
Safety jacket stripper	01-010-05 A	100x150x27	0,7
Spare blade	01-013-01 A	45x15x3	0,01

DuctDoc

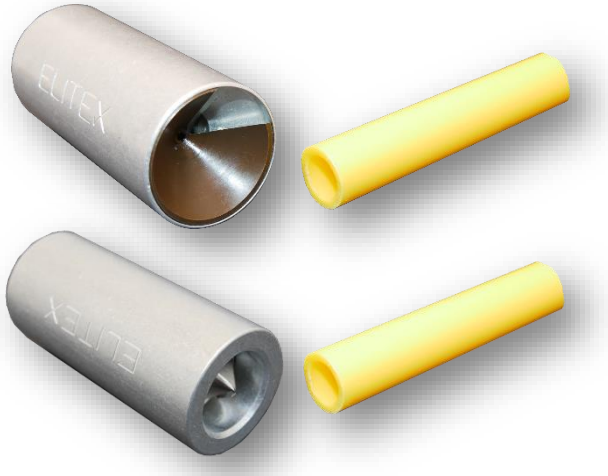
Microducts with round and calibrated diameter prevent from jet-in stops and enable max blow in distance. Due to use of blunt or unsuitable tools for cutting microducts, the round shape can be deformed. Also bad storage or squezze can cause an oval shape of the microducts. A joint of those microducts in an connector can cause a cable stop during jet-in process. A simpel calibration with DuctDoc can prevent from such accidents. Microduct gets a round shape in one go. The DuctDoc fits for all common inner diameters with one tool for 3,5/4/5,5/6/8/10/11,4/12/15/16mm. DuctDoc is applicable for thin wall and direct buried microducts according to DIN EN 50411-6-1 und DIN EN 60794-5-ff. All fitting diameters are marked with durable LASER imprint on the ergonomic handle.



Item	Order No	∅ x length [mm]	Weight [kg]	Material
DuctDoc calibration tool	01-060-01 A	27 x 180	0,1	Aluminium / PP (handle)

DuctBevel

No more cable stops during jet-in process due to sharp edges and burrs at microduct entry. Trimming of microduct entrys also reduce installation force and save gasket from abrasion caused by sharp edges of microduct. Due to plastic optimised blade, chips become spring swarf and stays inside tool at blade. This prevent from chips inside microduct. The durable blades are made from non-corrosive tool steel (HSS). The stable housing is made from anodized aluminium and makes the tool solid for construction sites. To prevent damages, the blades are also recessed mounted. The DuctBevel is applicable for thin wall and direct buried microducts according to DIN EN 50411-6-1 and DIN EN 60794-5-ff. The tool fits for all common duct diameters, inside ∅ 3,5 – 16mm, outside ∅ 5 – 20mm.



Item	Oder No	∅ x length [mm]	Weight [g]	Material
DuctBevel deburrer	01-075-01 A	32 x 70	170	Aluminium / tool steel (HSS)

DuctCut

For good duct joints rectangular, straight and smooth cuts without burrs at the microduct entries are mandatory. For a long lifetime of the tool, a durable blade made from tool steel (oil tempered) comes in place. The shape of the blade is optimized for microduct plastics and has a guide nut to ensure straigth cuts. Pivot point enables a sliding cut which reduces force for handling (<100N). The ergonomic handels are spring-loaded and therefore ensure easy operation and effortless working. For precise cutting the tool has a wide support for the microduct. For save transportation and protection of blade the tool has a locking lever. The DuctCut is applicable for thin wall and direct buried microducts.
The wide cutting diameter ranges from Ø 4 mm to 20 mm.
The blade is replaceable and available as accessorie.

Item	Order No	Length x Width [mm]	Weight [g]	Material
DuctCut microduct cutter	01-073-01 A	180 x 70	190	reinforced plastic/ tool steel
Blade replaceable	01-074-01 A	34 x 37	11	tool steel (oil tempered)

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