



#### Application

To improve and secure the joint of micro ducts and micro duct bundles the DuctShell® was developed. For connection of micro duct at a joint, usually used connectors have a tensile force to keep ducts in place and tight. Since the micro ducts in a joint have different lengths, the entire tensile load will appear on the shortest ones if the whole micro duct bundle would be lifted or moved. Those shortest micro ducts will slide out of the connector. The DuctShell® has a strain relief for the micro duct bundles which keeps extra load away from connectors and thus prevent micro ducts from sliding out of the connectors. Due to high compressive strength of the DuctShell®, it also protects micro ducts 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 micro ducts 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	Ø inside 110mm, Ø 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 01-005-09 A 1500mm 01-001-09 A

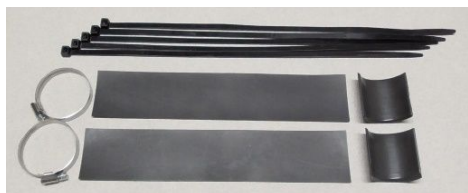
Tolerances shall apply for micro ducts according to DIN EN 50411-6-1 und DIN EN 60794-5-ff

Listed values apply for properly installed product according to installation instruction

#### Scope of delivery

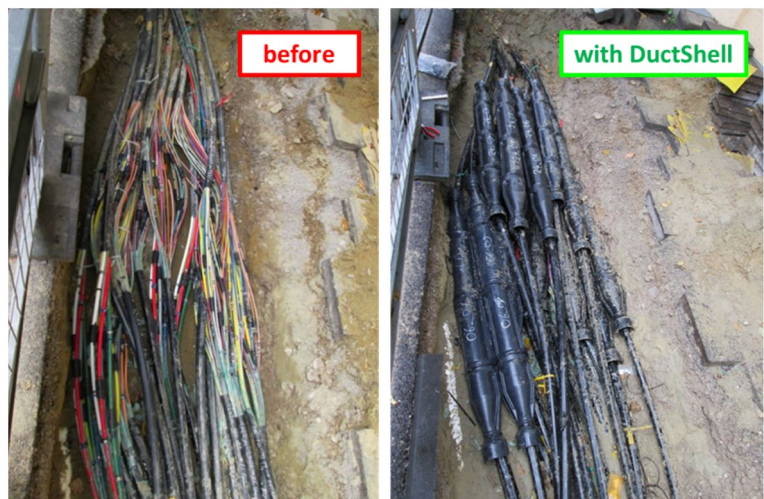
- 4 piece cable ties, (5 piece for size 1500mm)
- 2 piece rubber stripe self-adhesive,
- 2 piece clamp shell
- 2 piece hose clamp

Installation instruction



Micro ducts 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.

The Elitex DuctShell has proven many times for years as the best solution for protecting of micro duct 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 micro duct due to well organized micro duct joint, because all related connections of a duct bundle are in one DuctShell
- No damage of micro duct joint or connectors at renewed opening of a trench
- Due to high compressive strength of DuctShell no more squeezed micro duct or connectors, caused by stones or rocks in compressed back filling.
- Most common micro duct bundle sizes covered by two sizes of DuctShell 750 or 1500.

**DuctShell 750**  
**Table 1**

Jet in direction ----->>>>

Amount	Ø duct	+ Amount	Ø Central duct
8	7 mm		
12	7 mm	1	14 mm
12	7 mm		
14	10 mm		
2	12 mm		
3	12 mm		
4	12 mm		
5	12 mm		
6	12 mm		
7	12 mm		
8	12 mm		
10	12 mm		
12	12 mm		
2	14 mm		

Amount of leaving micro ducts Branch

**DuctShell 750**  
**Table 2**

Jet in direction ----->>>

Amount	Ø duct	+ Amount	Ø Central duct
3	14 mm	x	x
4	14 mm		
5	14 mm		
6	14 mm		
7	14 mm		
2	16 mm		
3	16 mm		
4	16 mm		
5	16 mm		
6	16 mm		
7	16 mm		
3	20 mm		
4	20 mm		

Amount of leaving micro ducts

Branch

**Application and capacity of DuctShell 1500**

Jet in direction ---->>>

Amount	Ø duct	+	Amount	Ø Central duct
19	7 mm	+	1	14 mm
22	7 mm	+	1	14 mm
24	7 mm	+	1	14 mm
19	7 mm			
22	7 mm			
24	7 mm			
24	10 mm			

Amount of leaving micro ducts  
Branch



For safe opening of the outer jacket from micro duct 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 micro ducts. 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 micro duct 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 micro duct bundles.