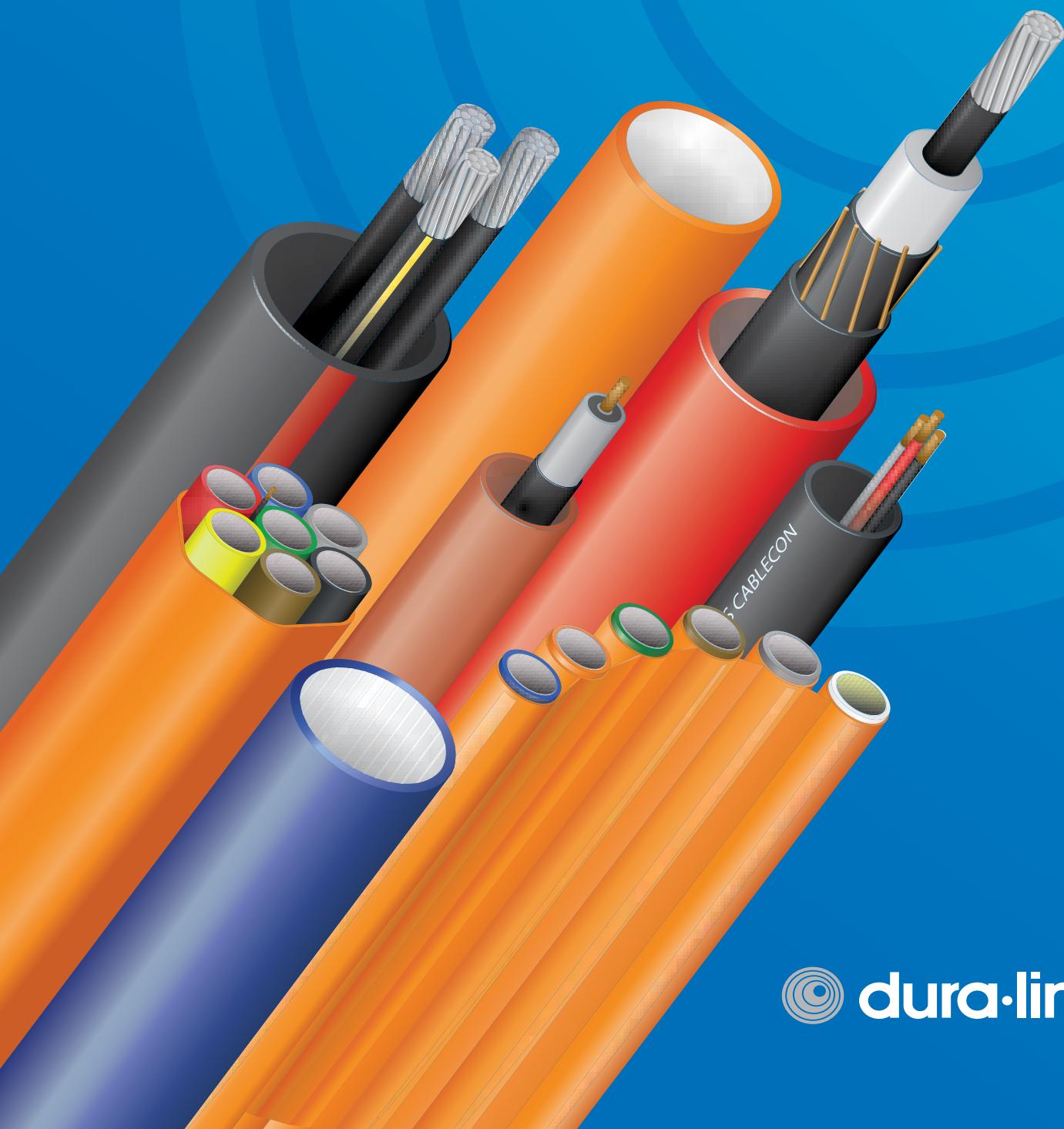


# DURA-LINE FTTX SYSTEM CATALOGUE



 dura-line

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Dura-Line Europe is an authorized reseller of all accessories presented in this catalogue. In co-operation with manufacturers of the accessories, we test and control the quality of the selected products. Upon request, our customers will be provided with Certificates of Origin and other official quality certificates and product tests, issued by the manufacturers.

# INTRODUCTION

## COMPANY & PRODUCTS

### DURA-LINE EUROPE INTRODUCTION

#### COMPANY

DURA-LINE CT, s. r. o. ("Dura-Line Europe) is part of the global group Dura-Line Corporation, established in 1971, headquartered in Knoxville, Tennessee, USA.

We are an international manufacturer and distributor of communication and energy infrastructure products and systems. A unified system of DURA-LINE's products provides protection and fast, safe installation of communication and power cables for a wide variety of industries.

Since the 1980's, we have focused on the development of special HDPE ducts and micro-ducts for the protection of fiber optics communication cables.

Our ducting, equipped with the unique Silicore™ permanently lubricated lining, are widely used by companies specializing in building telecom, CATV and enterprise data networks. Globally, Dura-Line operates 18 factories spread throughout 4 continents.

The European markets are served from the Czech Republic, where Dura-Line Europe produces a large variety of protective ducting solutions specifically designed for a variety of FTTx networks. Products from our European plant are used by hundreds of customers in more than 25 countries. Dura-Line's MicroTechnology products together with accessories manufactured by European renowned manufacturers, and presented in this catalogue, form an unified system appreciated by the largest telecom operators, system integrators, cable manufacturers or contractors and installers.



#### PRODUCTS

The product portfolio comprises ducts and micro-ducts from 3 mm to 40 mm of diameter, all of them with the Silicore™ inner lubricant. Our MicroTechnology expertise is widely utilized in forming special products, such as Dura-Multi™, DuraFlat™ or DuraPack™ protective HDPE bundles. In addition we can also ensure a simultaneous installation of telecommunication cable into the micro-ducts, offering to markets advanced, and yet economical, DuraFibre™ and DuraCable™ solutions.

In response to increasing customers requirements on quality and individual solutions for new products, profiles and materials for micro-ducts developed in our company, we have opened a testing center where the quality of installation of our products is evaluated. In this testing center we are able to simulate conditions of actual use in terrain and measure behavior of our products when being installed.



## DuraDuct

- ✓ SILICORE™ permanent lubricant
- ✓ Complete range of dimensions
- ✓ Customized product – color, strips, labels
- ✓ High quality HDPE
- ✓ OD from 18 to 50 mm



## DuraMicro

- ✓ No excavation required when installed into existing HDPE ducts
- ✓ Increase of the route capacity
- ✓ Revival of occupied ducts – override blowing
- ✓ High flexibility of the network
- ✓ Investment time distribution – fiber on request
- ✓ OD from 3 mm to 16 mm



## DuraTrace

- ✓ Duct with tracing wire
- ✓ Quick & easy localization of buried utilities



## DuraMulti

- ✓ Maximum space utilization
- ✓ High flexibility of the network – spare ducts for future use
- ✓ Avoid undulations and crossing of single micro-ducts – better blowing performance
- ✓ Minimization of installation costs, fast and easy installation of several micro-ducts in one operation step



## DuraFlat

- ✓ HDPE material ensures high chemical and corrosion resistance
- ✓ High flexibility during installation, horizontal/vertical/folded shape installation
- ✓ Minimization of installation costs, fast and easy installation of several micro-ducts in one operation step
- ✓ Ideal last mile drop connection of single houses
- ✓ Minimum need for accessories - simple and easy branching



## DuraPack

- ✓ Very high flexibility of your network configuration – combinations on request
- ✓ Minimizes deployment time and installation cost
- ✓ The best solution for micro-duct protection and blowing performance
- ✓ Effectively uses duct space – higher filling ratio compared with blowing
- ✓ Loose micro-ducts – very high impact resistance



## DuraAir F8

- ✓ Lightweight future-proof solution
- ✓ Standard Figure 8 construction, metal free
- ✓ High UV resistance (at least 15 years guaranteed)
- ✓ Standard aerial accessories
- ✓ Tested & Certified – vibration test, tension test
- ✓ Compliance with EN 60794

# ProDuct Guide





DuraMicro

# PRODUCT GUIDE

## MICRO-TECHNOLOGY INTRODUCTION

## Introduction

As an ISO-9001 rated manufacturer, Dura-line takes pride in manufacturing state-of-the-art quality products. We have several technologies that set us apart from other manufacturers including SILICORE™ super slick permanent lining and specially designed interior ribs reducing the coefficient of friction. Dura-Line is leading the way in the development of MicroTechnology with innovative products and solutions.

## MICROTECHNOLOGY

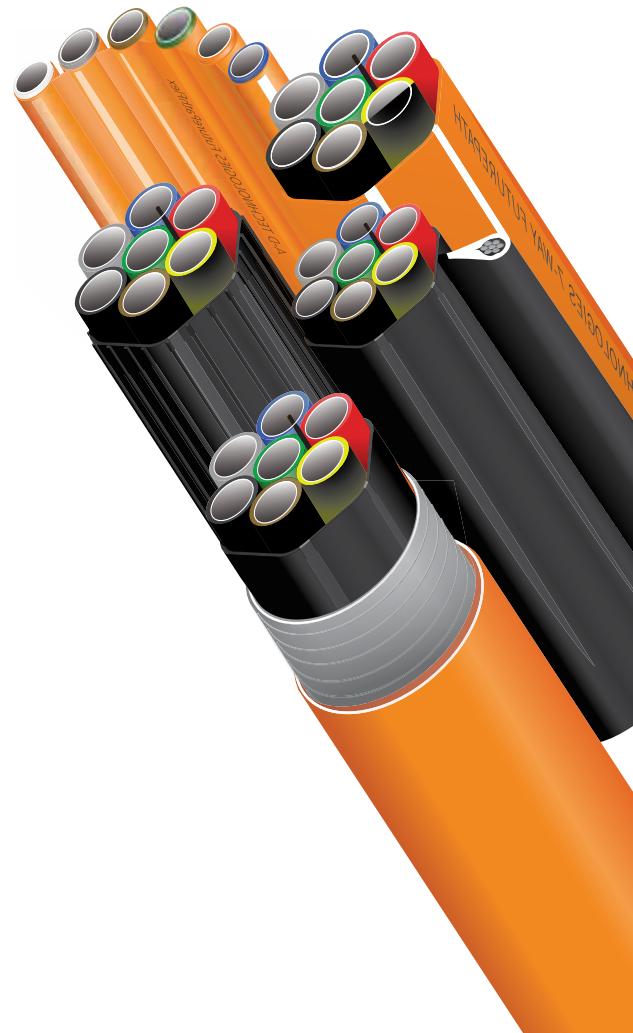
MicroTechnology is a forward-thinking, future-oriented technology that you can put in place today. As network demands continue to grow, it becomes more important than ever to better utilize the available space in your existing duct systems. Single micro-ducts or bundles like DuraMulti allow for controlled expansion of your network, meeting bandwidth requirements as needed. With the multiple pathways in bundle, as your network grows, you will have available pathways without additional construction costs.

## VERSATILE COST-EFFECTIVE EXPANSION

With so many different styles, configurations and sizes of micro-ducts available, there is virtually no fiber optic project that could not benefit from the use of MicroTechnology in both reducing initial construction costs and future proofing the network. It can be used in every facet of the network build, and by utilizing the different versions it can easily be installed in any scenario.

Micro-duct bundles have proven to be a very cost effective solution when compared to traditional methods and designs. Both DuraMulti and DuraFlat provide maximum space utilization at minimum installation cost which is much lower compared to a traditional sub duct installation. Also the ability to expand your network easily in the future is already in place.

With its many configurations, micro-duct bundles can be utilized for expanding most networks, whether subdividing existing conduit structures or as an OverRide solution for occupied duct. Crowded easements, both aerial and buried, can benefit from MicroTechnology for network expansion while requiring minimal space. When it comes to expanding any network, it is important to be able to minimize expenditures, and MicroTechnology is an excellent way to accomplish that goal.



## Material & feature variants

Dura-Line offers a full complement of products and accessories to facilitate placement of HDPE duct and communications cables. All our product lines can be customized to meet your needs. Material, color, diameter, inner layer, application or print, all give you a enormous variety of options and the freedom to choose the best solution for your network.

### MATERIAL

All our Products are made only from virgin HDPE, so we can always guarantee the top quality final product. Besides standard HDPE, we can offer modifications such like:

**HDPE** – High Density Polyethylene ducts, generally considered as an outside plant product. Recyclable.

**LSHF** – Low Smoke Halogen Free, fire-retardant material, which is recommended for indoor applications.

**UV Stabilized** – ducts with increased UV resistance necessary for any applications where ducts are exposed to sun UV rays.

**AntiRodent** – ducts saturated with AntiRodent additive, which repels rodents like mice, squirrels and protects against their attacks.

**AntiStat** – micro-ducts with anti-static treatment, reducing static charge buildup, improving thus blowing performance (blowing length and speed).

### INNER LAYER

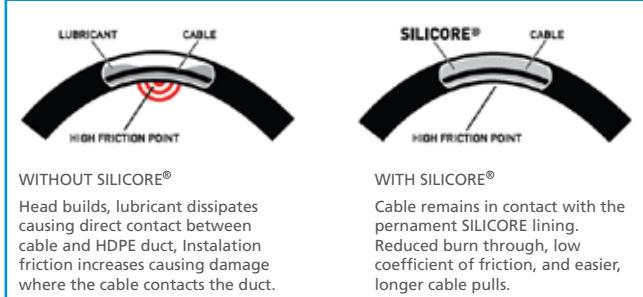
All our products are treated with a super-slick, permanently lubricated Silicore lining, in order to reduce coefficient of friction between the cable and duct itself.

The Silicore lining is manufactured during the extrusion process and lasts the lifetime of the duct.

### PRODUCT VARIATION

All of these product lines can be customized to meet your needs. Material, color, diameter, inner layer, application and print stream, all give you a variety of products and the freedom to choose the best solution.

#### HOW SILICORE® WORKS



### APPLICATION

### MATERIAL

### INNER LAYER

### COLOR RANGE

Direct Install

HDPE  
LSHF  
UV Stabilized  
AntiRodent  
AntiStat

Smooth  
Ribbed  
always with  
Silicore™

Plain  
Transparent  
Stripped  
RAL color codes

Direct Burial

### RAL COLOR RANGE

Wide range of standard RAL colors are available. Combination with colored stripes, customer is getting huge choice of color combinations and options for unique micro-duct identification.



### PRINTING

Micro-ducts are printed along the entire length with text according to the customer's requirements. Printing colour is in contrast to the micro-duct colour. Printing scheme is repeated each 1 meter along the micro-duct, unless specified otherwise.

Example of the printing scheme:

DURA-LINE CT DuraMicro DB 14/10 mm SILICORE 09/2014 LOT No 12345678 0000 m ><



## Packaging

We are always looking for the best and most suitable way of packaging to meet customer requirements. Therefore we offer more than one option to pack and dispatch our products. Of course we always suggest the best option considering transport efficiency, handling and customer needs. Just contact our customer service and find the most suitable way for you. We distribute our product on wooden drums, in coils, on micro-drums (MTB) and we can also supply you with FAST-IN collapsible drums.

### STANDARD DUCT PACKAGING

- a) Big Wooden Drums (DB) – Heavy-duty duct packaging. Reusable, refundable. Several sizes available to meet project requirements.  
These can be also offered as 2 section drum for simultaneous unwinding of 2 products.
- b) Coils – Cost effective for small scale projects. Short coils allow machinery free handling. Long coils can be unwound with FAST-IN drum
- c) FAST-IN – Collapsible metal drum for easy manipulation with long coils. Universal – adjustable core dia 80-95 cm. No hassle with drums returns.



### MICRO-DUCT PACKAGING

- a) MTB drums – Disposable drums made of plywood for standard handling & storage on site. Wide range of sizes.
- b) Plastic drums PTB – 100% wear resistance, only advised where severe weather conditions or manipulation is expected. Disposable.

All our products are packed, protected by stretched foil and labeled with unified stickers.

### STORING

Wooden drums must be stored safely. Improper storage conditions can easily cause damage to drums and ducts themselves. Therefore please follow these basic instructions below.

- ✓ Keep the drum in an upright position
- ✓ Keep and handle the drum in an upright position otherwise you risk the problems with your duct. Duct layers can get entangled and damaged when drum is laid on its side.
- ✓ Always keep your duct protected with black foil against UV rays.
- ✓ Your duct ends must be sealed and protected against ingress of moisture and dirt and also fixed to the drum.
- ✓ If storing outside please follow your product datasheet instructions according to temperature range and storing conditions. Standard temperature range is from -20°C to +40°C
- ✓ Check drums before moving. Any nails or other damage of the drum can damage your duct itself.

| dura-line   |                           |
|---|---------------------------|
| PRODUCT   | DuraDuct                  |
| OD / ID   | <b>40/33</b>              |
| CUSTOMER  | <b>2</b>                  |
| ORDER   | <b>130145070P66</b>       |
| LENGTH  | <b>2000 m</b>             |
| LOT NO  | <b>71024592</b>           |
| PRINT   | <b>ČD Telematika a.s.</b> |
| COLOUR  | <b>ORANGE</b>             |
| SPECIAL   | <b>4 x 1 BROWN STRIP</b>  |
| PRESSURE TEST   | <b>OK</b>                 |
| PRESSURE TEST CONTROL   | <b>mgm</b>                |
| DURA-LINE CT a.s. Czech Republic   Tel. +420 577 199 111   marketing_eu@duraline.com   www.duraline.com |                           |

### TRANSPORT INSTRUCTIONS

Drums should only be transported with suitable vehicles and has to be secured firmly to prevent them from moving during transportation. Main danger comes from invisible damages leading to unusable product. Combination of wedges and support must be used and tied down. Drums should be fastened sideways from the highest point. Rolling of the drums can be avoided by using transport blocks. The front most drum should rest against the truck front board, considering the shaft weight.

## Quality control

Our quality department carries out a wide range of tests to ensure supreme quality of our products. All our production records are stored and fully trackable, available for customers or quality inspections. The below mentioned mechanical tests are essential, but additional tests are also performed.

## PRODUCTION

- ✓ BB test – steel ball with specific diameter is blown into the duct to confirm that inner diameter meets specification
- ✓ Operational pressure test – duct is pressurized up to 10 bar to confirm no air leakage

## LABORATORY

- ✓ Dimension check – measurement of ducts' inner and outer diameter, wall thickness and ovality to confirm product meets dimensional specifications
- ✓ Tensile strength - duct sample is pulled to detect any change in material composition
- ✓ Crushing – duct is pressed to verify adequate duct outer pressure resistance
- ✓ Inner friction – confirmation of duct inner layer meeting friction specification
- ✓ Long term pressure test – duct is pressurized up to 18 bar for 170 hours in 80 degree of celsius bath. No leakage accepted. Confirms heat and pressure resistance.



| dura-line                             |                      |                                    |
|---------------------------------------|----------------------|------------------------------------|
| DURA-LINE CT                          |                      |                                    |
| MICRODUCTS TEST REPORT No.: 48 / 2014 |                      |                                    |
| LEIT No.: 42023478                    | Dimensions: 14/10 mm | Type: standard                     |
| Polymer type:                         | Lam 00 001/001/00    |                                    |
| Location:                             | Brno                 |                                    |
| Inner diameter:                       | 14.0                 |                                    |
| Manufactured:                         | 10.7.2014            |                                    |
| Customer:                             |                      |                                    |
| <b>DIMENSIONS</b>                     |                      |                                    |
| Outer diameter [mm]:                  | 14.0                 | Inside diameter [mm]: 10.0         |
| Min wall thickness [mm]:              | 1.02                 |                                    |
| <b>TENSILE STRENGTH</b>               |                      |                                    |
| Yield tensile force [N]:              | 1641                 | Tensile strength [MPa]: 16         |
| <b>PRESSURE</b>                       |                      |                                    |
| Max. deformation [%]:                 | 16.1                 | Pressure burstoff force [N]: 1400  |
| Resid deformation [%]:                | 0.49                 |                                    |
| <b>DUCT FRICTION</b>                  |                      |                                    |
| Cable: Braided                        |                      |                                    |
| Friction force [N]:                   | 0.01                 | Coefficient of Friction J=0: 0.000 |
| <b>STRUCTURAL STRENGTH</b>            |                      |                                    |
| Max. force [N]:                       | 24.0                 | Max. deformation [mm]: 16.1        |
| Bending stiffness [Nm <sup>2</sup> ]: | 0.005                |                                    |
| <b>HEAT RESISTANCE</b>                |                      |                                    |
| Chamfer (average/mm):                 | 0.11                 | Heat resistance (%) 300            |
| <b>NOTES</b>                          |                      |                                    |
| 1. notes:                             | 0                    |                                    |
| 2. notes:                             | 0                    |                                    |
| 3. notes:                             | 0                    |                                    |
| 4. notes:                             | 0                    |                                    |
| 5. notes:                             |                      |                                    |
| Date:                                 | 22.10.2014           | Tested by:                         |

Dura-Line Europe has been successfully recertified according to international standards ISO 9001, ISO 14001 and ISO (OHSAS) 18001. This confirms full compliance and effectiveness of our processes.





DuraDuct

## DuraDuct

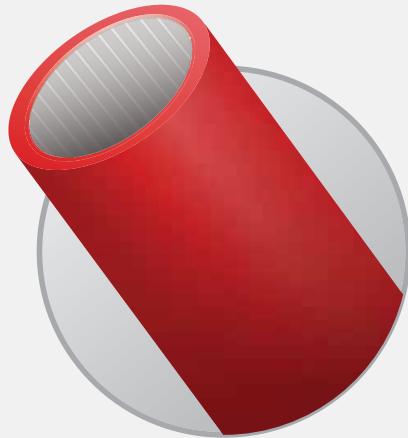
### FEATURES & CHARACTERISTICS

Our DuraDuct are the top quality subducts, made only from virgin or regrind HDPE. They are available in many material & application variants. Exceptional inner surface treated with permanent Silicore™ layer for a low friction & better cable blowing performance.

DuraDucts can be either pulled inside the main 100 mm conduits within metropolitan network or direct buried in the trench.

Both applications are indicated with DI or DB in the product name.

- ✓ SILICORE™ permanent lubricant
- ✓ Wide range of dimensions & applications
- ✓ Customizable product – color, stripes, print, inner surface
- ✓ High quality HDPE only
- ✓ Any size from 18 mm to 50 mm OD



### PRODUCT RANGE

| Application | OD | ID   | Weight [kg / km] | Standard Pack [length / weight] |
|-------------|----|------|------------------|---------------------------------|
| DB          | 20 | 15   | 131              | DB1 (6500 m / 1300 kg)          |
| DB          | 20 | 16   | 107              | DB1 (6500 m / 1200 kg)          |
| DB          | 25 | 20   | 168              | DB1 (4000 m / 1050 kg)          |
| DB          | 32 | 25.5 | 280              | DB1 (2700 m / 1150 kg)          |
| DB          | 32 | 25   | 300              | DB1 (2700 m / 1210 kg)          |
| DB          | 32 | 26.2 | 255              | DB1 (2700 m / 1100 kg)          |
| DB          | 32 | 26   | 260              | DB1 (2700 m / 1100 kg)          |
| DB          | 40 | 32.6 | 430              | DB1 (1750 m / 1150 kg)          |
| DB          | 40 | 32   | 461              | DB1 (1750 m / 1200 kg)          |
| DB          | 40 | 33   | 384              | DB1 (1750 m / 1070 kg)          |
| DB          | 50 | 40.6 | 635              | DB1 (1000 m / 1110 kg)          |
| DB          | 50 | 40.8 | 623              | DB1 (1000 m / 1070 kg)          |
| DB          | 50 | 40   | 672              | DB1 (1000 m / 1170 kg)          |
| DB          | 50 | 41   | 611              | DB1 (1000 m / 1010 kg)          |
| DB          | 50 | 42   | 550              | DB1 (1000 m / 950 kg)           |
| DI          | 25 | 21   | 140              | DB1 (4000 m / 950 kg)           |
| DI          | 32 | 27   | 220              | DB1 (2700 m / 1000 kg)          |
| DI          | 32 | 28.2 | 167              | DB1 (2700 m / 850 kg)           |
| DI          | 32 | 28   | 177              | DB1 (2700 m / 870 kg)           |
| DI          | 40 | 34   | 330              | DB1 (1750 m / 1000 kg)          |
| DI          | 40 | 35.4 | 260              | DB1 (1750 m / 850 kg)           |
| DI          | 40 | 35   | 280              | DB1 (1750 m / 890 kg)           |
| DI          | 50 | 43   | 490              | DB1 (1000 m / 900 kg)           |
| DI          | 50 | 44   | 425              | DB1 (1000 m / 900 kg)           |



## DuraMicro

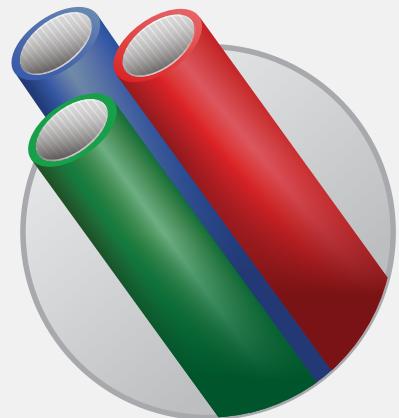
### FEATURES & CHARACTERISTICS

DuraMicro micro-ducts are made of only virgin HDPE material and are available for both DI & DB applications.

Direct Installed versions must be protected and therefore are pre-installed, pulled or blown into DuraDuct.

Direct Buried micro-ducts have a high impact & crush resistance so they can be direct buried into the ground with no other protection.

For the safety reasons we also offer low smoke halogen free micro-ducts, which are recommended for indoor installation. Complete range and material variants covers completely the current FTTH network demand.



- ✓ SILICORE TM permanent lubricant
- ✓ Wide range of dimensions from 3 / 2.1 mm to 16 / 14 mm
- ✓ Customizable product – color, stripes, print, inner surface, material, application
- ✓ High quality HDPE only
- ✓ Investment time distribution – fiber on request





DuraMicro

## PRODUCT RANGE

| Application | OD | ID  | Weight<br>[kg/km] | Standard Pack<br>[length/weight]                             |
|-------------|----|-----|-------------------|--|
| DB          | 4  | 3   | 5                 | MTB DT small (4000 m / 33 kg), MTB DT (6000 m / 135 kg)      |
| DB          | 6  | 3.5 | 18.1              | MTB DT small (2000 m / 47 kg), MTB DT (6000 m / 194 kg)      |
| DB          | 7  | 3.5 | 28                | MTB DT small (1300 m / 47 kg), MTB DT (6000 m / 176 kg)      |
| DB          | 7  | 4   | 25                | MTB DT small (1300 m / 44 kg), MTB DT small (1000 m / 44 kg) |
| DB          | 8  | 4.4 | 33                | MTB DT (5000 m / 190 kg), MTB DT small (1000 m / 47 kg)      |
| DB          | 8  | 4   | 36                | MTB DT (5000 m / 205 kg), MTD DT small (1000 m / 40 kg)      |
| DB          | 8  | 5   | 29                | MTD DT (5000 m / 170 kg), MTB DT (5000 m / 126 kg)           |
| DB          | 8  | 6   | 20                | MTB DT small (1000 m / 26 kg), MTB DT small (700 m / 47 kg)  |
| DB          | 10 | 5.5 | 52                | MTB DT (3500 m / 207 kg), MTB DT (3500 m / 192 kg)           |
| DB          | 10 | 6   | 47.5              | MTB DT small (700 m / 47 kg), MTB DT (3500 m / 158 kg)       |
| DB          | 10 | 7   | 38                | MTB DT small (700 m / 38 kg)                                 |
| DB          | 12 | 8   | 59                | MTB DT (2200 m / 155 kg)                                     |
| DB          | 14 | 10  | 72                | MTB DT (1800 m / 156 kg)                                     |
| DB          | 15 | 9.6 | 100               | MTB DT (1400 m / 165 kg)                                     |
| DB          | 16 | 10  | 117               | MTB DT (1200 m / 166 kg)                                     |
| DB          | 16 | 12  | 84                | MTB DT (1200 m / 126 kg)                                     |
| DI          | 3  | 2.1 | 3.2               | MTB DT small (3000 m / 21 kg), MTB DT (5000 m / 73 kg)       |
| DI          | 5  | 3.5 | 9.5               | MTB DT small (3000 m / 39 kg), MTB DT (6000 m / 116 kg)      |
| DI          | 6  | 4   | 15                | MTB DT small (1900 m / 40 kg), MTB DT small (1300 m / 29 kg) |
| DI          | 7  | 5.5 | 14                | MTB DT (6000 m / 109 kg), MTB DT (3500 m / 120 kg)           |
| DI          | 10 | 8   | 27                | MTB DT small (700 m / 28 kg)                                 |
| DI          | 12 | 10  | 34                | MTB DT (2200 m / 101 kg)                                     |
| DI          | 14 | 11  | 55                | MTB DT (1800 m / 125 kg)                                     |
| DI          | 14 | 12  | 40                | MTB DT (1800 m / 98 kg)                                      |
| DI          | 15 | 12  | 59                | MTB DT (1400 m / 109 kg)                                     |
| DI          | 16 | 13  | 62                | MTB DT (1200 m / 100 kg)                                     |
| DI          | 16 | 14  | 43                | MTB DT (1200 m / 78 kg)                                      |
| DI          | 18 | 14  | 96                | MTB DT (1000 m / 122 kg)                                     |
| DI          | 18 | 15  | 74                | MTB DT (1000 m / 100 kg)                                     |
| DI          | 18 | 16  | 51                | MTB DT (1000 m / 77 kg)                                      |

## DuraTrace

### FEATURES & CHARACTERISTICS

DuraTrace products indicates the presence of tracing wire for quick & easy localization. For single micro-duct tracing wire is placed outside and over-sheathed together with duct. Within bundles, tracing wire is placed in the free space among the micro-ducts.

- ✓ duct with tracing wire
- ✓ quick & easy localization of buried utilities
- ✓ tracing wire: black, dia 2.1mm



### PRODUCT RANGE

DuraTrace can be supplied in all variants of DuraMicro, DuraMulti, DuraFibre or DuraPack.





DuraMulti

## DuraMulti

### FEATURES & CHARACTERISTICS

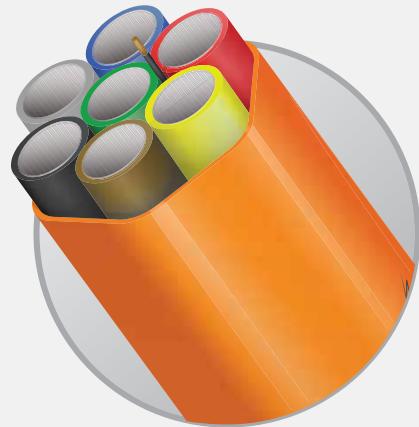
DuraMulti micro-duct bundles with tight thin jacket are designed for a quick, simple & cost effective installation of multi micro-ducts in one deploying step.

DuraMulti DB bundles contain thick walled micro-ducts, have very high crush resistance and therefore can be directly buried without any additional protection. Thin jacket allows easy access to individual micro-ducts which can be connected only with simple connectors with no need for protective enclosures and branch-off boxes. This reduces the cost of accessories compared with loose bundle solution.

DuraMulti DI bundles contain thin walled micro-ducts and therefore require extra protection. These are typically pulled in main conduits from manhole to manhole or inside the MDU's as a main riser duct route.

The construction of these bundles allows to combine different sizes of micro-ducts. Such like DuraMulti Hybrid bundles are highly customized products for effective FTTH network deployment.

- ✓ exceptional network flexibility, customized configuration
- ✓ no special tools – see installation scheme DuraMulti connection in the trench
- ✓ very high crush resistance
- ✓ no tendency of micro-bending, long distance cable blowing
- ✓ all installation methods & applications (pulling, blowing, DB, indoor)



## PRODUCT RANGE

| Application | Size of MD |   | Number of MD |   |   |    |    |    | Standard packaging |                 | Product name               |                             |
|-------------|------------|---|--------------|---|---|----|----|----|--------------------|-----------------|----------------------------|-----------------------------|
|             | OD / DO    | 2 | 3            | 4 | 7 | 10 | 12 | 22 | 24                 | Weight [kg /km] | Packaging [length /weight] |                             |
| DB          | 4 / 2.5    | X | X            | X | X | X  | X  | X  | X                  | 178             | DB 1 (3x 1500 m / 1250 kg) | DuraMulti DB 24x 4 / 2.5 mm |
| DB          | 5 / 2.1    | X | X            | X | X | X  | X  | X  | X                  | 424             | DB 1 (3700 m / 2000 kg)    | DuraMulti DB 24x 5 / 2.1 mm |
| DB          | 7 / 4      | X | X            | X | X | X  | X  | X  | X                  | 355             | DB 1 (3500 m / 1640 kg)    | DuraMulti DB 12x 7 / 4 mm   |
| DB          | 8 / 5      | X | X            | X | X | X  | X  | X  | X                  | 263             | DB 1 (4400 m / 1660 kg)    | DuraMulti DB 7x 8 / 5 mm    |
| DB          | 10 / 6     | X | X            | X | X | X  | X  | X  | X                  | 134             | MTB DT (1400 m / 213 kg)   | DuraMulti DB 2x 10 / 6 mm   |
| DB          | 12 / 8     | X | X            | X | X | X  | X  | X  | X                  | 305             | DB 1 (2x 2000 m / 1620 kg) | DuraMulti DB 4x 12 / 8 mm   |
| DB          | 14 / 10    | X | X            | X | X | X  | X  | X  | X                  | 615             | DB 1 (1300 m / 1200 kg)    | DuraMulti DB 7x 14 / 10 mm  |
| DB          | 16 / 12    | X | X            | X | X | X  | X  | X  | X                  | 235             | DB 1 (4x 1000 m / 1500 kg) | DuraMulti DB 2x 16 / 12 mm  |
| DI          | 3 / 2.1    | X | X            | X | X | X  | X  | X  | X                  | 39              | MTB DT (3500 m / 163 kg)   | DuraMulti DI 7x 3 / 2.1 mm  |
| DI          | 5 / 3.5    | X | X            | X | X | X  | X  | X  | X                  | 160             | MTB DT (800 m / 154 kg)    | DuraMulti DI 12x 5 / 3.5 mm |
| DI          | 7 / 5.5    | X | X            | X | X | X  | X  | X  | X                  | 132             | DB 1 (5800 m / 1160 kg)    | DuraMulti DI 7x 7 / 5.5 mm  |
| DI          | 10 / 8     | X | X            | X | X | X  | X  | X  | X                  | 160             | DB 1 (2x 2600 m / 1230 kg) | DuraMulti DI 4x 10 / 8 mm   |
| DI          | 12 / 10    | X | X            | X | X | X  | X  | X  | X                  | 320             | DB 1 (2000 m / 1040 kg)    | DuraMulti DI 7x 12 / 10 mm  |
| DI          | 14 / 12    | X | X            | X | X | X  | X  | X  | X                  | 380             | DB 1 (1350 m / 890 kg)     | DuraMulti DI 7x 14 / 12 mm  |
| DI          | 16 / 13    | X | X            | X | X | X  | X  | X  | X                  | 336             | DB 1 (1000 m / 735 kg)     | DuraMulti DI 4x 16 / 13 mm  |

| Application | Bundle configuration     | Standard packaging |                            | Product name                                 |
|-------------|--------------------------|--------------------|----------------------------|--|
|             |                          | Weight [kg /km]    | Packaging [length /weight] |  |
| DB          | 12x 7 / 4 + 1x 14 / 10   | 445                | DB6 1200 m / 1000 kg       | DuraMulti Hybrid DB 12x 7 / 4 + 1x 14 / 10   |
|             |                          | 445                | DB1 1900 m / 1300 kg       | DuraMulti Hybrid DB 12x 7 / 4 + 1x 14 / 10   |
| DB          | 24x 7 / 4 + 1x 14 / 10   | 765                | DB1 1500 m / 1550 kg       | DuraMulti Hybrid DB 24x 7 / 4 + 1x 14 / 10   |
| DI          | 12x 5 / 3.5 + 1x 10 / 8  | 198                | DB 1 4800 m / 1400 kg      | DuraMulti Hybrid DI 12x 5 / 3.5 + 1x 10 / 8  |
| DI          | 22x 5 / 3.5 + 1x 12 / 10 | 323                | DB 1 2700 m / 1350 kg      | DuraMulti Hybrid DI 22x 5 / 3.5 + 1x 12 / 10 |

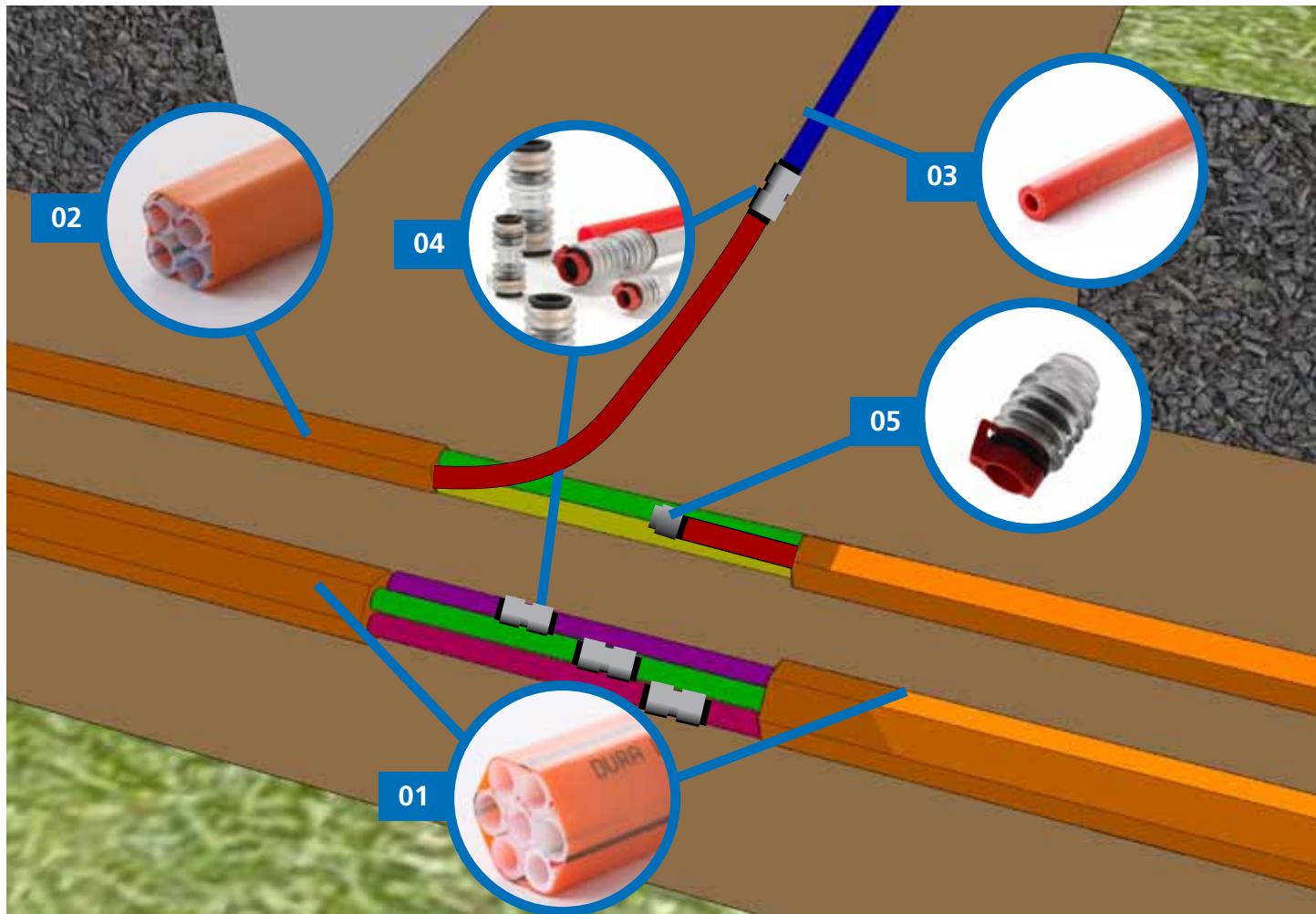




DuraMulti

# DURAMULTI CONNECTION IN THE TRENCH

## SITE LAYOUT



## PRODUCT OVERVIEW

### DuraMulti Connection

| Product Group                 |    | Catalogue page | Product Group Representative   |
|-------------------------------|----|----------------|--------------------------------|
| DuraMulti DB                  | 01 | 16             | DuraMulti 7x14/10 mm           |
| DuraMulti DB                  | 02 | 16             | DuraMulti 4x7/4 mm             |
| DuraMicro DB                  | 03 | 13             | DuraMicro DB 7/4 mm            |
| Micro-duct Connector DI or DB | 04 | 36, 37, 39, 43 | Robust Reinforced Connector DB |
| Micro-duct End Cap            | 05 | 44, 45, 46     | Robust Reinforced End Cap      |
| Duct Shears                   |    | 85             |                                |
| Micro-duct Shears             |    | 64             |                                |

## SITE APPLICATIONS





DuraMulti

# DURAMULTI TERMINATION WATERTIGHT

## SITE LAYOUT

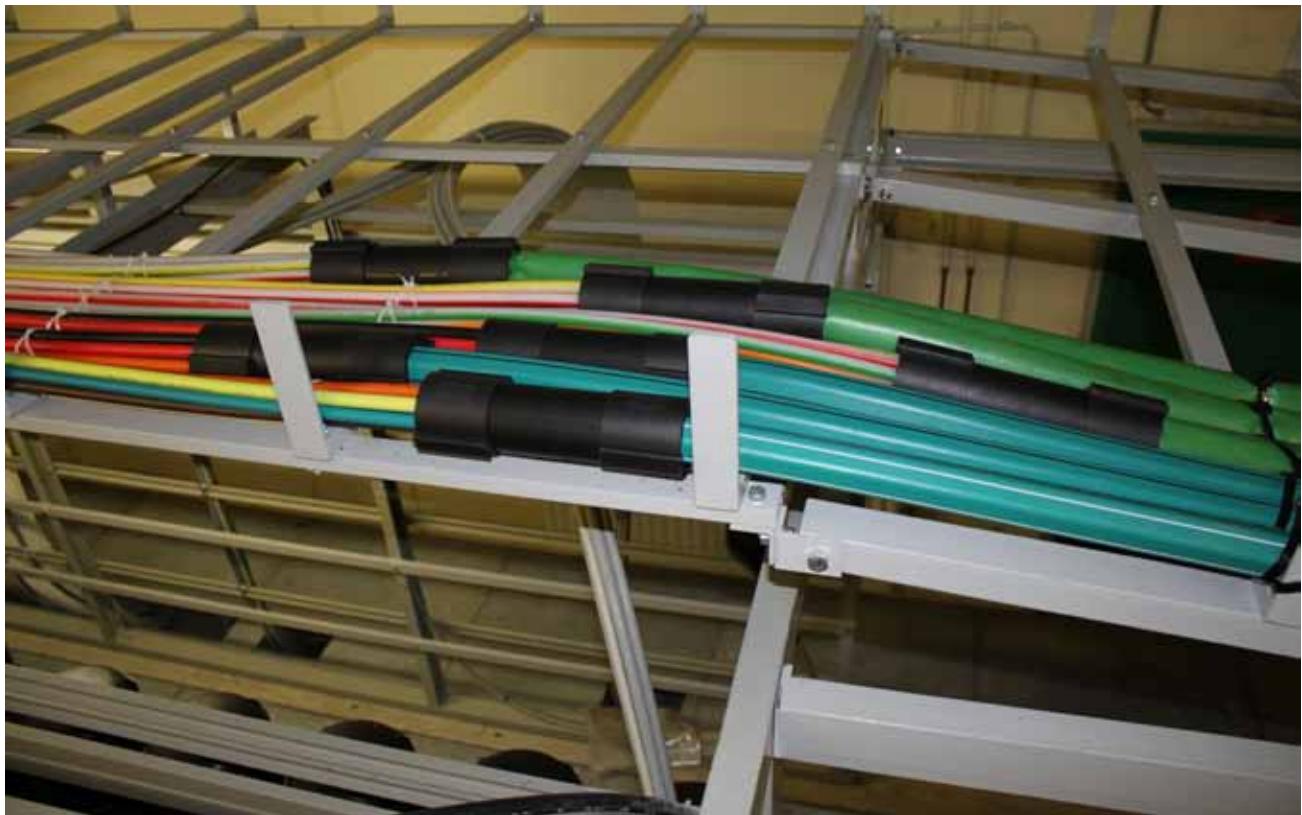


## PRODUCT OVERVIEW

### DuraMulti Connection

| Product Group        | Catalogue page | Product Group Representative  |
|----------------------|----------------|-------------------------------|
| DuraMulti            | 01             | 16                            |
| DuraMicro            | 02             | 13                            |
| Duct sealing systems | 03             | 56                            |
| Bundle sealings      | 04             | DuraMulti termination Sealing |
| Gasblock terminators | 05             | 48, 49, 51, 52                |
| Gasblock connectors  | 06             | Divisible gasblock            |
| EndCaps              | 07             | Gas-block Connector           |
| Fibre optic cables   | 08             | Robust reinforced End Cap     |
| DuraMicro LSHF       | 09             |                               |
| Micro-duct Shears    |                |                               |
| Duct Shears          | 64             |                               |
|                      | 85             |                               |

## SITE APPLICATIONS





DuraFlat

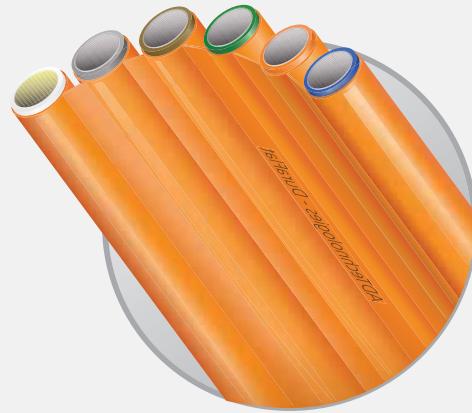
## DuraFlat

### FEATURES & CHARACTERISTICS

Flat shaped bundles of micro-ducts, DuraFlat production line is a perfect solution primarily designed for last mile customer connection. It is the most flexible type of micro-duct bundle which allows many different installation techniques – Direct Buried, Vertical long haul, MicroTrenching & also indoor on wall installation. This makes it the most versatile and easy to install system.

When installed in horizontal position it is more sensitive for micro-bending. On the other hand, it is completely free of spiraling effect when uncoiled from drum. Also branching and connection is super simple & quick.

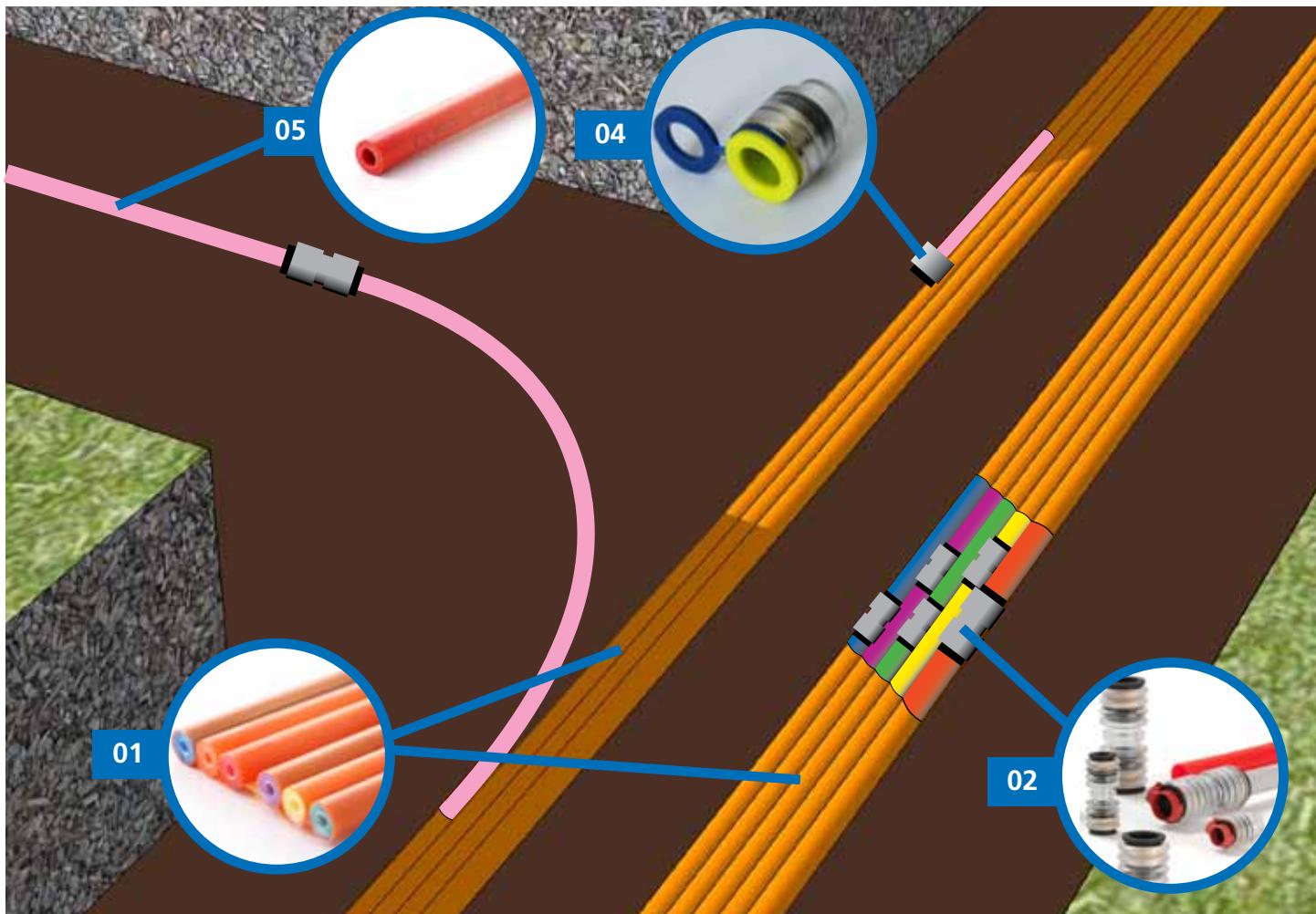
- ✓ Very high flexibility – horizontal/vertical/ folded shape installation
- ✓ up to 7 micro-ducts within one bundle
- ✓ minimum accessories – eliminates enclosures & duct gas seals, only simple DB connectors
- ✓ highly customizable product – micro-duct size, colors, jacket color, stripes & printing
- ✓ user-friendly deployment of many micro-ducts



| Application | Size of MD |   | Number of MD |   |   |   |                | Standard packaging        |                           | Product name |
|-------------|------------|---|--------------|---|---|---|----------------|---------------------------|---------------------------|--------------|
|             | OD / DO    | 3 | 4            | 5 | 6 | 7 | Weight [kg/km] | Packaging [length/weight] |                           |              |
| DB          | 7 / 4      | X | X            | X | X |   | 300            | DB1 (5000 m / 2000 kg)    | DuraFlat DB 6x 7 / 4 mm   |              |
| DB          | 8 / 5      | X | X            | X | X |   | 274            | DB1 (4500 m / 1750 kg)    | DuraFlat DB 6x 8 / 5 mm   |              |
| DB          | 10 / 6     | X | X            | X | X |   | 440            | DB1 (3000 m / 1720 kg)    | DuraFlat DB 6x 10 / 6 mm  |              |
| DB          | 12 / 8     | X | X            | X | X |   | 495            | DB1 (2000 m / 1390 kg)    | DuraFlat DB 6x 12 / 8 mm  |              |
| DB          | 14 / 10    | X | X            | X | X |   | 580            | DB1 (1500 m / 1270 kg)    | DuraFlat DB 6x 14 / 10 mm |              |
| DI          | 16 / 12    | X | X            | X | X |   | 620            | DB1 (1000 m / 1000 kg)    | DuraFlat DB 5x 16 / 12 mm |              |
| DI          | 5 / 3.5    | X | X            | X | X | X | 126            | MTBDT (1150 m / 170 kg)   | DuraFlat DI 7x 5 / 3.5 mm |              |
| DI          | 8 / 5.5    | X | X            | X | X |   | 245            | DB1 (4500 m / 1600 kg)    | DuraFlat DI 6x 8 / 5.5 mm |              |
| DI          | 10 / 8     | X | X            | X | X |   | 315            | DB1 (3000 m / 1340 kg)    | DuraFlat DI 6x 10 / 8 mm  |              |
| DI          | 12 / 10    | X | X            | X | X |   | 340            | DB1 (2000 m / 1080 kg)    | DuraFlat DI 6x 12 / 10 mm |              |
| DI          | 14 / 12    | X | X            | X | X | X | 330            | DB1 (1350 m / 950 kg)     | DuraFlat DI 5x 14 / 12 mm |              |
| DI          | 16 / 13    | X | X            | X | X |   | 270            | DB1 (3x 1000 m / 1200 kg) | DuraFlat DI 3x 16 / 13 mm |              |
| DI          | 20 / 16    | X | X            | X | X |   | 591            | DB1 (1200 m / 1160 kg)    | DuraFlat DI 4x 20 / 16 mm |              |



## SITE LAYOUT



## PRODUCT OVERVIEW

### DuraFlat Connection

| Product Group                 | Catalogue page | Product Group Representative                     |
|-------------------------------|----------------|--|
| DuraFlat DB                   | 01             | 22   |
| Micro-duct Connector DB       | 02             | 36, 37, 39, 43<br>Robust Reinforced Connector DB |
| Micro-duct Reducing connector | 03             | 41, 42<br>Reducing reinforced Connector DB       |
| Micro-duct End Cap            | 04             | 44, 45, 46<br>Robust Reinforced End Cap          |
| Micro-duct Shears             |                | 64   |
| DuraFlat Stripper             |                | 65   |



DuraFlat

## DURAFLAT CONNECTION IN THE TRENCH

### SITE APPLICATIONS



## DuraPack

### FEATURES & CHARACTERISTICS

Loose bundles of micro-ducts protected in main duct has been proved over the year to be excellent solution for FTTH networks. Individual micro-ducts can be pulled or blown into the sub-duct on site which gives a huge flexibility in CAPEX/OPEX management. On the other hand, DuraPack bundles are produced at a factory and such like saving installation cost & time of micro-duct blowing. The max. number of micro-ducts within the DuraPack bundles is also always higher then what can be achieved by blowing on site.

Since micro-ducts are loose and sub-duct provides excellent impact protection, DuraPack is the least sensitive product to micro-bending & trench quality. The Silicore inner lining remains in the duct for many years which makes future repairs or micro-duct replacement easier.

Connection and branching of DuraPacks is done within the special enclosures (see DuraPack installation scheme) which keeps the main duct route clean.



- ✓ Very high flexibility of your network configuration – combinations on request
- ✓ The best impact resistance for micro-duct protection
- ✓ The best cable blowing performance
- ✓ Effectively uses duct space – higher filling ratio compared to blowing on site
- ✓ Future-proof solution - main duct filling can be re-configured



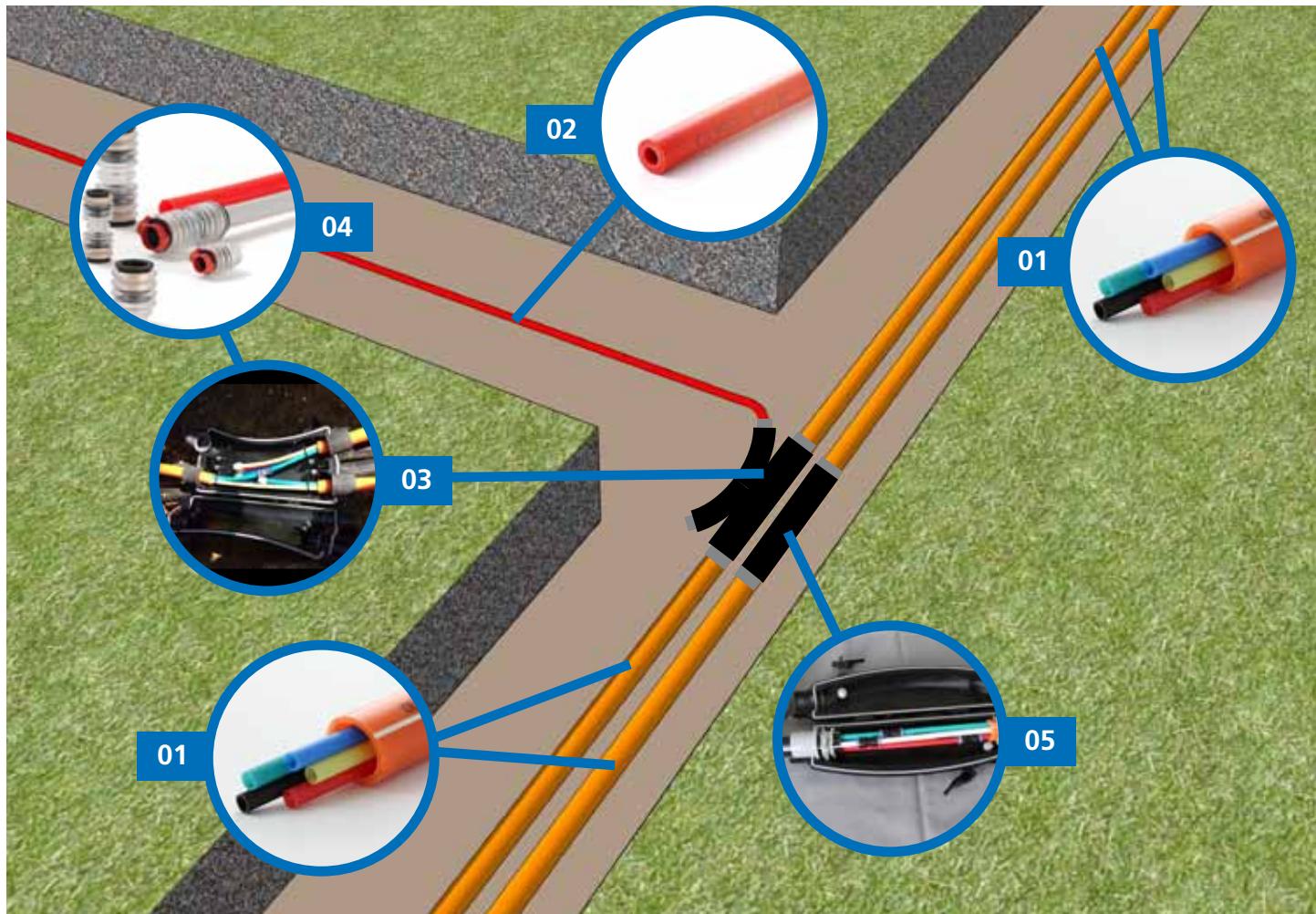


## PRODUCT RANGE

| Application | SubDuct<br>OD / DO | Size of micro-ducts: OD [mm] |    |    |    |    |    |    |    |    | Weight<br>[kg /km] | Standard packaging<br>[length /weight] | Product name                           |
|-------------|--------------------|------------------------------|----|----|----|----|----|----|----|----|--------------------|--|--|
|             |                    | 4                            | 5  | 7  | 8  | 10 | 12 | 14 | 16 | 18 |                    |  |  |
| DB          | 16 / 12            | 7                            | 3  | 1  | 1  |    |    |    |    |    | 94                 | MTB DT 900 m / 110 kg                  | DuraPack DB 16 / 12 + 2x 4 / 3 mm      |
| DB          | 25 / 20            |                              | 12 | 4  | 3  |    |    |    |    |    | 187                | DB1 4000 m / 1100 kg                   | DuraPack DB 25 / 20 + 2x 5 / 3.5 mm    |
| DB          | 32 / 26            |                              | 16 | 8  | 5  | 4  |    |    |    |    | 372                | DB1 2500 m / 1380 kg                   | DuraPack DB 32 / 26 + 8x 7 / 5,5 mm    |
| DB          | 40 / 33            |                              | 26 | 13 | 10 | 7  | 4  | 3  |    |    | 495                | DB1 1750 m / 1200 kg                   | DuraPack DB 40 / 32.8 + 4x 10 / 8 mm   |
| DB          | 40 / 33            |                              | 26 | 13 | 10 | 6  | 4  | 3  |    |    | 546                | DB1 1750 m / 1500 kg                   | DuraPack DB 40 / 33 + 6x 10 / 8 mm     |
| DB          | 50 / 41            |                              | 39 | 20 | 15 | 9  | 6  | 5  | 4  |    | 839                | DB1 1000 m / 1340 kg                   | DuraPack DB 50 / 40, 6 + 6x 12 / 10 mm |
| DB          | 50 / 41            |                              | 51 | 20 | 15 | 10 | 7  | 5  | 4  |    | 865                | DB1 1000 m / 1320 kg                   | DuraPack DB 50 / 41 + 6x 12 / 10 mm    |
| DI          | 25 / 21            |                              | 13 | 5  | 4  |    |    |    |    |    | 178                | DB1 4000 m / 1160 kg                   | DuraPack DI 25 / 21 + 4x 5 / 3.5 mm    |
| DI          | 32 / 27            |                              | 17 | 9  | 5  | 4  | 3  |    |    |    | 301                | DB1 2000 m / 1050 kg                   | DuraPack DI 32 / 27 + 3x 10 / 8 mm     |
| DI          | 32 / 28            |                              | 19 | 9  | 6  | 4  | 3  | 1  |    |    | 285                | DB1 2700 m / 1300 kg                   | DuraPack DI 32 / 28 + 4x 10 / 8 mm     |
| DI          | 40 / 34            |                              | 27 | 14 | 11 | 7  | 4  | 3  |    |    | 520                | DB1 1750 m / 1360 kg                   | DuraPack DI 40 / 34 + 4x 12 / 10 mm    |
| DI          | 40 / 35            |                              | 29 | 15 | 11 | 7  | 5  | 3  |    |    | 433                | DB1 1750 m / 1210 kg                   | DuraPack DI 40 / 35 + 6x 10 / 8 mm     |
| DI          | 50 / 42            |                              | 42 | 21 | 16 | 10 | 7  | 5  | 4  |    | 754                | DB1 1000 m / 1200 kg                   | DuraPack DI 50 / 42 + 6x 12 / 10 mm    |
| DI          | 50 / 43            |                              | 44 | 22 | 17 | 11 | 7  | 5  | 4  | 3  | 592                | DB1 1000 m / 1100 kg                   | DuraPack DI 50 / 43 + 3x 12 / 10 mm    |
| DI          | 50 / 44            |                              | 46 | 23 | 18 | 11 | 8  | 5  | 4  | 3  | 597                | DB1 1000 m / 1050 kg                   | DuraPack DI 50 / 44 + 4x 16 / 14 mm    |
| DI          | 63 / 55            |                              |    |    | 18 | 12 | 9  | 7  | 5  |    | 1030               | DB1 670 m / 1130 kg                    | DuraPack DI 63 / 55 + 12x 10 / 8 mm    |



## SITE LAYOUT



## PRODUCT OVERVIEW

### DuraPack Connection

| Product Group                 | Catalogue page | Product Group Representative                 |
|-------------------------------|----------------|--|
| DuraPack                      | 01             | 25   |
| DuraMicro                     | 02             | 13   |
| Bundles Connectivity Closure  | 03             | 57, 58, 59, 60                               |
| Micro-duct Connector DI or DB | 04             | 36, 37, 39, 43                               |
| Micro-duct End Cap            | 04             | 44, 45, 46                                   |
| Bundles Connectivity Closure  | 05             | 57, 58, 59, 60                               |
| Duct Shears                   |                | H-Hermetic Derivation Element                |
| Micro-duct Shears             |                | Robust Reinforced Connector DB               |
|                               |                | Robust Reinforced End Cap                    |
|                               |                | Inline Hermetic Element for HDPE (DuraPacks) |
|                               | 85             |  |
|                               | 64             |  |



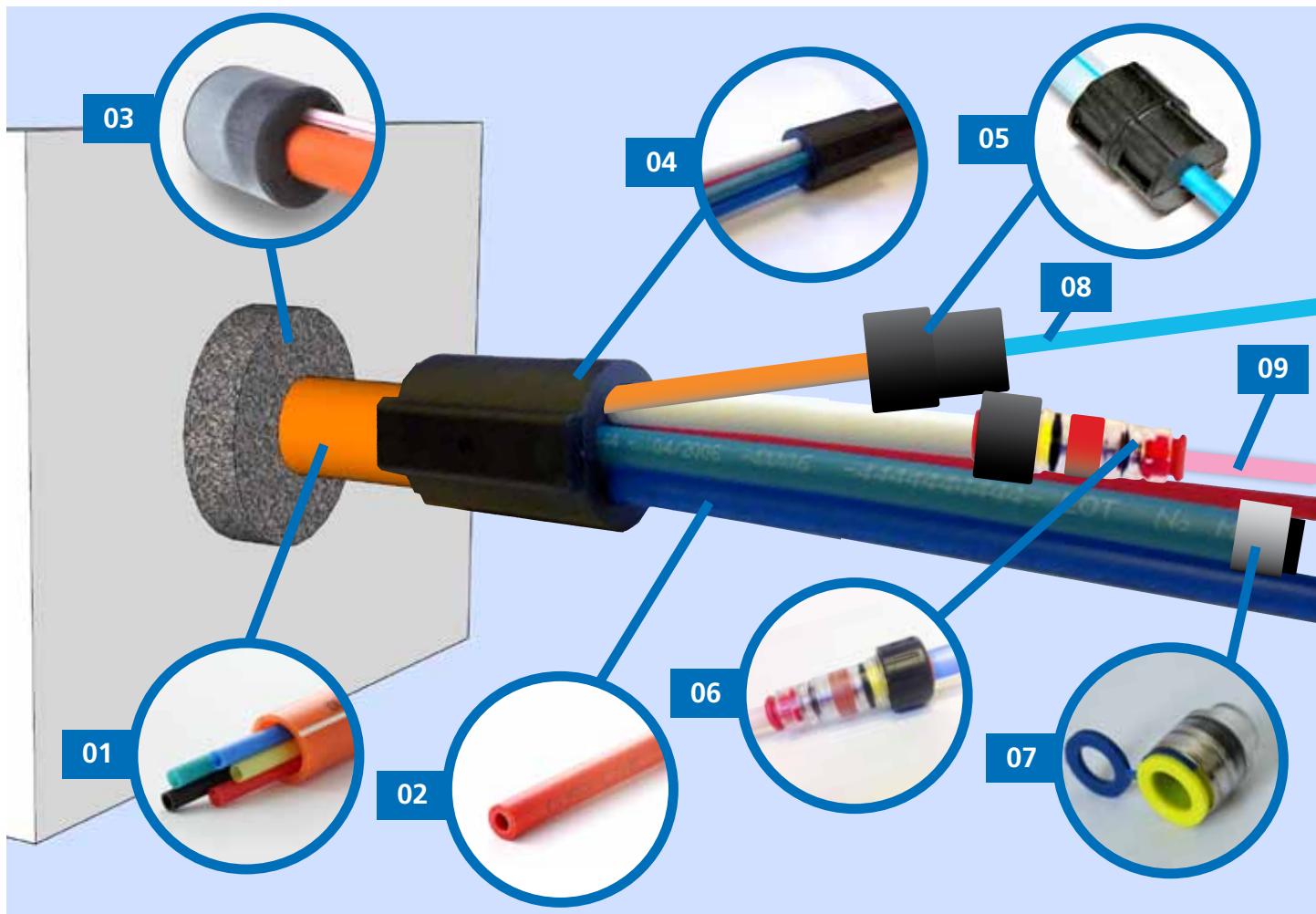
DuraPack

## DURAPACK CONNECTION IN THE TRENCH

### SITE APPLICATIONS



## SITE LAYOUT



## PRODUCT OVERVIEW

### DuraPack Connection

| Product Group        | Catalogue page | Product Group Representative |
|----------------------|----------------|------------------------------|
| DuraPack             | 01             | 25                           |
| DuraMicro            | 02             | 13                           |
| Duct sealing systems | 03             | 56                           |
| Bundle sealings      | 04             | 53                           |
| Gasblock terminators | 05             | 48, 49, 51, 52               |
| Gasblock connectors  | 06             | Divisible SD Sealing         |
| Gasblock connectors  | 06             | Divisible gasblock           |
| End caps             | 07             | Gas-block Connector          |
| Fibre optic cables   | 08             | Robust reinforced End Cap    |
| DuraMicro DI LSHF    | 09             |                              |
| Micro-duct Shears    |                |                              |
| Duct Shears          | 64             |                              |
|                      | 85             |                              |



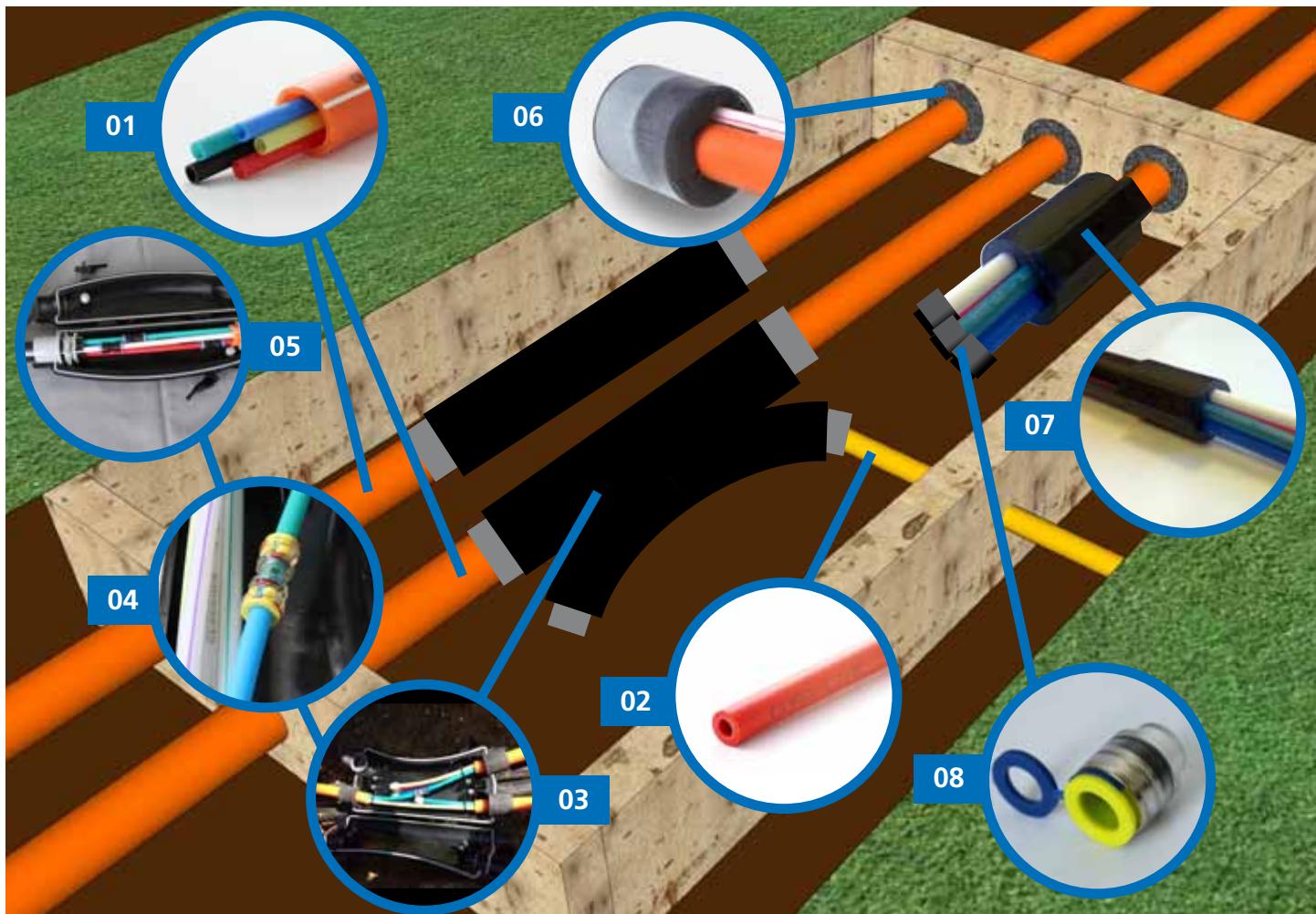
DuraPack

DURAPACK  
TERMINATION WATERTIGHT

## SITE APPLICATIONS



## SITE LAYOUT



## ACCESSORIES OVERVIEW

### DuraPack Connection

| Product Group                 | Catalogue page | Product Group Representative |
|-------------------------------|----------------|------------------------------|
| DuraPack                      | 01             | 25                           |
| DuraMicro                     | 02             | 13                           |
| Bundles Connectivity Closure  | 03             | 57, 58, 59, 60               |
| Micro-duct Connector DI or DB | 04             | 36, 37, 38, 43               |
| Micro-duct End Cap            | 04             | 44, 45, 46                   |
| Bundles Connectivity Closure  | 05             | 57, 58, 59, 60               |
| Duct sealing systems          | 06             | 56                           |
| Bundle sealings               | 07             | 55                           |
| Duct Shears                   |                | 85                           |
| Micro-duct Shears             |                | 64                           |



DuraPack

## DURAPACK MANHOLE CONNECTION

### SITE APPLICATIONS



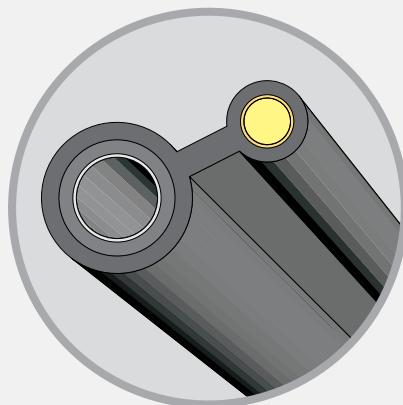
## DuraAir

### FEATURES & CHARACTERISTICS

The standard figure 8 construction of our new aerial drop product is lightweight and with minimal visual pollution solution. It is easy to install, with only very low stringing tension required. DuraAir F8 withstands also some extreme overloads due to the severe weather conditions.

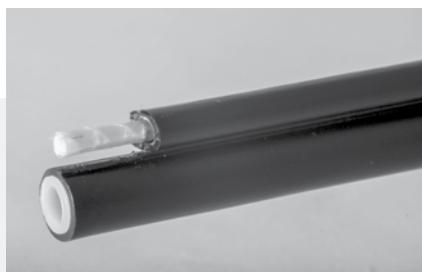
Using Push-Fit connectors it will easily become part of your micro-duct based FTTH network with quick one-step cable blowing operation.

- ✓ Lightweight future-proof solution
- ✓ Standard Figure 8 construction, metal free
- ✓ High UV resistance (at least 15 years guaranteed)
- ✓ Standard aerial accessories
- ✓ Tested & Certified – vibration test, tension test
- ✓ Compliance with EN 60794



### PRODUCT RANGE

| Construction | Configuration             | Weight [kg/km] | Packaging [length/weight] |
|--------------|---------------------------|----------------|---------------------------|
| Figure 8     | 1x MD 5 / 3.5             |                | 37 MTB DT 4000 m / 174 kg |
| Figure 8     | 1x MD 10 / 8              |                | 71 MTB DT 1650 m / 147 kg |
| Figure 9     | 1x MD 14 / 12             |                | 92 MTB DT 1000 m / 118 kg |
| Figure 8     | 1x SD 20 / 16             |                | 142DB1 6500 m / 1200 kg   |
| Figure 8     | 2x MD 12 / 10             |                | 210DB1 5800 m / 1620 kg   |
| Figure 8     | 3x MD 12 / 10             |                | 280DB1 4500 m / 1750 kg   |
| Figure 8     | 4x MD 12 / 10             |                | 450DB1 2400 m / 1500 kg   |
| Figure 8     | 12x MD 5 / 3.5 + 1x10 / 8 |                |                           |





DuraAir

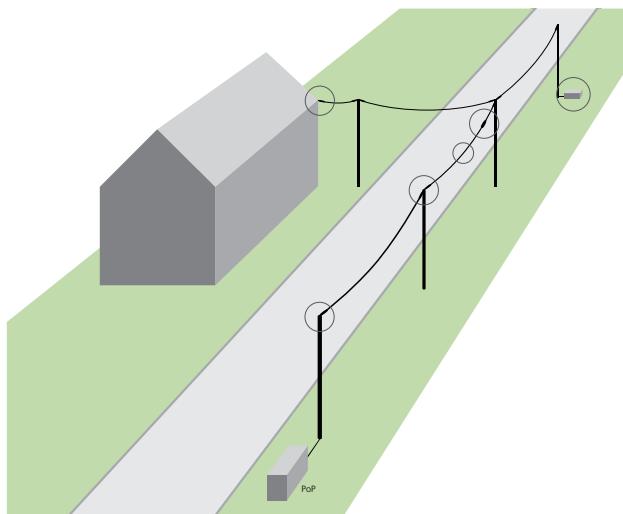
## Typical application

- ✓ Span: max 50 m
- ✓ Sag: Usually the average sag is set up at 1 % of the average span at 15 or 20 °C.  
For instance, given an average span of 50 meters, the sag would be 0.5 m
- ✓ Tension very small, for 50 m span & 0.5 m sag, TENSION = 30 daN



## Tension Calculation

$$\text{Tension} = \frac{(\text{Weight}_D + \text{Weight}_C) \times (\text{Span})^2}{8 \times \text{Sag}}$$



| DuraAir<br>F8 5/3.5 | Temperature at time<br>of installation °C | Sag | Installation force [N] at a span length in meters of |       |       |       |       |
|---------------------|---|-----|--|-------|-------|-------|-------|
|                     |   |     | 30 m   | 40 m  | 50 m  | 60 m  | 70 m  |
|                     | 20  | 1 % | 176 N  | 235 N | 293 N | 352 N | 410 N |

Sag according to span between poles, including cable of 3 kg/km weight.

## Accessories



SC37C Suspension clamp



BQC12x50 Pigtail hook



AC35 260 Ancoring clamp



UPB Universal PoleBracket

# Micro-duct Accessories





## Metal Free Connector DB

### DESCRIPTION

Innovative new generation micro-connectors developed for telecom industry.

Metal free design avoids corrosion problems in DB applications. High quality materials and transparent body assure easy and quick installation.

DB connectors has to be protected with rubber protection caps for proper DB functionality.



### MAIN FEATURES & CHARACTERISTICS

- ✓ No metal parts
- ✓ Inner diameter leveled with DB micro-ducts
- ✓ Light gray color for DB quick identification
- ✓ Safety clips pre-installed
- ✓ Push-fit system
- ✓ Body material: polyamide
- ✓ Working Pressure: max. 20 bars
- ✓ Lifespan: 25 years
- ✓ Standards: EN 50411-2-8



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name  | MoQ | Package     |
|----------|--------------|---|-----|-------------|
| AC1290   | NFTC7-3.5    | Metal free connector for 7/3 mm MD                        | 10  | 100 pcs bag |
| AC1291   | NFTC8-5      | Metal free connector for 8/5 mm MD                        | 10  | 100 pcs bag |
| AC1292   | NFTC10-5.5   | Metal free connector for 10/5.5 mm MD                     | 10  | 100 pcs bag |
| AC1293   | NFTC12-8     | Metal free connector for 12/8 mm MD                       | 10  | 100 pcs bag |
| AC1294   | NFTC14-10    | Metal free connector for 14/10 mm MD                      | 10  | 100 pcs bag |
| AC1295   | NFTC16-12    | Metal free connector for 16/12 mm MD                      | 10  | 100 pcs bag |
| AC1443   | NFTCDBK7     | Metal free 7mm connector DB kit (conn+clips+rubber caps)  | 10  | 100 pcs bag |
| AC1444   | NFTCDBK10    | Metal free 10mm connector DB kit (conn+clips+rubber caps) | 10  | 100 pcs bag |
| AC1445   | NFTCDBK12    | Metal free 12mm connector DB kit (conn+clips+rubber caps) | 10  | 100 pcs bag |
| AC1446   | NFTCDBK14    | Metal free 14mm connector DB kit (conn+clips+rubber caps) | 10  | 100 pcs bag |
| AC1447   | NFTCDBK16    | Metal free 16mm connector DB kit (conn+clips+rubber caps) | 10  | 100 pcs bag |

## Robust Reinforced Connector DB



### DESCRIPTION

Fully dedicated for direct buried applications, these top quality connectors are made only of high performance materials. Unsurpassed tensile load increase the ability of resistance to duct thermal dilatation. They don't need any extra cover or protection when buried due to the superior impact resistance. Top quality product for top-quality networks.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Patented reinforced design for high impact resistance
- ✓ Very thin middle block (1–1,4 mm)
- ✓ Safety clips pre-installed, tamper evident
- ✓ Push-in technology, direct burial applications
- ✓ Body material: polycarbonate
- ✓ Working Pressure: max. 25 bars
- ✓ Impact resistance: 15J @ -5C, EIC 61386-24
- ✓ Lifespan: 25 years
- ✓ Standards: EN 50411-2-8

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name  | MoQ | Package     |
|----------|--------------|---|-----|-------------|
| AC1369   | PDBC07       | Reinforced micro-duct connector DB for mm MD+safety clip    | 10  | 100 pcs bag |
| AC1370   | PDBC08       | Reinforced micro-duct connector DB for 8 mm MD+safety clip  | 10  | 100 pcs bag |
| AC1371   | PDBC10       | Reinforced micro-duct connector DB for 10 mm MD+safety clip | 10  | 100 pcs bag |
| AC1372   | PDBC12       | Reinforced micro-duct connector DB for 12 mm MD+safety clip | 10  | 100 pcs bag |
| AC1373   | PDBC14       | Reinforced micro-duct connector DB for 14 mm MD+safety clip | 10  | 100 pcs bag |
| AC1453   | PDBC16       | Reinforced micro-duct connector DB for 16mm MD+safety clip  | 10  | 100 pcs bag |



## Metal Free Connector DI

### DESCRIPTION

Innovative new generation micro-connectors developed for telecom industry.

Metal free design avoids corrosion problems. High quality materials and transparent body assure easy and quick installation.

DI connectors are designed to fit with thin-walled micro-ducts and for any application indoor, inside manholes or branching boxes. Should not be directly buried.



### MAIN FEATURES & CHARACTERISTICS

- ✓ No metal parts
- ✓ Inner diameter leveled with DI micro-ducts
- ✓ Dark gray for DI identification
- ✓ Safety clips pre-installed
- ✓ Push fit system
- ✓ Body material: polyamide
- ✓ Working Pressure: max. 20 bars
- ✓ Lifespan: 25 years
- ✓ Standards: EN 50411-2-8



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                         | MoQ | Package     |
|----------|--------------|--------------------------------------|-----|-------------|
| AC1413   | NFTC3-2.1    | Metal free connector for 3/2.1 mm MD | 25  | 100 pcs bag |
| AC1283   | NFTC5-3.5    | Metal free connector for 5/3.5 mm MD | 25  | 100 pcs bag |
| AC1284   | NFTC7-5.5    | Metal free connector for 7/5.5 mm MD | 25  | 100 pcs bag |
| AC1285   | NFTC8-6      | Metal free connector for 8/6 mm MD   | 25  | 100 pcs bag |
| AC1286   | NFTC10-8     | Metal free connector for 10/8 mm MD  | 25  | 100 pcs bag |
| AC1287   | NFTC12-10    | Metal free connector for 12/10 mm MD | 10  | 100 pcs bag |
| AC1288   | NFTC14-12    | Metal free connector for 14/12 mm MD | 10  | 100 pcs bag |
| AC1289   | NFTC15-12    | Metal free connector for 15/12 mm MD | 10  | 100 pcs bag |
| AC1414   | NFTC16-14    | Metal free connector for 16/14 mm MD | 10  | 100 pcs bag |
| AC1415   | NFTC18-15    | Metal free connector for 18/15 mm MD | 10  | 100 pcs bag |

## Micro-duct Connector JG



### DESCRIPTION

Standard push-fit connectors, transparent, black or white with two locking clips, to prevent tube release. Clips ordered separately. Solid color connectors can be also direct buried.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Safety clips to be ordered separately
- ✓ Push fit system
- ✓ Body material: polycarbonate (transparent) or acetal polymer (solid)
- ✓ Working Pressure: max. 15 bars (transparent), max. 10 bars (solid)

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                                   | MoQ | Package      |
|----------|--------------|--|-----|--------------|
| AC1115   | MSJG4        | Straight connector JG dia. 4 mm                | 10  | 500 pcs box  |
| AC1116   | MSJG5        | Straight connector JG dia. 5 mm                | 10  | 500 pcs box  |
| AC1118   | MSJG6        | Straight connector JG dia. 6 mm                | 10  | 400 pcs box  |
| AC1119   | MSJG8        | Straight connector JG dia. 8 mm                | 10  | 300 pcs box  |
| AC1109   | MSJG10       | Straight connector JG dia. 10 mm               | 10  | 200 pcs box  |
| AC1111   | MSJG12       | Straight connector JG dia. 12 mm               | 10  | 100 pcs box  |
| AC1112   | MSJG15       | Straight connector JG dia. 15 mm               | 10  | 100 pcs box  |
| AC1113   | MSJG18       | Straight connector JG dia. 18 mm               | 10  | 50 pcs box   |
| AC1114   | MSJG3p       | Straight connector JG dia. 3 mm - transparent  | 10  | 1000 pcs box |
| AC1117   | MSJG5p       | Straight connector JG dia. 5 mm - transparent  | 10  | 500 pcs box  |
| AC1120   | MSJG8p       | Straight connector JG dia. 8 mm - transparent  | 10  | 400 pcs box  |
| AC1110   | MSJG10p      | Straight connector JG dia. 10 mm - transparent | 10  | 250 pcs box  |



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## MICRO-DUCT ACCESSORIES REDUCING CONNECTORS

### Metal Free Reducing Connector

#### DESCRIPTION

Reducing connectors allows interconnection between two micro-ducts with different outer diameter. Typically this is the case of transition point from DB to DI micro-duct entering the house.



#### MAIN FEATURES & CHARACTERISTICS

- ✓ No metal parts
- ✓ Inner diameter leveled with micro-ducts
- ✓ Dark gray
- ✓ Safety clips pre-installed
- ✓ Body material: polyamide
- ✓ Working Pressure: max. 20 bars
- ✓ Lifespan: 25 years
- ✓ Standards: EN 50411-2-8



#### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                                      | MoQ | Package     |
|----------|--------------|---|-----|-------------|
| AC1308   | NFTR7-5      | Metal free reducing connector 7–5 mm (ID 3,5 mm)  | 20  | 100 pcs bag |
| AC1309   | NFTR10-7     | Metal free reducing connector 10–7 mm (ID 5,5 mm) | 20  | 100 pcs bag |
| AC1310   | NFTR10-8     | Metal free reducing connector 10–8 mm (ID 5,5 mm) | 20  | 100 pcs bag |
| AC1311   | NFTR12-10    | Metal free reducing connector 12–10 mm (ID 8 mm)  | 10  | 100 pcs bag |
| AC1312   | NFTR14-12    | Metal free reducing connector 14–12 mm (ID 10 mm) | 10  | 100 pcs bag |

## Reducing Reinforced Connector DB



### DESCRIPTION

Reducing connectors allows interconnection between two micro-ducts with different outer diameter. Typically this is the case of transition point from DB to DI micro-duct entering the house. These top quality connectors are made only of high performance materials.

Unsurpassed tensile load increase the ability of resistance to duct thermal dilatation. They don't need any extra cover or protection when buried due to the superior impact resistance.

### MAIN FEATURES & CHARACTERISTICS

- ✓ Patented reinforced design for high impact resistance
- ✓ Very thin middle block (1-1,4mm)
- ✓ Safety clips pre-installed, tamper evident
- ✓ Push-in technology, direct burial applications
- ✓ Body material: polycarbonate
- ✓ Working Pressure: max. 25 bars
- ✓ Impact resistance: 15J @ -5C, EIC 61386-24
- ✓ Lifespan: 25 years
- ✓ Standards: EN 50411-2-8

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name   | MoQ | Package     |
|----------|--------------|--|-----|-------------|
| AC1374   | PDBR1012     | Reducing MD connector, reinforced for MD 10-12+safety clip | 10  | 100 pcs bag |
| AC1375   | PDBR1214     | Reducing MD connector, reinforced for MD 12-14+safety clip | 10  | 100 pcs bag |



## Reducing Connectors other sizes

### DESCRIPTION

Reducing connectors allows interconnection between two micro-ducts with different outer diameter. Typically this is the case of transition point from DB to DI micro-duct entering the house. If you did not find your correct size among METAL FREE or REINFORCED than choose one of these.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Safety clips on request, not included
- ✓ Push-fit technology
- ✓ Working Pressure: max. 10 bars



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                    | MoQ | Package     |
|----------|--------------|---------------------------------|-----|-------------|
| AC1047   | MDRSP5/3     | Redukční spojka E přímá 5/3mm   | 10  | 100 pcs bag |
| AC1048   | MDRSP5/4     | Redukční spojka E přímá 5/4mm   | 10  | 100 pcs bag |
| AC1049   | MDRSP6/4     | Redukční spojka E přímá 6/4mm   | 10  | 100 pcs bag |
| AC1050   | MDRSP7/4     | Redukční spojka E přímá 7/4mm   | 10  | 100 pcs bag |
| AC1051   | MDRSP7/5     | Redukční spojka E přímá 7/5mm   | 10  | 100 pcs bag |
| AC1052   | MDRSP8/5     | Redukční spojka E přímá 8/5mm   | 10  | 100 pcs bag |
| AC1041   | MDRSP10/5    | Redukční spojka E přímá 10/5mm  | 10  | 100 pcs bag |
| AC1042   | MDRSP10/7    | Redukční spojka E přímá 10/7mm  | 10  | 100 pcs bag |
| AC1043   | MDRSP10/8    | Redukční spojka E přímá 10/8mm  | 10  | 100 pcs bag |
| AC1044   | MDRSP12/10   | Redukční spojka E přímá 12/10mm | 10  | 100 pcs bag |
| AC1045   | MDRSP12/7    | Redukční spojka E přímá 12/7mm  | 10  | 100 pcs bag |
| AC1046   | MDRSP14/12   | Redukční spojka E přímá 14/12mm | 10  | 100 pcs bag |
| AC1224   | MDRSP16/12   | Redukční spojka E přímá 16/12mm | 10  | 100 pcs bag |

## ACE Connectors

### DESCRIPTION

Straight & Reducing connectors, which guarantee a good performance. Transparent body allows verification of the micro-ducts position inside.

Safety clips, tamper evident, are pre-installed. Tested & comply with EN 50411-2-8.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Tamper evident safety clips pre-installed
- ✓ Push-fit system
- ✓ Working Pressure: max. 16 bars
- ✓ Standards: EN 50411-2-8



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name  | MoQ | MoQ/Package    |
|----------|--------------|---|-----|----------------|
|          | ACEC 5/35    | Straight connector ACE for 5/3.5mm DI micro-duct, incl. clips | DI  | 10/100 pcs bag |
|          | ACEC 7/4     | Straight connector ACE for 7/4mm DB micro-duct, incl. clips   | DB  | 10/100 pcs bag |
|          | ACEC 10/8    | Straight connector ACE for 10/8mm DI micro-duct, incl. clips  | DI  | 10/50 pcs bag  |
|          | ACEC 10/6    | Straight connector ACE for 10/6mm DB micro-duct, incl. clips  | DB  | 10/50 pcs bag  |
|          | ACEC 12/10   | Straight connector ACE for 12/10mm DI micro-duct, incl. clips | DI  | 10/40 pcs bag  |
|          | ACEC 12/8    | Straight connector ACE for 12/8mm DB micro-duct, incl. clips  | DB  | 10/40 pcs bag  |
|          | ACEC 14/10   | Straight connector ACE for 14/10mm DB micro-duct, incl. clips | DB  | 10/25 pcs bag  |
|          | ACEC 16/12   | Straight connector ACE for 16/12mm DB micro-duct, incl. clips | DB  | 10/25 pcs bag  |



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## Robust Reinforced End Cap



### DESCRIPTION

Fully dedicated for direct buried applications, these top quality End Caps are made only of high performance materials. Special patented ribbed design gives it superior impact resistance and therefore there is no need for any extra cover or protection when buried.

Top quality product for top-quality networks.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Patented reinforced design for high impact resistance
- ✓ Safety clips pre-installed
- ✓ Push-fit system
- ✓ Direct burial application
- ✓ Body material: polyamide
- ✓ Working Pressure: max. 25 bars
- ✓ Impact resistance: 5J, EIC 61386-1
- ✓ Lifespan: 25 years
- ✓ Standards: EN 50411-2-8

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                              | MoQ | Package     |
|----------|--------------|---|-----|-------------|
| AC1376   | PDBE07       | Reinforced End Cap, MD 7 mm + clip        | 10  | 100 pcs bag |
| AC1377   | PDBE08       | Reinforced End Cap, MD 8 mm + clip        | 10  | 100 pcs bag |
| AC1378   | PDBE10       | Reinforced End Cap, MD 10 mm + clip       | 10  | 100 pcs bag |
| AC1379   | PDBE12       | Reinforced End Cap, MD 12 mm + clip       | 10  | 100 pcs bag |
| AC1380   | PDBE14       | Reinforced End Cap, MD 14 mm + clip       | 10  | 100 pcs bag |
| AC1454   | PDBE16       | Reinforced End Cap, MD 16mm + safety clip | 10  | 100 pcs bag |

## Metal Free End Cap

### DESCRIPTION

Metal Free End Caps give you the benefit of metal free design and transparent body. Together with pre-installed safety clips, this is good value for good money. Quick & easy installation, keep your micro-duct clean and dry. All open micro-duct ends should be closed to keep your duct network quality and future-proof.

Special rubber covers are recommended for direct burial applications to secure easy & smooth push-fit functionality of the connectors when re-entry is needed.



### MAIN FEATURES & CHARACTERISTICS

- ✓ No metal parts
- ✓ Gray or yellow
- ✓ Push fit system
- ✓ Safety clips pre-installed
- ✓ Body material: polyamide
- ✓ Direct burial & direct install application
- ✓ Working Pressure: max. 20 bars
- ✓ Lifespan: 25 years
- ✓ Standards: EN 50411-2-8



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                             | MoQ | Package     |
|----------|--------------|--|-----|-------------|
| AC1298   | NFCC 5       | Metal free End Stop for 5 mm micro-duct  | 10  | 100 pcs bag |
| AC1299   | NFCC 7       | Metal free End Stop for 7 mm micro-duct  | 10  | 100 pcs bag |
| AC1300   | NFCC 8       | Metal free End Stop for 8 mm micro-duct  | 10  | 100 pcs bag |
| AC1301   | NFCC 10      | Metal free End Stop for 10 mm micro-duct | 10  | 100 pcs bag |
| AC1302   | NFCC 12      | Metal free End Stop for 12 mm micro-duct | 10  | 100 pcs bag |
| AC1303   | NFCC 14      | Metal free End Stop for 14 mm micro-duct | 10  | 100 pcs bag |
| AC1304   | NFCC 15      | Metal free End Stop for 15 mm micro-duct | 10  | 100 pcs bag |
| AC1305   | NFCC 16      | Metal free End Stop for 16 mm micro-duct | 10  | 100 pcs bag |
| AC1296   | NFTCCAP12    | 12 mm Rubber protection cap for DB app   | 10  | 100 pcs bag |
| AC1297   | NFTCCAP14    | 14 mm Rubber protection cap for DB app   | 10  | 100 pcs bag |



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## MICRO-DUCT ACCESSORIES END CAPS

### ACE End Cap



#### DESCRIPTION

Standard transparent end caps, which are used to terminate open ended tubes to avoid air leakage, water or other material ingress. End caps are preassembled with security clips.



#### MAIN FEATURES & CHARACTERISTICS

- ✓ Tamper evident safety clips preassembled
- ✓ Push-fit system
- ✓ Working Pressure: max. 16 bars
- ✓ Standards: EN 50411-2-8

#### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                         | Application | MoG/Package    |
|----------|--------------|--------------------------------------|-------------|----------------|
|          | ACEEC 5      | End Cap ACE for 5/3.5 mm micro-ducts | DI          | 10/100 pcs bag |
|          | ACEEC 7      | End Cap ACE for 7 mm micro-ducts     | DB          | 10/100 pcs bag |
|          | ACEEC 10     | End Cap ACE for 10 mm micro-ducts    | DB          | 10/100 pcs bag |
|          | ACEEC 12     | End Cap ACE for 12 mm micro-ducts    | DB          | 10/80 pcs bag  |
|          | ACEEC 14     | End Cap ACE for 14 mm micro-ducts    | DB          | 10/50 pcs bag  |
|          | ACEEC 16     | End Cap ACE for 16 mm micro-ducts    | DB          | 10/50 pcs bag  |

## Micro-duct End Cap with Valve



### DESCRIPTION

Standard push-fit end cap with valve. Used to pressurize the micro-duct prior the micro-duct blowing process. Locking clips to be ordered separately.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Clips not included
- ✓ Standard valve

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                     | MoQ | Package     |
|----------|--------------|----------------------------------|-----|-------------|
| AC1029   | MDKV5        | End stop E with valve dia. 5 mm  | 10  | 100 pcs bag |
| AC1030   | MDKV7        | End stop E with valve dia. 7 mm  | 10  | 100 pcs bag |
| AC1031   | MDKV8        | End stop E with valve dia. 8 mm  | 10  | 100 pcs bag |
| AC1027   | MDKV10       | End stop E with valve dia. 10 mm | 10  | 100 pcs bag |
| AC1028   | MDKV12       | End stop E with valve dia. 12 mm | 10  | 100 pcs bag |
| AC1329   | MDKV14       | End stop E with valve dia. 14 mm | 10  | 100 pcs bag |



## Divisible Gas-Block

### DESCRIPTION

Simple modular design enables easy installation in all situations, even if cable is already terminated.  
Made of glass-fiber reinforced polyamide, provides gas-tight sealing of your micro-duct with cable up to 0,5 bar.  
Very compact design helps to installations in congested spaces like inside ODF.



### MAIN FEATURES & CHARACTERISTICS

- ✓ 2 shell, divisible solution
- ✓ For micro-ducts OD 10 to 20 mm
- ✓ Simple & quick installation
- ✓ Body material: glassfiber reinforced polyamide
- ✓ Sealing: up to 0,5 bars
- ✓ Packaging: 25 pcs per box



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                                       | MoQ | Package    |
|----------|--------------|--|-----|------------|
| AC1241   | DGBLCK10/2.5 | Divisible GasBlock MD 10 mm with cable 2.5–3.5 mm  | 10  | 25 pcs box |
| AC1242   | DGBLCK10/3.5 | Divisible GasBlock MD 10 mm with cable 3.5–5.0 mm  | 10  | 25 pcs box |
| AC1243   | DGBLCK10/5.0 | Divisible GasBlock MD 10 mm with cable 5.0–6.5 mm  | 10  | 25 pcs box |
| AC1244   | DGBLCK10/6.5 | Divisible GasBlock MD 10 mm with cable 6.5–8.0 mm  | 10  | 25 pcs box |
| AC1245   | DGBLCK12/2.5 | Divisible GasBlock MD 12 mm with cable 2.5–3.5 mm  | 10  | 25 pcs box |
| AC1246   | DGBLCK12/3.5 | Divisible GasBlock MD 12 mm with cable 3.5–5.0 mm  | 10  | 25 pcs box |
| AC1247   | DGBLCK12/5.0 | Divisible GasBlock MD 12 mm with cable 5.0–6.5 mm  | 10  | 25 pcs box |
| AC1248   | DGBLCK12/6.5 | Divisible GasBlock MD 12 mm with cable 6.5–8.0 mm  | 10  | 25 pcs box |
| AC2212   | DGBLCK14/3   | Divisible GasBlock MD 14 mm with cable 3–5.0 mm    | 10  | 25 pcs box |
| AC1354   | DGBLCK14/5.0 | Divisible GasBlock MD 14 mm with cable 5.0–6.5 mm  | 10  | 25 pcs box |
| AC1249   | DGBLCK14/6.5 | Divisible GasBlock MD 14 mm with cable 6.5–8.0 mm  | 10  | 25 pcs box |
| AC1250   | DGBLCK14/8.0 | Divisible GasBlock MD 14 mm with cable 8.0–10.0 mm | 10  | 25 pcs box |
| AC1251   | DGBLCK16/6.5 | Divisible GasBlock MD 16 mm with cable 6.5–8.0 mm  | 10  | 25 pcs box |
| AC1252   | DGBLCK16/8.0 | Divisible GasBlock MD 16 mm with cable 8.0–10.0 mm | 10  | 25 pcs box |
| AC1253   | DGBLCK18/9.4 | Divisible GasBlock MD 18 mm with cable 9.4–12.0 mm | 10  | 25 pcs box |
| AC1254   | DGBLCK20/9.4 | Divisible GasBlock MD 20 mm with cable 9.4–12.0 mm | 10  | 25 pcs box |

## Divisible Gas-Block Nano



### DESCRIPTION

Very compact design, small dimension enables installation within ODFs with difficult access.

Thanks to clever design the installation is only matter of sliding the rubber seal over the fiber & pushing it against the duct wall. It has been developed to provide gas tight seal between a micro-duct OD 4–8 mm and micro-cables from 0.9 to 2.5 mm.

### MAIN FEATURES & CHARACTERISTICS

- ✓ Transparent body, PCTPE
- ✓ Very compact & small dimension
- ✓ For micro-ducts OD 4 to 8 mm
- ✓ Indoor applications (house, cabinet)
- ✓ Cables from 0.9 to 2.5 mm
- ✓ Sealing: up to 0,5 bars
- ✓ Packaging: 100 pcs per bag

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                                  | MoQ | Package     |
|----------|--------------|---|-----|-------------|
| AC1362   | DGBLCK4/0.9  | Divisible GasBlock MD 4 mm with cable 0.9 mm  | 20  | 100 pcs bag |
| AC1349   | DGBLCK4/125  | Divisible GasBlock MD 4 mm with cable 1.25 mm | 20  | 100 pcs bag |
| AC1363   | DGBLCK5/0.9  | Divisible GasBlock MD 5mm with cable 0.9mm    | 20  | 100 pcs bag |
| AC1364   | DGBLCK5/1.6  | Divisible GasBlock MD 5mm with cable 1.6mm    | 20  | 100 pcs bag |
| AC1350   | DGBLCK5/125  | Divisible GasBlock MD 5 mm with cable 1.25 mm | 20  | 100 pcs bag |
| AC1351   | DGBLCK5/2.5  | Divisible GasBlock MD 5 mm with cable 2.5 mm  | 20  | 100 pcs bag |
| AC1365   | DGBLCK6/0.9  | Divisible GasBlock MD 6 mm with cable 0.9 mm  | 20  | 100 pcs bag |
| AC1366   | DGBLCK6/1.6  | Divisible GasBlock MD 6 mm with cable 1.6 mm  | 20  | 100 pcs bag |
| AC1352   | DGBLCK6/1.25 | Divisible GasBlock MD 6 mm with cable 1.25 mm | 20  | 100 pcs bag |
| AC1353   | DGBLCK6/2.5  | Divisible GasBlock MD 6 mm with cable 2.5 mm  | 20  | 100 pcs bag |
| AC1360   | DGBLCK7/0.9  | Divisible GasBlock MD 7 mm with cable 0.9 mm  | 20  | 100 pcs bag |
| AC1355   | DGBLCK7/125  | Divisible GasBlock MD 7 mm with cable 1.25 mm | 20  | 100 pcs bag |
| AC1359   | DGBLCK7/1.6  | Divisible GasBlock MD 7 mm with cable 1.6 mm  | 20  | 100 pcs bag |
| AC1356   | DGBLCK7/2.5  | Divisible GasBlock MD 7 mm with cable 2.5 mm  | 20  | 100 pcs bag |
| AC1361   | DGBLCK7/35   | Divisible GasBlock MD 7 mm with cable 2.1 mm  | 20  | 100 pcs bag |
| AC1367   | DGBLCK8/0.9  | Divisible GasBlock MD 8 mm with cable 0.9 mm  | 20  | 100 pcs bag |
| AC1357   | DGBLCK8/125  | Divisible GasBlock MD 8mm with cable 1.25mm   | 20  | 100 pcs bag |
| AC1368   | DGBLCK8/1.6  | Divisible GasBlock MD 8mm with cable 1.6mm    | 20  | 100 pcs bag |
| AC1358   | DGBLCK8/2.5  | Divisible GasBlock MD 8mm with cable 2.5mm    | 20  | 100 pcs bag |



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## Gas-block Connector

### DESCRIPTION

Micro-duct connector providing gas tight seal connection around the cable inside. When opened, cable can be blown through this connector and sealed afterwards by rotating ring. They operate safely at blowing pressure of 10 Bar and protect the inner cavity of your micro-ducts against ingress of any particles.

Should always be installed always at the entry transition points to the buildings, ODFs etc. where water or gas presence is the matter of danger. Two locking clips can be ordered separately to prevent micro-ducts self release.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Available for wide range of micro-duct sizes OD 4–16
- ✓ Push-fit system
- ✓ Transparent body
- ✓ Body material: polycarbonate
- ✓ Sealing: up to 0,3 bars
- ✓ Packaging: bag

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name  | MoQ | Package |
|----------|--------------|---|-----|---------|
| AC1017   | MDGB4        | Gas-block connector dia 4 mm; cable 1–2 mm            | 10  | 100 bag |
| AC1018   | MDGB5        | Gas-block connector dia 5 mm; cable 1–3,5 mm          | 10  | 100 bag |
| AC1019   | MDGB7        | Gas-block connector dia 7 mm; cable 2–5,5 mm          | 10  | 100 bag |
| AC1333   | MDGB8<3.5    | Gas-block connector dia 8 mm; cable 1–3,5 mm          | 10  | 100 bag |
| AC1334   | MDGB8>3.5    | Gas-block connector dia 8 mm; cable 3,5–6 mm          | 10  | 100 bag |
| AC1015   | MDGB10       | Gas-block connector dia 10 mm; cable 5–8 mm           | 5   | 100 bag |
| AC1391   | MDGB103-6    | Gas-block connector dia 10 mm; cable 3–6 mm           | 5   | 100 bag |
| AC1418   | MDGB10c      | Gas-block connector dia 10 mm; cable 1–4 mm           | 5   | 100 bag |
| AC1016   | MDGB12       | Gas-block connector dia 12 mm; cable 7–10 mm          | 5   | 100 bag |
| AC1265   | MDGB12b      | Gas-block connector dia 12 mm; cable 3–6 mm           | 5   | 100 bag |
| AC1419   | MDGB12c      | Gas-block connector dia 12 mm; cable 5–8 mm           | 10  | 100 bag |
| AC1193   | MDRGB8/7     | Reducing Gas-block connector dia 8–7 mm;              | 10  | 100 bag |
| AC1206   | MDRGB75      | Reducing Gas-block connector dia 7–5 mm; cable 2–4 mm | 10  | 100 bag |
| AC1205   | MDGB145-8    | Gas-block connector dia 14 mm; cable 5–8 mm           | 5   | 100 bag |
| AC1420   | MDGB14b      | Gas-block connector dia 14 mm; cable 3–6 mm           | 5   | 100 bag |
| AC1421   | MDGB14c      | Gas-block connector dia 14 mm; cable 7–10 mm          | 5   | 100 bag |
| AC1223   | MDGB16       | Gas-block connector dia 16 mm; cable 9–12 mm          | 5   | 100 bag |

Other sizes on request.

## GasBlock Terminator ALU

### DESCRIPTION

Very compact design allows easy & quick installation onto small micro-ducts, terminating ends gastight. It seals both empty or occupied ducts with cables inside. It is very comfortable to use within small cabinets and can be reused 5 times. Divisible version which can be installed over the terminated cable is also available.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Seals both empty & occupied duct
- ✓ Push fit system
- ✓ Body material: Aluminium
- ✓ Seal: >0.5 bars from -40 °C to +65 °C



### TABLE OF ARTICLES

| SAP Code | Product Code     | Product Name  | MoQ | Package |
|----------|------------------|---|-----|---------|
| AC1392   | GBALU 5/10-16    | GasBlock termination of MD 5/3.5 with cable 1.0-1.6 mm            | 10  | 100     |
| AC1393   | GBALU 7/21-26    | GasBlock termination of MD 7/4 with cable 2.1-2.6mm               | 10  | 100     |
| AC1394   | GBALU 10/61-65   | GasBlock termination of MD 10/8 with cable 6.1-6.5mm              | 10  | 10      |
| AC1395   | GBALU 12/61-65   | GasBlock termination of MD 12/8 with cable 6.1-6.5mm              | 10  | 10      |
| AC1396   | GBALU 14/80-85   | GasBlock termination of MD 14/10 with cable 8.0-8.5mm             | 10  | 10      |
| AC1397   | GBALU 16/98-103  | GasBlock termination of MD 16/12 with cable 9.8-10.3mm            | 10  | 10      |
| AC1398   | GBALUD 5/10-16   | Divisible GasBlock termination of MD 5/3.5 with cable 1.0-1.6 mm  | 100 | 100     |
| AC1399   | GBALUD 7/21-26   | Divisible GasBlock termination of MD 7/4 with cable 2.1-2.6 mm    | 100 | 100     |
| AC1400   | GBALUD 10/61-65  | Divisible GasBlock termination of MD 10/8 with cable 6.1-6.5 mm   | 100 | 100     |
| AC1401   | GBALUD 12/61-65  | Divisible GasBlock termination of MD 12/8 with cable 6.1-6.5 mm   | 100 | 100     |
| AC1402   | GBALUD 14/80-85  | Divisible GasBlock termination of MD 14/10 with cable 8.0-8.5 mm  | 100 | 100     |
| AC1403   | GBALUD 16/98-103 | Divisible GasBlock termination of MD 16/12 with cable 9.8-10.3 mm | 100 | 100     |



## Push-In Gas-block Terminator

### DESCRIPTION

First pushed-in Gas-block Terminator on the market. Due to this push-in system, the installation of these gas-blocks is super quick and simple.

Moreover, they can be re-used 5 times without any performance degradation. It's patented design provides very flexible & universal sealing system covering wide range of cable diameters. Therefore you can have only one product, sealing complete range of cables used within your network.

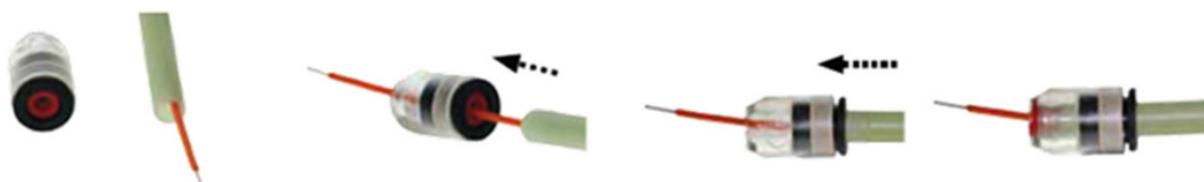


### MAIN FEATURES & CHARACTERISTICS

- ✓ transparent body, polycarbonate composite
- ✓ for micro-ducts OD 5 to 14 mm
- ✓ cables from 1 to 9 mm
- ✓ easy installation - push-in system
- ✓ 1 gas-block size can seal wide range of cable diameters
- ✓ Sealing: up to 1 bar (external or internal)
- ✓ Working temperatures: -15C to +45C

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name   | Application | PMoQ/Package |
|----------|--------------|--|-------------|--------------|
| AC1448   | GBLCKPF5     | Push-In Gasblock Terminator Universal MD 5mm, cable 1.0-2.5mm  | DI          | 10 / 100     |
| AC1449   | GBLCKPF7     | Push-In Gasblock Terminator Universal MD 7mm, cable 1.0-4.0mm  | DI          | 10 / 100     |
| AC1450   | GBLCKPF10    | Push-In Gasblock Terminator Universal MD 10mm, cable 1.4-6.5mm | DI          | 10 / 50      |
| AC1451   | GBLCKPF12    | Push-In Gasblock Terminator Universal MD 12mm, cable 3.0-8.6mm | DI          | 10 / 50      |
| AC1452   | GBLCKPF14    | Push-In Gasblock Terminator Universal MD 14mm, cable 3.0-9.0mm | DI          | 10 / 50      |



## Divisible SD Sealing

### DESCRIPTION

Divisible Sealings are designed to seal the ends of the DuraPack bundles to block any water, gas or other particles which could come through the main duct into your building, cabinet or handhole. The modular system will guarantee easy installation of various different cable and duct configurations. Our system is divisible so can be applied at installation or afterwards. The rubber inserts can be custom designed for your specific needs and configuration and will contain (temporary) blind plugs to make the system more flexible at the installation site.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Compact design allows sealing of more DuraPacks next to each other
- ✓ Fully divisible solution
- ✓ Quick & simple installation
- ✓ Body material: glass fibre
- ✓ Sealing: Gas & water tight up to 0,2 bar, IEC 60794-1-2-F5a
- ✓ Packaging: plastic bag

### TABLE OF ARTICLES

| SAP Code | Product Code      | Product Name  | MoQ | Package    |
|----------|-------------------|---|-----|------------|
| AC1227   | DSEAL32/3x10      | Divisible duct sealing 32 mm with 3xMD 10 mm OD                               | 5   | 10 pcs box |
| AC1323   | DSEAL32/4x10      | Divisible duct sealing 32 mm with 3xMD 10 mm OD                               | 5   | 10 pcs box |
| AC1324   | DSEAL32/K+2x10    | Divisible duct sealing 32 mm with 1xK (peelable rings 8–14 mm)+ 2xMD 10 mm OD | 5   | 10 pcs box |
| AC1330   | DSEAL32/3x12      | Divisible duct sealing 32 mm with 3xMD 12 mm OD                               | 5   | 10 pcs box |
| AC1240   | DSEAL32/7x7       | Divisible duct sealing 40 mm with 7xMD 7 mm OD                                | 5   | 10 pcs box |
| AC1228   | DSEAL40/24x4      | Divisible duct sealing 40 mm with 24xMD 4 mm OD                               | 5   | 10 pcs box |
| AC1229   | DSEAL40/8x7+12    | Divisible duct sealing 40 mm with 8xMD 7 mm +1x12 mm OD                       | 5   | 10 pcs box |
| AC1230   | DSEAL40/10x7      | Divisible duct sealing 40 mm with 10xMD 7 mm OD                               | 5   | 10 pcs box |
| AC1231   | DSEAL40/5x10      | Divisible duct sealing 40 mm with 5xMD 10 mm OD                               | 5   | 10 pcs box |
| AC1232   | DSEAL40/4x12      | Divisible duct sealing 40 mm with 4xMD 12 mm OD                               | 5   | 10 pcs box |
| AC1239   | DSEAL40/7x10      | Divisible duct sealing 40 mm with 7xMD 10 mm OD                               | 5   | 10 pcs box |
| AC1325   | DSEAL40/K+3x10    | Divisible duct sealing 40 mm with 1xK (peelable rings 8–18 mm)+ 3xMD 10 mm OD | 5   | 10 pcs box |
| AC1326   | DSEAL40/K+2x12    | Divisible duct sealing 40 mm with 1xK (peelable rings 8–18 mm)+ 2xMD 12 mm OD | 5   | 10 pcs box |
| AC1233   | DSEAL50/3x12+1x16 | Divisible duct sealing 50 mm with 3xMD 12 mm + 1x15,5 mm OD                   | 5   | 10 pcs box |
| AC1234   | DSEAL50/10x7+1x12 | Divisible duct sealing 50 mm with 10xMD 7 mm + 1x12 mm OD                     | 5   | 10 pcs box |
| AC1235   | DSEAL50/18x7      | Divisible duct sealing 50 mm with 18xMD 7 mm OD                               | 5   | 10 pcs box |
| AC1236   | DSEAL50/7x10      | Divisible duct sealing 50 mm with 7xMD 10 mm OD                               | 5   | 10 pcs box |
| AC1237   | DSEAL50/7x12      | Divisible duct sealing 50 mm with 7xMD 12 mm OD                               | 5   | 10 pcs box |
| AC1327   | DSEAL50/7x14      | Divisible duct sealing 50 mm with 7xMD 14 mm OD                               | 5   | 10 pcs box |
| AC1238   | DSEAL63/24x7+1x14 | Divisible duct sealing 63 mm with 24xMD 7 mm + 1x14 mm OD                     | 5   | 10 pcs box |

## Rubber Caps, Rubber Inserts



### DESCRIPTION

These simple rubber caps and inserts block any rough particles getting inside the main duct of DuraPack bundle's ends. These are water/splash & dirt protective and therefore should be used only as temporary protection or at places where water/gas is not the case. The sealings are made from a high quality TPE, this material has a hardness of 40 Shore A.

The sealing inserts due to this unique construction can be used as blind or sealing plug. Furthermore, the sealing insert inside is specially shaped. This special shape enables you to adapt the plug easily to the diameter of the cable or micro-duct. This enables you to obtain savings in inventory costs since only a very limited number of types of plugs are needed.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Simple pull over installation
- ✓ Universal/saving cost
- ✓ Body material: TPE
- ✓ Sealing: splash & dirt
- ✓ Packaging: plastic bag

### TABLE OF ARTICLES

| SAP Code | Product Code   | Product Name                                       | MoQ | Package    |
|----------|----------------|--|-----|------------|
| AC1255   | SCAP40/10x7    | Rubber Sealing Cap for 10x7 mm in 40 mm OD duct    | 20  | 40 pcs box |
| AC1258   | SCAP40/5x10    | Rubber sealing cap for 5x10 mm in 40 mm OD duct    | 20  | 40 pcs box |
| AC1381   | SCAP40/4x10-12 | Rubber sealing cap for 4x10–12 mm in 40 mm OD duct | 10  | 10 pcs box |
| AC1256   | SCAP50/7x10    | Rubber sealing cap for 7x10 mm in 50 mm OD duct    | 25  | 25 pcs box |
| AC1257   | SCAP50/14x7    | Rubber sealing cap for 14x7 mm in 50 mm OD duct    | 25  | 25 pcs box |

| SAP Code | Product Code | Product Name                                       | Duct OD | Duct ID   | Micro-duct OD | MoQ | Package     |
|----------|--------------|--|---------|-----------|---------------|-----|-------------|
| AC1382   | SPLUG32/6-16 | Plug sealing HDPE 32/28 with cable 6–16 mm OD      | 32      | 27–28,5   | 1x 6–16 mm    | 40  | 40 pcs box  |
| AC1383   | SPLUG40/5-22 | Plug sealing HDPE 40/33 with cable 5–22 mm OD      | 40      | 31,5–33   | 1x5–22 mm     | 40  | 40 pcs box  |
| AC1384   | SPLUG40/6-22 | Plug sealing HDPE 40/35 with cable 6–22 mm OD      | 40      | 34,4–36   | 1x6–22 mm     | 30  | 30 pcs box  |
| AC1385   | SPLUG50/8-20 | Plug sealing HDPE 50/40 with cable 8–20 mm OD      | 50      | 39,5–41,5 | 1x8–20 mm     | 10  | 10 pcs box  |
| AC1386   | SPLUG40/7x7  | Plug sealing HDPE 40/33 with 7x7 mm OD micro-duct  | 40      | 33        | 7x7 mm        | 20  | 100 pcs box |
| AC1387   | SPLUG40/5x10 | Plug sealing HDPE 40/33 with 5x10 mm OD micro-duct | 40      | 33        | 5x10 mm       | 20  | 100 pcs box |
| AC1388   | SPLUG40/4x12 | Plug sealing HDPE 40/33 with 5x10 mm OD micro-duct | 40      | 33        | 4x12 mm       | 20  | 100 pcs box |
| AC1389   | SPLUG50/6-14 | Plug sealing HDPE 50/43 with cable 6–14 mm OD      | 50      | 43,6      | 6–14 mm       | 25  | 50 pcs box  |

## DuraMulti Termination Sealing

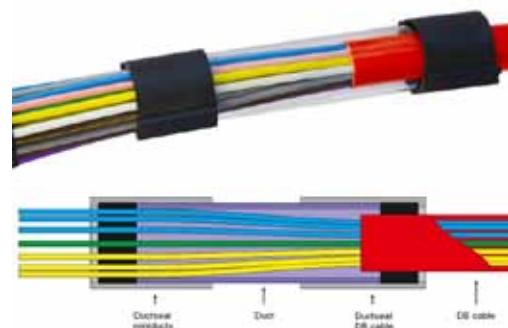
### DESCRIPTION

This sealing set is specially designed for non-circular DuraMulti bundles. It is sealing the spaces among micro-ducts and bundle's jacket. If you need to bring the whole bundle inside your premises (eg. exchange or MDU), this sealing protects against ingress of water or gas alongside the individual micro-ducts. The divisible version allows repeated application and no use of chemical sealants. Depending on the type of DB-bundle, space is created in a 32, 40, 50 or 63 mm duct to spread the individual micro-ducts from the DB-bundle. These are sealed by the divisible duct sealing set. Subsequently, a similar seal is made between the DB-bundle and the HDPE duct. That brings another advantage of this solution. In many underground closures, standard ports for sealing to ducts with a diameter of 32, 40, 50 or 63 mm are provided. With this solution, you can make a simple waterproof entry of a DB-bundle.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Modular system
- ✓ Customer made solution
- ✓ Body material: HDPE duct + 2locks (glass fibre reinforced)
- ✓ Sealing: EPDM, up to 0,25bar
- ✓ Packaging: carton



### TABLE OF ARTICLES

| SAP Code | Product Code  | Product Name   | Duct OD | MoQ   | Package |
|----------|---------------|--|---------|-------|---------|
| AC1266   | SDM7x14/10d   | DuraMulti 7x14/10 termination sealing – complete set           | 63 mm   | 2 pcs | Carton  |
| AC1267   | SDM7x14/10    | DuraMulti 7x14/10 termination sealing – only 2x lock           | 63 mm   | 2 pcs | Carton  |
| AC1313   | SDM7x12/8d    | DuraMulti 7x12/8 termination sealing – complete set            | 50 mm   | 2 pcs | Carton  |
| AC1314   | SDM7x12/8     | DuraMulti 7x12/8 termination sealing – only 2x lock            | 50 mm   | 2 pcs | Carton  |
| AC1315   | 50DBSEALSplit | DuraMulti 7x12/8 termination sealing – set with divisible duct | 50 mm   | 2 pcs | Carton  |

Other combinations available on request.



## MDIII Duct Seal



### DESCRIPTION

Duct sealing systems MDIII have been developed to provide an effective and simple solution for Gas and Watertight sealing of cables / pipes in ducts or bore holes.

This duct sealing system is extremely flexible and can be installed in ducts either vertically or horizontally. Two-component expanding polyurethane resin makes this suitable in situations where more than one cable or duct has to be sealed. Also the main pipe or bore hole does not have to be perfectly round.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Gas and watertight 1,0 bar
- ✓ Seals any bore hole up to 200 mm, seals multiple cables & ducts
- ✓ Easy and quick installation

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name  | MoQ | Package  |
|----------|--------------|---|-----|----------|
| AC1404   | MDIII-25     | MDIII-25 Duct Seal set, sealing max. 8 mm cable in 25 mm bore hole      | 1   | 1 pc box |
| AC1405   | MDIII-50     | MDIII-50 Duct Seal set, sealing max. 20 mm cable in 50 mm bore hole     | 1   | 1 pc box |
| AC1406   | MDIII-75     | MDIII-75 Duct Seal set, sealing max. 40 mm cable in 75 mm bore hole     | 1   | 1 pc box |
| AC1407   | MDIII-110    | MDIII-110 Duct Seal set, sealing max. 80 mm cable in 110 mm bore hole   | 1   | 1 pc box |
| AC1408   | MDIII-160    | MDIII-160 Duct Seal set, sealing max. 130 mm cable in 160 mm bore hole  | 1   | 1 pc box |
| AC1409   | MDIII-200    | MDIII-200 Duct Seal set, sealing max. 160 mm cable in 200 mm bore hole  | 1   | 1 pc box |
| AC1410   | MDIII-220    | MDIII-220 Duct Seal set, sealing max. 190 mm cable in 220 mm bore hole  | 1   | 1 pc box |
| AC1411   | MDIII-250    | MDIII-250 Duct Seal set, sealing max. 220 mm cable in 250 mm bore hole. | 1   | 1 pc box |

## H-Hermetic Derivation Element, I-Inline Hermetic Derivation Element

### DESCRIPTION

**H-hermetic** element allows to interconnect and branch individual micro-tubes out of the main duct route. H-shape of this closure provides high flexibility of duct routing, network upgradeability and uninterrupted fibre/cable connectivity with no need for splicing. This solution is fully watertight. You can branch off many different combinations and sizes of your ducts using different port sealings. These have to be ordered separately but for no extra charge. Also port blank plugs are available if any of your ports will not be used. **I (In-line)** hermetic derivation elements is designed to interconnect two following lengths of DuraPack duct line, protecting connections of individual micro-ducts and keeping your main duct route clean.



### MAIN FEATURES & CHARACTERISTICS

- ✓ High impact protection – reinforced with glass fibre
- ✓ Modular universal system – 50, 40, 32 mm HDPE
- ✓ Wide range of sealings – MD 7, 10, 12, 14, 16 mm
- ✓ Direct burial applications
- ✓ Body material: polypropylene, reinforced with glass fibre
- ✓ Sealing: IP 65
- ✓ Dimensions: 503 L x 214 W x 72 H mm (H), 503 L x 138 W x 72 H mm (I)
- ✓ Packaging: box

Your complete order should indicate:

- a) Box type (I or H)
- b) Sealing for each port (2 or 4) if required
- c) MD port plugs (optional)

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name   | MoQ | Package    |
|----------|--------------|--|-----|------------|
| AC1132   | NFHHBE50     | Hermetic branching element for HDPE (DuraPacks)                                | 1   | 1 box      |
| AC1133   | NFIHSE50     | I-Hermetic inline element for HDPE (DuraPacks)                                 | 1   | 1 box      |
| AC1135   | NFSFHE40     | Entry port sealing for 40 mm HDPE duct   | 1   | 10 bag     |
| AC1196   | NFSFHE32     | Entry port sealing for 32 mm HDPE duct   | 1   | 10 bag     |
| AC1225   | NFSFHE107    | Entry port sealing for 10x7 mm micro-duct                                      | 1   | 10 bag     |
| AC1226   | NFSFHE510    | Entry port sealing for 5x10 mm micro-duct                                      | 1   | 10 bag     |
| AC1264   | NFSFHE1210   | Entry port sealing for 12x10 mm micro-duct                                     | 1   | 10 bag     |
| AC1136   | NFSFHE512    | Entry port sealing for 5x12 mm micro-duct                                      | 1   | 10 bag     |
| AC1137   | NFSFHE614    | Entry port sealing for 5x14 mm micro-duct                                      | 1   | 10 bag     |
| AC1263   | NFSFHE714    | Entry port sealing for 5x14 mm micro-duct                                      | 1   | 10 bag     |
| Plugs    |              | Plugs for micro-duct not used positions available on request within your order | 10  | on request |

Entry port sealing can be customized for orders higher than 100 pcs.

## Matrix T-Enclosure, Matrix Inline Enclosure



### DESCRIPTION

T-shape Enclosure is designed for customer micro-duct branch-off of your feeding main duct route. This solution provides enough space inside and can be easily assembled. Entry ports are designed only for one size of your HDPE duct. Different combinations determine the different product. In-line version is designed to interconnect two following lengths of DuraPack duct line, protecting connections of individual micro-ducts and keeping your main duct route clean.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Fully divisible, easy assembly
- ✓ Different combinations for 25, 32, 40, 50 mm ducts
- ✓ Direct burial applications
- ✓ Body material:
- ✓ Sealing: water splash only
- ✓ Dimensions: 356 L x 245 W x 70 H mm (H), 406 L x 118 W x 83 H mm (I)
- ✓ Packaging: box

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                  | MoQ | Package |
|----------|--------------|-------------------------------|-----|---------|
| AC1152   | SMXI40/40    | Matrix coupling I 40/40       | 1   | 10 box  |
| AC1153   | SMXI50/50    | Matrix coupling I 50/50       | 1   | 10 box  |
| AC1154   | SMXT40/40/25 | Matrix coupling T 40/40/25 mm | 1   | 10 box  |
| AC1155   | SMXT40/40/32 | Matrix coupling T 40/40/32 mm | 1   | 10 box  |
| AC1156   | SMXT40/40/40 | Matrix coupling T 40/40/40 mm | 1   | 10 box  |
| AC1157   | SMXT50/50/25 | Matrix coupling T 50/50/25 mm | 1   | 10 box  |
| AC1158   | SMXT50/50/32 | Matrix coupling T 50/50/32 mm | 1   | 10 box  |
| AC1159   | SMXT50/50/40 | Matrix coupling T 50/50/40 mm | 1   | 10 box  |
| AC1160   | SMXT50/50/50 | Matrix coupling T 50/50/50 mm | 1   | 10 box  |

Other combinations available on request.

## Eden Inline, Y & T Enclosures

### DESCRIPTION

I, T, Y-shape enclosures are designed for DuraPack bundles connections & branch-off points. This solution is low cost and provides only mechanical protection to connected micro-ducts. The space inside is limited and therefore the amount of micro-ducts which can fit inside is limited too.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Fully divisible, easy assembly
- ✓ Different combinations for 25, 32, 40, 50 mm ducts
- ✓ Direct burial applications
- ✓ Body material:
- ✓ Sealing: only mechanical protection
- ✓ Packaging: box

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                  | MoQ | Package    |
|----------|--------------|-------------------------------|-----|------------|
| AC1053   | MDSI32/32    | Eden coupling Inline 32/32 mm | 3   | 50 pcs box |
| AC1054   | MDSI40/40    | Eden coupling Inline 40/40 mm | 3   | 50 pcs box |
| AC1055   | MDSI50/50    | Eden coupling Inline 50/50 mm | 10  | 45 pcs box |
| AC1063   | MDST32/32/32 | Eden coupling T 32/32/32 mm   | 3   | 40 pcs box |
| AC1064   | MDST40/32/32 | Eden coupling T 40/32/32 mm   | 3   | 40 pcs box |
| AC1065   | MDST40/40/25 | Eden coupling T 40/40/25 mm   | 10  | 50 pcs box |
| AC1066   | MDST40/40/32 | Eden coupling T 40/40/32 mm   | 10  | 40 pcs box |
| AC1067   | MDST40/40/40 | Eden coupling T 40/40/40 mm   | 3   | 40 pcs box |
| AC1068   | MDST50/50/32 | Eden coupling T 50/50/32 mm   | 10  | 30 pcs box |
| AC1069   | MDST50/50/50 | Eden coupling T 50/50/50 mm   | 10  | 30 pcs box |
| AC1070   | MDSY32/32/32 | Eden coupling Y 32/32/32 mm   | 10  | 50 pcs box |
| AC1071   | MDSY40/40/25 | Eden coupling Y 40/40/25 mm   | 10  | 75 pcs box |
| AC1072   | MDSY40/40/32 | Eden coupling Y 40/40/32 mm   | 3   | 60 pcs box |
| AC1073   | MDSY40/40/40 | Eden coupling Y 40/40/40 mm   | 3   | 60 pcs box |
| AC1074   | MDSY50/50/25 | Eden coupling Y 50/50/25 mm   | 10  | 60 pcs box |
| AC1075   | MDSY50/50/32 | Eden coupling Y 50/50/32 mm   | 10  | 45 pcs box |
| AC1076   | MDSY50/50/40 | Eden coupling Y 50/50/40 mm   | 3   | 45 pcs box |
| AC1077   | MDSY50/50/50 | Eden coupling Y 50/50/50 mm   | 3   | 45 pcs box |

Other combinations available on request.

## Tube Distribution Closure (TDC)



### DESCRIPTION

This closure has been especially designed as a multi-purpose closure to cover a variety of applications such as single tube connections to buildings, up to 40 mm duct connections and micro-duct break-out in H, T and Y configurations. In addition, a 6-way grommet is offered that allows up to six single DB micro-ducts to be branched from a single port. The TDC can also be deployed as a repair closure if only a few tubes have been damaged.



### MAIN FEATURES & CHARACTERISTICS

- ✓ One-piece grommet and seal arrangement
- ✓ Captivated screws in lid portion allowing inverted installation
- ✓ Can be retro-fitted to existing tube bundles / sub-ducts
- ✓ Straight through H and T configurations possible
- ✓ Dimensions: 316 mm L x 220 mm W x 70 mm H
- ✓ Direct burial applications
- ✓ Body material:
- ✓ Sealing: IP 67
- ✓ Packaging: box (includes AC1084 + AC1195)

### TABLE OF ARTICLES

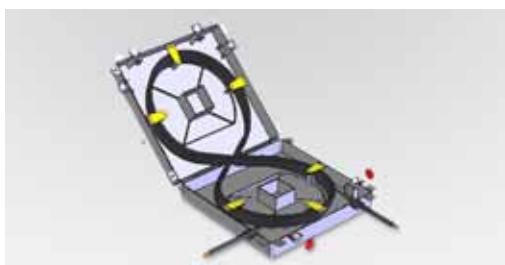
| SAP Code | Product Code | Product Name                           | MoQ | Package |
|----------|--------------|--|-----|---------|
| AC1084   | SWP6         | Tube distribution closure              | 1   | 20 box  |
| AC1195   | SWPSE        | One-piece sealing arrangement for TDC  | 10  | 10 bag  |
| AC1199   | SWPG612      | 6 way grommet for single MD branch off | 10  | 10 bag  |
| AC1202   | SWPA19       | Port adaptor for 32 mm duct            | 10  | 10 bag  |

## Cable Loop Protection Box



### DESCRIPTION

Box used to store and protect spare loop of micro-cable inside manholes. Min. 50 m of micro-cable up to 8 mm can be stored. Extension modules available to increase storage capacity. Using 1 or 2 extension modules you can get double or triple segment version of your CLP box. Smaller version called Compact CLP Box ideal for congested spaces. Box ensures strong mechanical & anti-rat protection due to its glass-enforced material.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Universal box
- ✓ Entry ports defined by size of micro-duct (10, 12, 14, 16)
- ✓ Modular system, extension modules
- ✓ Compact version: WxLxH: 43cmx43cmx7 mm
- ✓ Body material: Polyester Charged 30% glass fiber
- ✓ Dimensions: WxLxH 46cmx46cmx12cm
- ✓ Capacity: 50m of micro-cable up to 8 mm

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name  | MoQ | Package  |
|----------|--------------|---|-----|----------|
| AC1123   | CLPBox10     | CLPBox storing spare loop of cable inside manhole, Entry ports 10 mm          | 1   | 1 pc box |
| AC1124   | CLPBox12     | CLPBox storing spare loop of cable inside manhole, Entry ports 12 mm          | 1   | 1 pc box |
| AC1125   | CLPBox14     | CLPBox storing spare loop of cable inside manhole, Entry ports 14 mm          | 1   | 1 pc box |
| AC1271   | CLPBoxEx10   | Extension module of CLP Box with 50 m extra cable capacity, Entry ports 10 mm | 1   | 1 pc box |
| AC1272   | CLPBoxEx12   | Extension module of CLP Box with 50 m extra cable capacity, Entry ports 12 mm | 1   | 1 pc box |
| AC1273   | CLPBoxEx14   | Extension module of CLP Box with 50 m extra cable capacity, Entry ports 14 mm | 1   | 1 pc box |
| AC1275   | CLPPole      | CLPBox pole holder  | 1   | 1 pc box |
| AC1322   | CLPKIT12     | Set of entry ports 12 mm (4 pcs)  |     | 1 set    |



## Foam Pig

### DESCRIPTION

Cylindrical foam pig cleaning micro-ducts inside & spreading lubricant before cable is blown. Foam pig jetted through the micro-duct cleans off the dust & humidity inside MD.

### MAIN FEATURES & CHARACTERISTICS

- ✓ Professionally shaped foams
- ✓ Packaging: bag 20 pcs

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                             | MoQ | Package |
|----------|--------------|--|-----|---------|
| AC1259   | CLSP4-6      | Foam pig cleaning MD ID 4–6 mm, 20 pcs   | 1   | 1 bag   |
| AC1260   | CLSP7-9      | Foam pig cleaning MD ID 7–9 mm, 20 pcs   | 1   | 1 bag   |
| AC1261   | CLSP10-14    | Foam pig cleaning MD ID 10–14 mm, 20 pcs | 1   | 1 bag   |
| AC1262   | CLSP16-20    | Foam pig cleaning MD ID 16–20 mm, 20 pcs | 1   | 1 bag   |

## Lubricant 5000



### DESCRIPTION

Lubricants are designed to increase the blowing distance of micro-cable being jetted into small diameter micro-ducts. The improved chemical formula allows this product to spread further and lower friction at extremely low coating levels. The lower viscosity allows practical application into the micro-ducts. It is compatible with all known micro-cable plastic jackets except resin-coated fiber cables. It is effective at quantities as low as 0.05mg/cm<sup>2</sup>.

### MAIN FEATURES & CHARACTERISTICS

- ✓ Water based emulsion
- ✓ Environment friendly, non-flammable
- ✓ Packaging: plastic bottle

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                            | MoQ | Package  |
|----------|--------------|---|-----|----------|
| AC1161   | MJL240P      | Lubricant Microjet Prelube5000 (240 ml) | 1   | 1 bottle |



## Micro-duct Cutters

### DESCRIPTION

Micro-ducts require a special cutter to achieve a clean cut without any micro-duct squeeze. Do not use your pocket knife or saw, otherwise your micro-connectors will not work properly.

### MICRO-DUCT SHEARS

Well build tool with spare blades option. Robust and universal product which can cut micro-ducts from 4–28 mm OD.

| SAP Code | Product Code | Product Name                         | MoQ   |
|----------|--------------|--------------------------------------|-------|
| AC1092   | MNJJG428     | Micro-duct shears for MD dia 4–28 mm | 1 pc  |
| AC1121   | NB-JGTS28    | Spare blades for micro-duct shears   | 1 set |



### MICRO-DUCT MINI CUTTERS

Small pocket size plastic cutters for clean & fast cut of MD 4–12 mm OD.

| SAP Code | Product Code | Product Name                         | MoQ  |
|----------|--------------|--------------------------------------|------|
| AC1097   | MRJG412      | Micro-duct cutter for MD dia 4-12 mm | 1 pc |



### MICRO-DUCT DEBURRING TOOL

Tool deburring inner edge of micro-duct wall. It makes the smooth transition inside the connector & avoids problems with cable stopping when jetted through micro-connector.

| SAP Code | Product Code | Product Name     | MoQ  |
|----------|--------------|------------------|------|
| AC1085   | RT21655      | Graftix deburrer | 1 pc |



## DURAFLAT STRIPPER

Cable knife with flat tip for stripping jacket of DuraFlat.

| SAP Code | Product Code | Product Name                         | MoQ  |
|----------|--------------|--------------------------------------|------|
| AC1122   | KN3375       | Micro-duct cutter for MD dia 4–12 mm | 1 pc |





# Sub-duct Accessories





DuraDuct

## Plasson Coupling

### DESCRIPTION

Plasson Mechanical Compression PP fittings offer solutions for connecting HDPE ducts. They are designed to withstand working pressures of up to 16 bar. These fittings are manufactured in diameters ranging from 16 mm to 160 mm.



### MAIN FEATURES & CHARACTERISTICS

- ✓ No metal parts, PP
- ✓ High quality, standard in telecom industry
- ✓ Max. pressure 16 Bars



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                    | MoQ | Package     |
|----------|--------------|---------------------------------|-----|-------------|
| AC0033   | SPP16        | PP coupling PLASSON diam. 16 mm | 10  | 400 pcs box |
| AC0034   | SPP20        | PP coupling PLASSON diam. 20 mm | 10  | 200 pcs box |
| AC0035   | SPP25        | PP coupling PLASSON diam. 25 mm | 10  | 180 pcs box |
| AC0036   | SPP32        | PP coupling PLASSON diam. 32 mm | 10  | 100 pcs box |
| AC0037   | SPP40        | PP coupling PLASSON diam. 40 mm | 10  | 75 pcs box  |
| AC0038   | SPP50        | PP coupling PLASSON diam. 50 mm | 10  | 45 pcs box  |
| AC0039   | SPP63        | PP coupling PLASSON diam. 63 mm | 10  | 30 pcs box  |

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                        | MoQ | Package    |
|----------|--------------|-------------------------------------|-----|------------|
| AC0047   | SPP32        | Repair coupling PLASSON diam. 32 mm | 5   | 80 pcs box |
| AC0048   | SPP40        | Repair coupling PLASSON diam. 40 mm | 5   | 55 pcs box |
| AC0049   | SPP50        | Repair coupling PLASSON diam. 50 mm | 5   | 30 pcs box |
| AC0050   | SPP63        | Repair coupling PLASSON diam. 63 mm | 8   | 24 pcs box |

## C-PLAST



### DESCRIPTION

CPlast PP fittings are manufactured in Spain and are certified for connecting HDPE ducts. They are designed to withstand working pressures of up to 16 bar.  
Good quality for good value.

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                    | MoQ | Package    |
|----------|--------------|---------------------------------|-----|------------|
| AC0125   | SPC16        | PP coupling C-plast diam. 16 mm | 10  | 50 pcs box |
| AC0126   | SPC20        | PP coupling C-plast diam. 20 mm | 10  | 50 pcs box |
| AC0127   | SPC25        | PP coupling C-plast diam. 25 mm | 10  | 40 pcs box |
| AC0128   | SPC32        | PP coupling C-plast diam. 32 mm | 10  | 25 pcs box |
| AC0129   | SPC40        | PP coupling C-plast diam. 40 mm | 10  | 13 pcs box |
| AC0130   | SPC50        | PP coupling C-plast diam. 50 mm | 15  | 15 pcs box |
| AC0131   | SPC63        | PP coupling C-plast diam. 63 mm | 17  | 17 pcs box |



DuraDuct

## Plasscom Transparent Coupling

### DESCRIPTION

PlassCom fittings are specially designed for HDPE ducts connections in telecom industry. Offering innovative features dedicated to the specific needs of cable duct installations.

Transparent body helps to identify the ducts already occupied with the cable inside and its orange color gives visual identification of telecom ducts.

The PlassCom fitting Body and Nuts are produced of PP, Polyacetal split rings and NBR O-rings.



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                              | MoQ | Package     |
|----------|--------------|---|-----|-------------|
| AC0041   | SPPC20       | Transparent coupling PLASSCOM diam. 20 mm | 10  | 500 pcs box |
| AC0042   | SPPC25       | Transparent coupling PLASSCOM diam. 25 mm | 10  | 300 pcs box |
| AC0043   | SPPC32       | Transparent coupling PLASSCOM diam. 32 mm | 10  | 160 pcs box |
| AC0044   | SPPC40       | Transparent coupling PLASSCOM diam. 40 mm | 5   | 100 pcs box |
| AC0045   | SPPC50       | Transparent coupling PLASSCOM diam. 50 mm | 5   | 60 pcs box  |
| AC0046   | SPPC63       | Transparent coupling PLASSCOM diam. 63 mm | 2   | 40 pcs box  |

## Comfit PUSH-FIT Coupling



### DESCRIPTION

Comfit is a unique coupler specially designed for HDPE cable ducts. It has a compact profile helping installation within narrow trenches. PUSH-FIT connection method ensures fast and simple assembly process.

Available only for telecom duct standard OD (25-50 mm).



### MAIN FEATURES & CHARACTERISTICS

- ✓ Quick PUSH-FIT system
- ✓ Max. blowing pressure 12 bars

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                   | MoQ | Package    |
|----------|--------------|--------------------------------|-----|------------|
| AC0058   | SPCOM32      | PP coupling COMFIT diam. 32 mm | 10  | 70 pcs box |
| AC0059   | SPCOM40      | PP coupling COMFIT diam. 40 mm | 10  | 60 pcs box |
| AC0060   | SPCOM50      | PP coupling COMFIT diam. 50 mm | 10  | 33 pcs box |



DuraDuct

## Plasson End-Plugs

### DESCRIPTION

We offer a complete range of END-caps for HDPE cable ducts. All the types are high quality, certified and allow easy and quick mounting without loss of parts.

It is important to always terminate & seal your duct ends to keep your duct clean.

End caps with valve also available.



### MAIN FEATURES & CHARACTERISTICS

- ✓ No metal parts, PP
- ✓ High quality, standard in telecom industry
- ✓ Max. pressure 16 bars
- ✓ Standards: ISO 14236, AS/NZS 4129, ISO 7/1, BS 21, DIN 2999, UNI 9561, NEN 3258, AS 1722, DIN 8076

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                    | MoQ | Package     |
|----------|--------------|---------------------------------|-----|-------------|
| AC0009   | KPP25        | PP end-plug PLASSON diam. 25 mm | 10  | 10 pcs box  |
| AC0010   | KPP32        | PP end-plug PLASSON diam. 32 mm | 5   | 5 pcs box   |
| AC0011   | KPP40        | PP end-plug PLASSON diam. 40 mm | 10  | 110 pcs box |
| AC0012   | KPP50        | PP end-plug PLASSON diam. 50 mm | 10  | 75 pcs box  |
| AC0013   | KPP63        | PP end-plug PLASSON diam. 63 mm | 10  | 45 pcs box  |

## C-Plast End-Plugs



### DESCRIPTION

Very good quality fittings, which can be easily & quickly assembled. Available from 16 mm to 63 mm, ensure tightness up to 16 bars. End-plugs are supplied in paper box.

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                    | MoQ | Package     |
|----------|--------------|---------------------------------|-----|-------------|
| AC0107   | KPC16        | PP end-plug C-plast diam. 16 mm | 25  | 125 pcs box |
| AC0108   | KPC20        | PP end-plug C-plast diam. 20 mm | 25  | 125 pcs box |
| AC0109   | KPC25        | PP end-plug C-plast diam. 25 mm | 25  | 75 pcs box  |
| AC0110   | KPC32        | PP end-plug C-plast diam. 32 mm | 10  | 50 pcs box  |
| AC0111   | KPC40        | PP end-plug C-plast diam. 40 mm | 10  | 24 pcs box  |
| AC0112   | KPC50        | PP end-plug C-plast diam. 50 mm | 10  | 30 pcs box  |
| AC0113   | KPC60        | PP end-plug C-plast diam. 63 mm | 10  | 34 pcs box  |



DuraDuct

## SUB-DUCT ACCESSORIES PLASSCOM END-PLUGS

### Plasson End-Plugs

#### DESCRIPTION

End-plugs from the product line specially designed for telecom industry. Orange color visually identifies telecom duct lines and is more visually protected due its high visibility in the trench. Available from 25 to 63mm duct OD.



#### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                     | MoQ | Package    |
|----------|--------------|----------------------------------|-----|------------|
| AC0014   | KPPC25       | PP end-plug PLASSCOM diam. 25 mm | 10  | 10 pcs box |
| AC0015   | KPPC32       | PP end-plug PLASSCOM diam. 32 mm | 10  | 10 pcs box |
| AC0016   | KPPC40       | PP end-plug PLASSCOM diam. 40 mm | 5   | 5 pcs box  |
| AC0017   | KPPC50       | PP end-plug PLASSCOM diam. 50 mm | 5   | 5 pcs box  |
| AC0018   | KPPC63       | PP end-plug PLASSCOM diam. 63 mm | 2   | 2 pcs box  |

## End-Plugs With Valve

### DESCRIPTION

End-plug with valve which enables quick and easy pressurization of the buried duct route. This hermetic test is a very important quality test of your duct route.



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                     | MoQ | Package    |
|----------|--------------|----------------------------------|-----|------------|
| AC0140   | KPC20V       | PP end-plug C-Plast 20mm + valve | 10  | 10 pcs box |
| AC0141   | KPC25V       | PP end-plug C-Plast 25mm + valve | 10  | 10 pcs box |
| AC0142   | KPC32V       | PP end-plug C-Plast 32mm + valve | 5   | 10 pcs box |
| AC0143   | KPC40V       | PP end-plug C-Plast 40mm + valve | 2   | 10 pcs box |
| AC0144   | KPC50V       | PP end-plug C-Plast 50mm + valve | 10  | 10 pcs box |
| AC0145   | KPC63V       | PP end-plug C-Plast 63mm + valve | 10  | 10 pcs box |



DuraDuct

## Reducing Coupling Plasson



### DESCRIPTION

Plasson reducing couplings are designed to withstand working pressures of up to 16bar.  
These fittings are manufactured in diameters ranging from 16mm to 160 mm.



### MAIN FEATURES & CHARACTERISTICS

- ✓ No metal parts, PP
- ✓ High quality, standard in telecom industry
- ✓ Max. pressure 16 Bars

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                             | MoQ | Package     |
|----------|--------------|--|-----|-------------|
| AC0019   | RPP20/16     | Reducing coupling PLASSON diam. 20/16 mm | 10  | 300 pcs box |
| AC0020   | RPP25/16     | Reducing coupling PLASSON diam. 25/16 mm | 10  | 220 pcs box |
| AC0021   | RPP25/20     | Reducing coupling PLASSON diam. 25/20 mm | 10  | 200 pcs box |
| AC0022   | RPP32/20     | Reducing coupling PLASSON diam. 32/20 mm | 10  | 150 pcs box |
| AC0023   | RPP32/25     | Reducing coupling PLASSON diam. 32/25 mm | 10  | 120 pcs box |
| AC0024   | RPP40/25     | Reducing coupling PLASSON diam. 40/25 mm | 10  | 90 pcs box  |
| AC0025   | RPP40/32     | Reducing coupling PLASSON diam. 40/32 mm | 10  | 90 pcs box  |
| AC0026   | RPP50/25     | Reducing coupling PLASSON diam. 50/25 mm | 10  | 70 pcs box  |
| AC0027   | RPP50/32     | Reducing coupling PLASSON diam. 50/32 mm | 10  | 70 pcs box  |
| AC0028   | RPP50/40     | Reducing coupling PLASSON diam. 50/40 mm | 10  | 60 pcs box  |
| AC0029   | RPP63/25     | Reducing coupling PLASSON diam. 63/25 mm | 10  | 50 pcs box  |
| AC0030   | RPP63/32     | Reducing coupling PLASSON diam. 63/32 mm | 10  | 45 pcs box  |
| AC0031   | RPP63/40     | Reducing coupling PLASSON diam. 63/40 mm | 10  | 40 pcs box  |
| AC0032   | RPP63/50     | Reducing coupling PLASSON diam. 63/50 mm | 10  | 36 pcs box  |

## C-Plast Reducing Coupling

### DESCRIPTION

High quality reducing couplings that are blue in color. Designed as PN 16, they are durable and built to withstand all telecom applications with working pressure of 16 bars.



### MAIN FEATURES & CHARACTERISTICS

- ✓ No metal parts, PP
- ✓ High quality, standard in telecom industry
- ✓ Max. pressure 16 Bars



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                             | MoQ | Package    |
|----------|--------------|--|-----|------------|
| AC0114   | RPC20/16     | Reducing coupling C-plast diam. 20/16 mm | 10  | 45 pcs box |
| AC0115   | RPC25/16     | Reducing coupling C-plast diam. 25/16 mm | 10  | 45 pcs box |
| AC0116   | RPC25/20     | Reducing coupling C-plast diam. 25/20 mm | 10  | 45 pcs box |
| AC0117   | RPC32/20     | Reducing coupling C-plast diam. 32/20 mm | 10  | 30 pcs box |
| AC0118   | RPC32/25     | Reducing coupling C-plast diam. 32/25 mm | 10  | 30 pcs box |
| AC0119   | RPC40/25     | Reducing coupling C-plast diam. 40/25 mm | 10  | 18 pcs box |
| AC0120   | RPC40/32     | Reducing coupling C-plast diam. 40/32 mm | 10  | 18 pcs box |
| AC0121   | RPC50/32     | Reducing coupling C-plast diam. 50/32 mm | 10  | 22 pcs box |
| AC0122   | RPC50/40     | Reducing coupling C-plast diam. 50/40 mm | 10  | 20 pcs box |
| AC0123   | RPC63/40     | Reducing coupling C-plast diam. 63/40 mm | 10  | 20 pcs box |
| AC0124   | RPC63/50     | Reducing coupling C-plast diam. 63/50 mm | 10  | 20 pcs box |



DuraDuct

## Simplex JM Plugs



### DESCRIPTION

Simplex plugs effectively seal HDPE ducts occupied with a single cable. These plugs are removable & reusable. Proper sealing around cable in conduits and subducts is important to prevent the costly flooding of buildings and sedimentation of the area around the cable. These easily removable and reusable devices facilitate the redistribution of cable slack by ensuring a clear raceway around outside plant cables.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Water-tight and air-tight
- ✓ Seals all types of inner duct
- ✓ Easy to retrofit
- ✓ Wide cable sealing range
- ✓ Installs and removes by hand

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name  | MoQ | Package    |
|----------|--------------|---|-----|------------|
| AC0068   | 07S035SB     | Simplex plug JM 25/20-21.5 mm for cable 7-9mm         | 10  | 50 pcs box |
| AC0069   | 07S057SB     | Simplex plug JM 25/20-21.5 mm for cable 10-14mm       | 10  | 50 pcs box |
| AC0072   | 10S035S      | Simplex plug JM 32/25.4-29 mm for cable 6.9-8.9mm     | 10  | 50 pcs box |
| AC0073   | 10S057SB     | Simplex plug JM 32/25.4-29 mm for cable 8.9-14.5mm    | 10  | 50 pcs box |
| AC0074   | 10S070SB     | Simplex plug JM 32/25.4-29 mm for cable 13-18mm       | 10  | 50 pcs box |
| AC0077   | 12S035S      | Simplex plug JM 40/31-34.5 mm for cable 5-9mm         | 10  | 50 pcs box |
| AC0078   | 12S057SB     | Simplex plug JM 40/31-34.5 mm for cable 8.9-14.5mm    | 10  | 50 pcs box |
| AC0079   | 12S070SB     | Simplex plug JM 40/31-34.5 mm for cable 13-18mm       | 10  | 50 pcs box |
| AC0080   | 12S090SB     | Simplex plug JM 40/31-34.5 mm for cable 18-22.9mm     | 10  | 50 pcs box |
| AC0086   | 15S057SB     | Simplex plug JM 50/37.1-41.9 mm for cable 8.9-14.5 mm | 10  | 50 pcs box |
| AC0087   | 15S070SB     | Simplex plug JM 50/37.1-41.9 mm for cable 13-18 mm    | 10  | 50 pcs box |
| AC0088   | 15S090SB     | Simplex plug JM 50/37.1-41.9 mm for cable 18-22.9 mm  | 10  | 50 pcs box |

## Blank Plug JM

### DESCRIPTION

Blank plugs effectively seal empty HDPE duct ends. These plugs are removable & reusable.

Proper sealing of your conduits and subducts is important to prevent the costly flooding of buildings and sedimentation inside.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Water-tight and air-tight
- ✓ Easy to retrofit
- ✓ Wide dimension range
- ✓ Installs and removes by hand



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                    | MoQ | Package    |
|----------|--------------|---------------------------------|-----|------------|
| AC0067   | 7D100U       | Blank plug for HDPE 18-26 mm    | 10  | 50 pcs box |
| AC0071   | 10D104U      | Blank plug for HDPE 32/24-30 mm | 10  | 50 pcs box |
| AC0076   | 12D148U      | Blank plug for HDPE 40/29-38 mm | 10  | 50 pcs box |
| AC0085   | 15D183U      | Blank plug for HDPE 50/38-46 mm | 10  | 50 pcs box |
| AC0090   | 20D236U      | Blank plug for HDPE 63/46-60 mm | 10  | 50 pcs box |
| AC0091   | 25D296U      | Blank plug for HDPE 60-76 mm    | 10  | 50 pcs box |
| AC0092   | 30D346U      | Blank plug for HDPE 76-88 mm    | 10  | 50 pcs box |
| AC0093   | 35D400U      | Blank plug for HDPE 87-102 mm   | 10  | 50 pcs box |
| AC0095   | 40D402U      | Blank plug for HDPE 100-110 mm  | 10  | 50 pcs box |
| AC0097   | 50D535U      | Blank plug for HDPE 127-136 mm  | 10  | 50 pcs box |
| AC0098   | 60D637U      | Blank plug for HDPE 148-162 mm  | 10  | 36 pcs box |



DuraDuct

## Plastic Cap



### DESCRIPTION

Soft PVC caps provides anti-dust protection of your duct ends. They have an excellent resistance to weather conditions and UV radiation. Ideally used for transport, storage or installation period of your ducts.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Resistant to acids, alkalis and salts.
- ✓ Flexible, easily adaptable, does not crack.
- ✓ Short-term resistance to thermal shock up to 120 °C
- ✓ Production tolerance – wall thickness ±0.3 mm, length ±1 mm

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name      | MoQ | Package        |
|----------|--------------|-------------------|-----|----------------|
| OM0046   | PC16         | Plastic cap 16 mm | 20  | 100 pcs in box |
| OM0095   | PC20         | Plastic cap 20 mm | 20  | 100 pcs in box |
| OM0064   | PC25         | Plastic cap 25 mm | 20  | 100 pcs in box |
| OM0045   | PC32         | Plastic cap 32 mm | 20  | 100 pcs in box |
| OM0044   | PC40         | Plastic cap 40 mm | 20  | 100 pcs in box |
| OM0053   | PC50         | Plastic cap 50 mm | 20  | 100 pcs in box |
| OM0122   | PC63         | Plastic cap 63 mm | 20  | 100 pcs in box |

## Electronic Marker

### DESCRIPTION

The Electronic Marker System quickly pinpoints the location of buried facilities including buried splices, fiber optic facilities, service drops and manholes. It eliminates the time consuming search for hard-to-locate facilities.

Markers operate even in the presence of metal conduit or pipe, metallic conductors, fences.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Ball Marker - Extended Range Ball Marker - provides self-leveling design providing accurate, horizontal position regardless of how it is placed in the ground and making the job of precisely locating easier. Detectable up to 1.5 m deep.
- ✓ Mid Range - designed to provide an accurate, convenient, long-lasting method of marking underground communications facilities. Detectable up to 1.8 m deep.



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                    | MoQ | Package       |
|----------|--------------|---------------------------------|-----|---------------|
| AC0001   | MMK3M1401    | Mini-marker ball-shaped 1401-XR | 2   | 10 pcs in box |
| AC0002   | MMP3M1255    | Mini-Marker 1255                | 2   | 10 pcs in box |

Other markers available on request.

## Lubricant 2000



### DESCRIPTION

Lubricant 2000 is an ideal mixture for cable & micro-duct blowing, increasing blowing distance, decreasing friction of cable. It has proven superior to paraffin oils and cable pulling lubricants. It is effective at a coating thickness of 0.5mg/cm<sup>2</sup>, therefore the lubricant must be spread by blowing a foam carrier through the duct. It is delivered in bottles of 95 cl.

### MAIN FEATURES & CHARACTERISTICS

- ✓ Lowers friction, increases blowing distance
- ✓ Low overall cost, effective formula
- ✓ Easy application

### RECOMMENDED VOLUME

| Duct size ID | Quantity per KM |
|--------------|-----------------|
| 24-29        | 300-400 ml      |
| 30-37        | 400-500 ml      |
| 38-46        | 500-600 ml      |

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name   | MoQ | Package    |
|----------|--------------|--|-----|------------|
| AC0138   | PREL2000     | High performance Lubricant 0.95l for cable/micro-ducts air jetting | 1   | 12 bottles |

## Warning Tape

### DESCRIPTION

Buried on top of underground telecom lines, warning tape works as a durable, high-visibility warning element resistant to acids, alkalis and other soil substances.

It is very economical to use over entire length of line compared to the cost of damage.

There is plenty of options (colors, printing, detectable wire etc.) available on request.



### MAIN FEATURES & CHARACTERISTICS

- ✓ Thickness: 0,08 mm
- ✓ Width: 22 cm
- ✓ Material: LDPE
- ✓ Printing: on request
- ✓ Package: 250 m coils

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name   | MoQ | Package |
|----------|--------------|--|-----|---------|
| AC0051   | VF22         | Warning tape – orange, 22 cm width, no print, 250 m coil | 1   | 1 coil  |

*Other variants on request.*

## Conduit Spacer



### DESCRIPTION

Conduit spacers help organize your ducts in the trench. They should be placed every 10-15 meters depending on the route of the duct.

### MAIN FEATURES & CHARACTERISTICS

- ✓ Fully divisible
- ✓ 0,5 bar gas-tight
- ✓ Max. blowing short term pressure 10 bars

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                  | MoQ    | Package    |
|----------|--------------|-------------------------------|--------|------------|
| AC0135   | DD040_10     | Duct spacer dia 40 mm, 2x5 pc | 50 pcs | 50 pcs box |

## Duct Cutter ROTH



### DESCRIPTION

The cutting tool with wide dimension range from 10–67 mm. Simple & precise right-angle cuts of PE, PP, PEX & PB ducts even when occupied with cable.

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name   | MoQ | Package     |
|----------|--------------|--|-----|-------------|
| AC0007   | TROTH67      | Automatic duct cutter ROTH to diam. 67 mm            | 1   | 1 pc in box |
| AC0004   | NKROTH       | Spare cutter wheel 7 mm for duct cutter TROTH67 3 pc | 1   | 1 pc in box |



## Duct Shears

### DESCRIPTION

Very robust, high quality duct shears for precise cutting of PP, PE, PEX & PB ducts up to 63 mm.



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                        | MoQ | Package     |
|----------|--------------|-------------------------------------|-----|-------------|
| AC0005   | RN42         | Pipe shears for HDPE to diam. 42 mm | 1   | 1 pc in box |
| AC0006   | RN63         | Pipe shears for HDPE to diam. 63 mm | 1   | 1 pc in box |

## Duct Shears SC – Basic



### DESCRIPTION

Basic plastic duct shears for cutting HDPE ducts up to 42 mm.

### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                     | MoQ | Package     |
|----------|--------------|----------------------------------|-----|-------------|
| AC0056   | NSC32        | Pipe shears SC1 upto diam. 32 mm | 1   | 1 pc in box |
| AC0057   | NSC42        | Pipe shears SC1 upto diam. 42 mm | 1   | 1 pc in box |



## Longitudinal Cutter



### DESCRIPTION

Special cutting tool for longitudinal cuts of HDPE ducts. Used when duct is already occupied with FO cable or micro-ducts.

## TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                                   | MoQ | Package     |
|----------|--------------|--|-----|-------------|
| AC0099   | RPR3         | Longitudinal cutter KMS-K                      | 1   | 1 pc in box |
| AC0100   | RPRNC        | Spare blade for duct longitudinal cutter KMS-K | 1   | 1 pc in box |

## Deburring tool



### DESCRIPTION

Hand held deburring tool chamfering the inner/outer edge of your duct for smooth & easy installation of couplings.

## TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                                     | MoQ | Package     |
|----------|--------------|--|-----|-------------|
| AC0052   | ODH40        | Deburring tool for HDPE 40mm, inner/outer edge   | 1   | 1 pc in box |
| AC0053   | ODH50        | Deburring tool for HDPE 50mm, inner/outer edge   | 1   | 1 pc in box |
| AC0054   | ODH63        | Deburring tool for HDPE 63mm, inner/outer edge   | 1   | 1 pc in box |
| AC0139   | ODH16-63     | Deburring tool for HDPE 16-63mm, outer edge only | 1   | 1 pc in box |



## Pulling Grip

### DESCRIPTION

These grips with a longer lattice length are ideal for pulling light to medium loads. Ideal to pull lengths of FO cables or micro-ducts.



### TABLE OF ARTICLES

| SAP Code | Product Code | Product Name                      | MoQ | Package   |
|----------|--------------|-----------------------------------|-----|-----------|
| AC0003   | ZPL6         | Pulling grip L6 for dia. 4-6 mm   | 3   | 3 pcs box |
| AC0066   | ZPL9         | Pulling grip L9 for dia. 6-9 mm   | 3   | 3 pcs box |
| AC0062   | ZPL12        | Pulling grip L12 for dia. 9-12 mm | 3   | 3 pcs box |
| AC0063   | ZPL19        | Pulling grip for dia. 12-19 mm    | 2   | 2 pcs box |
| AC0064   | ZPL25        | Pulling grip for dia. 19-25 mm    | 2   | 2 pcs box |
| AC0065   | ZPL32        | Pulling grip for dia. 25-32 mm    | 2   | 2 pcs box |

## Packaging

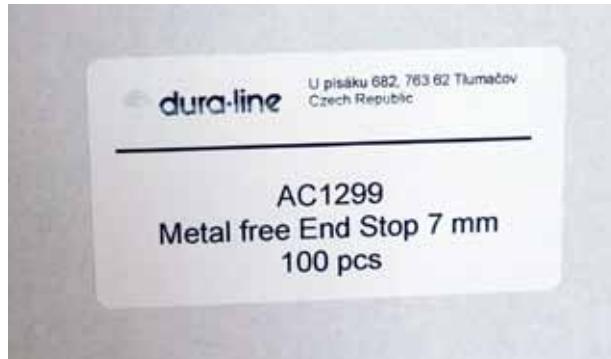


### DESCRIPTION

All the products are visually checked & delivered in bags or in white cardboard boxes with DURA-LINE logo.  
All the goods is handled with care so you receive the best quality.

### BOX DIMENSIONS: W X H X D

- ✓ Small box 30,5 x 10 x 20,5 cm
- ✓ Medium box 32,5 x 24 x 18 cm
- ✓ Large box 27 x 36 x 26 cm
- ✓ Extra Large box: 46 x 34 x 31 cm





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