Protective pipes and microtubes

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Czech

CERTIFICATE

Certification Body Management System No. 3053
TÜV SÜD Czech s.r.o.

certifies that

MAT

MATEICIUC a.s.
Ke koupališti 370/15
CZ - 742 35 Odry
Ident. No.: 60792825

has established and applies
a Quality Management System for

production and sale of extruded, injected and blow-moulded plastic products

production of ventilation ducting and other construction elements

An audit was performed, Report No. **13.648.503**

Proof has been furnished that the requirements according to

ISO 9001:2015

are fulfilled.

The certificate is valid from **25.05.2021** until **04.04.2024**

Certificate Registration No. **13.648.173**

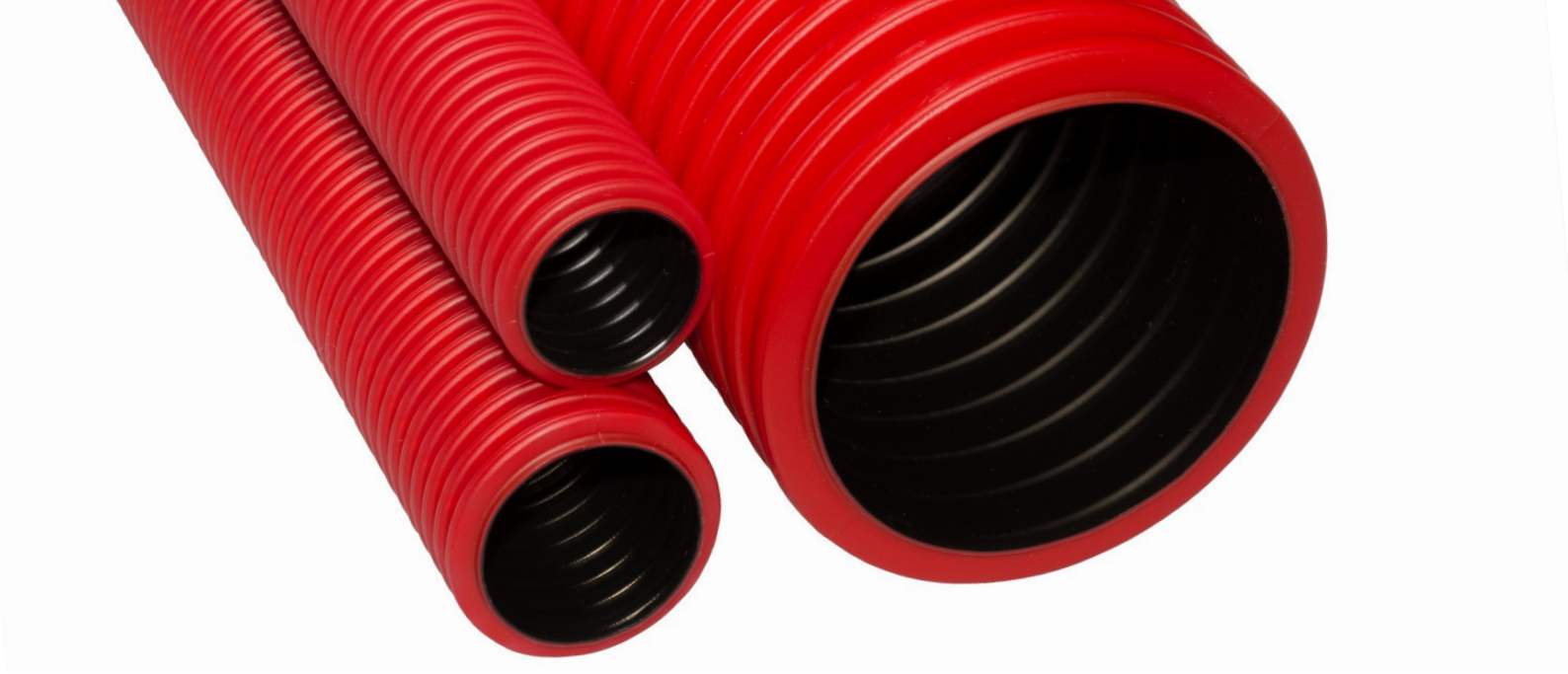
Prague, 25.05.2021

S 3053

TÜV SÜD Czech s.r.o. ● Novodvorská 994 ● 142 21 Prague 4 ● Czech Republic ● certification@tuv-sud.cz

TÜV®

F 540-019-2EN (2017-05-01) (F540_019_2EN)



DUOHARD
DUOFLEX

Double-walled protective pipes DUOHARD and DUOFLEX are intended, primarlly, for mechanical protection of cables laid in excavations and cable trenches. Generally, they are used for difficult section of cable routes such as, water courses, railway crossings, motorways. The pipes provide additional protection of water and gas supply lines, drainage or sloped sewers.

Protective pipes comply with ČSN EN 61386-24 Conduit systems for cable management (Part 24: Particular requirements – Conduit systems buried underground). They have been certified by the Testing and Certification Institute in Zlín.

Project and laying instructions for plastic cable pipes produced by MATEICIUC a.s. (prepared by EGÚ Power Engineering Institute Brno, Power Network Dept.), are intended to facilitate project activities.

DESIGN

- outer wall - corrugated
- inner wall - smooth (slight corrugation provides for excellent flexibility, does not reduce passage capacity through the pipe in bends and maintains high strength)

MATERIAL

- DUOHARD - outer and inner walls are made of HDPE
- DUOFLEX - outer walls are made of HDPE and inner wall are made of LDPE+MDPE (for diameters of 40, 50 and 63 mm) or of HDPE+LDPE (for diameters of 75 and 90 mm), or HDPE (for diameters from 110 mm)

COLOUR

- outer wall red, black or blue
- inner wall black

PACKAGING

- DUOHARD - rod 6 m
- DUOFLEX - coil 50 m (25 m for diameter 200 mm)
- pipes of each production lengths are delivered with a coupling on one end

MECHANICAL STRENGTH

- high mechanical strength owing to corrugated outer wall
- excellent impact resistance even at extreme temperature
- maximum allowed top load of protective pipes is shown in project and laying instructions issued by MATEICIUC a.s.
- mechanical properties of pipes comply with relevant technical standard ČSN EN 61386-24

HEAT RESISTANCE

- handling temperature: of -5 °C to +50 °C
- operation temperature: of -40 °C to +70 °C
- storage temperature: of -40 °C to +60 °C

FIRE RESISTANCE

- PE pipes are included in C3 inflammation class according to ČSN 73 0810

INDUCTION CURRENT RESISTANCE

- polyethylene is a very good insulating material
- no induction current is generated within the pipeline, even in the vicinity of high voltage cable ducts

IDENTIFICATION

- Ink-jet identifications: 0101040 EN61386-24 N 450 CE date (example for pipe DN 40)
- individual coils and pallets have identification tags (manufacturer name and address, protection pipe type, nominal size, quantity)

PIPE CONNECTION

- using slide-on couplings

DRAWING ELEMENT AND CABLE INTRODUCTION

- DUOFLEX protective pipes in coils (25, 50 m) have pre-installed drawing elements (PV-PAD, thickness 1,2 mm or PP string 12 500 dtex)
- cables must be introduced into pipes via drawing (blowing-in NOT possible)
- smooth inner walls provide for easy cable introduction into the pipe

ENVIRONMENT

- the used of protective pipes not damage the environment
- the used material is fully recyclable

TRANSPORT

- provide for protection of plastic pipes against mechanical damage and deformation when loading/ unloading

STORAGE

- coils be stored in horizontal position, max. storage height 2,8 m, max. storage time 3 months
- it is not recommended to store in direct sunlight
- ambient conditions must comply with ETS300 019-1-1, class 1.3E

LAYING

- observe relevant laws and technical standards when laying protective pipes for power and communication cables
- in order to maintain maximum mechanical strength of protective pipes observe installation instructions issued by MATEICIUC a.s.
- avoid too small bending radius and excessive force when installing connection and fitting devices and observe maximum allowed load
- use appropriate protection of pipe ends when laying into soil in order to prevent dirt inside the pipe which could damage the cable
- after introduction of the cable into the pipe seal both ends to prevent dirt from coming into the pipe
- seal the ends of redundant pipe (if installed)

ACCESSORIES

- coupling
- plug
- sealing ring
- spacer

		DUOFLEX			DUOHARD	
outer diameter mm	inner diameter mm	length coil m	bend radius m	pallets length m	length rod m	pallets length m
40	32	50	0,20	1200	-	-
50	40	50	0,23	400	-	-
63	51	50	0,26	-	-	-
75	61	50	0,33	350	-	-
90	75	50	0,35	300	-	-
110	94	50	0,40	200	6	456
125	105	50	0,50	-	6	408
160	136	50	0,64	-	6	168
200	171	25	0,75	-	6	162

EU DECLARATION OF CONFORMITY No. 01-1-EU-2022

Producer: MATEICIUC a.s., Ke Koupališti 370/15, 742 35 ODRY, Czech Republic, Company Reg No. 60792825

we declare under our sole responsibility that

1) PRODUCT:

Pipes DUOFLEX (flexible) d 40 mm – d 200 mm and pipes DUOHARD (rigid) d 75 mm – d 200 mm, connected with double plastic fittings for electric installation buried underground.

2) TYPE:

DUOFLEX								
D 40	D 50	D 63	D 75	D 90	D 110	D 125	D 160	D 200
0101040	0101050	0101063	0101075	0101090	0101110	0101125	0101160	0101200

DUOHARD								
/	/	/	D 75	D 90	D 110	D 125	D 160	D 200
/	/	/	0102075	0102090	0102110	0102125	0102160	0102200

3) SUBJECT OF THE DECLARATION:

Double –walled protective pipes made of PE-HD polyethylene, type DUOFLEX and type DUOHARD, are intended as mechanical protection of optical and coaxial cables in trenches and cable ducts laid underground. Resistance to compression is min. 450 N/200 mm, impact resistance normal (code N).

4) THE SUBJECT OF THIS DECLARATION DESCRIBED ABOVE CONFORMS WITH THE RELEVANT EUROPEAN UNION STANDARDISATION LEGISLATION AND OTHER REGULATIONS:

EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 2014/35/EU dated 26 February 2014.

Standard ČSN EN 61386-24 Conduit systems for cable laying– Part 24: Specific requirements – Underground conduit systems. Act No.90/2016 Sb. as amended. Government Regulation No. 118/2016 Sb. as amended.

5) CERTIFICATION, NOTIFIED SUBJECT:

The assessment is given in CERTIFICATE No. 200477 T/ITC and in final protocol No.313501030/2020.
Issued by: INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a.s. Zlín, Czech Republic.

6) WE HEREBY CONFIRM THAT:

The EU declaration was issued in accordance with Act No.90/2016 Sb. as amended. In case of mechanical compaction of layers above the protector, take care not to exceed the value of the load capacity of the protector. The MATEICIUC a.s. Company, is certified according to ČSN EN ISO 9001:2016. This EU Declaration of Conformity supersedes all prior statements issued for this type of product.

In Odry date 1. 3. 2022

Alois Mik
Sales & technical support

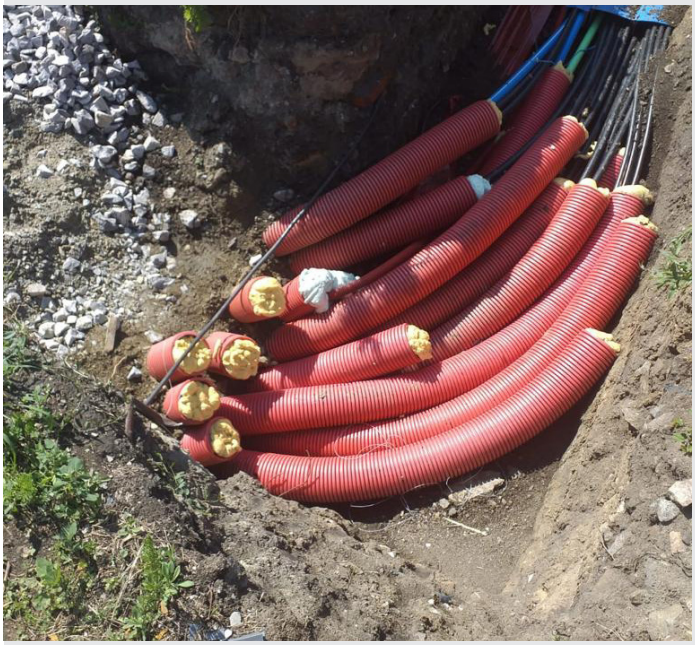
ACCESSORIES:

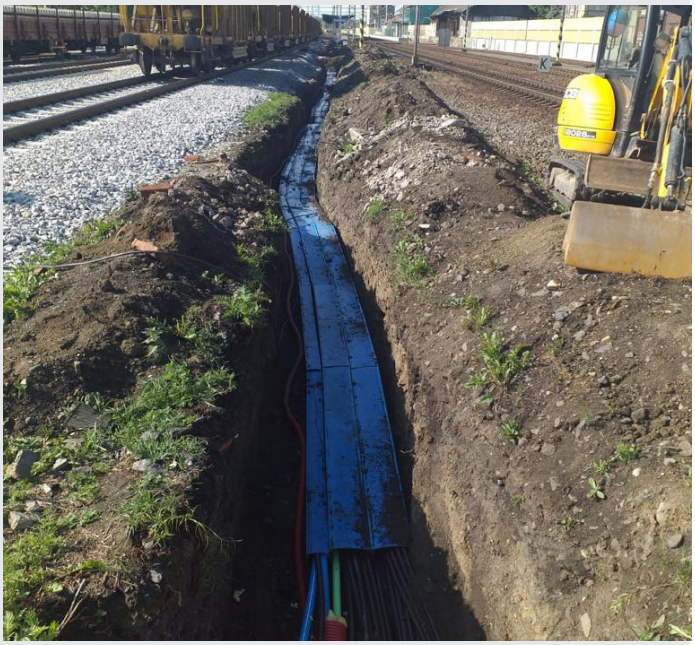
Couplings, PE material, resistance to external influences IP 30.

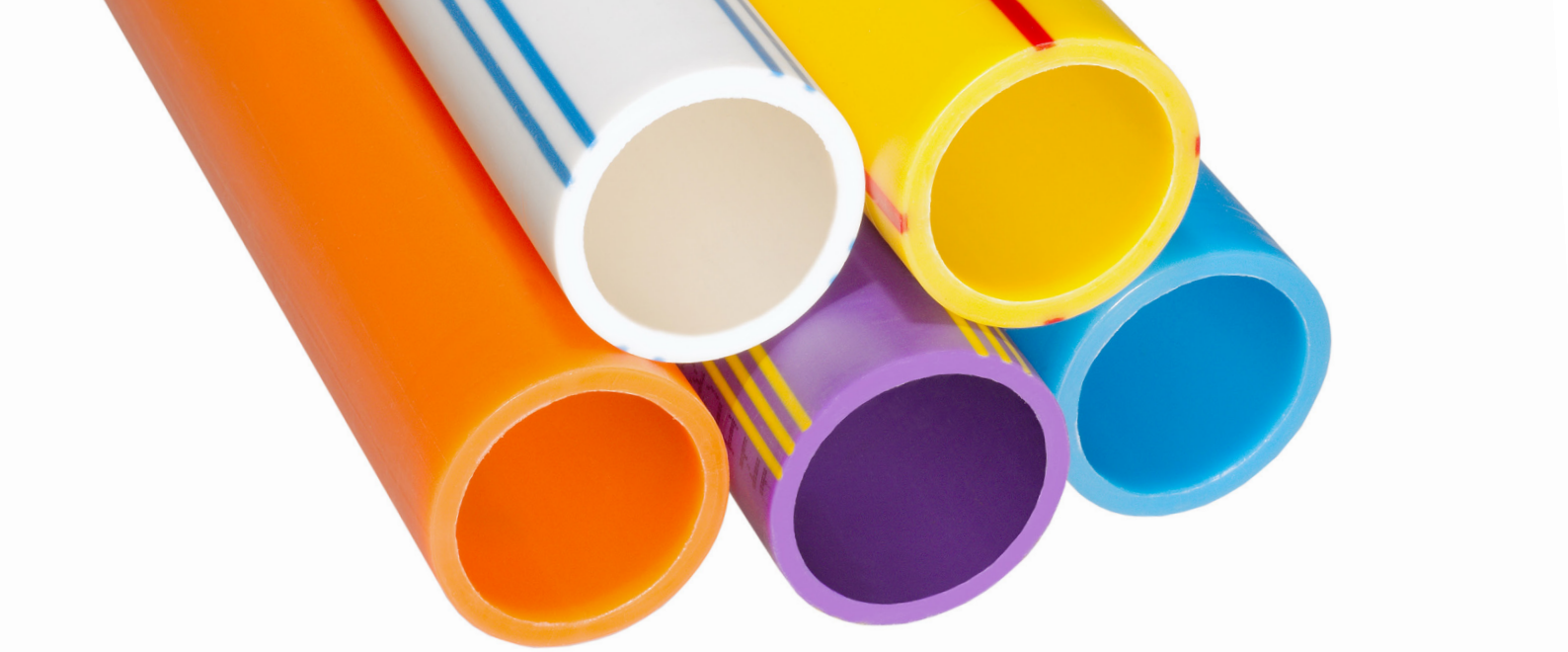
Identification	Name
501OBAL01997	Coupling 40
501OBAL01998	Coupling 50
501OBAL01999	Coupling 63
501OBAL02000	Coupling 75
501OBAL02001.0	Coupling 90
501OBAL02001.1	Coupling 110
501OBAL02002	Coupling 125
501OBAL02003	Coupling 160
501OBAL02004	Coupling 200

Spacer, PP material.

Identification	Name
07114040	Spacer 40/10 (2×5)
07114090	Spacer 90/8 (4×2)
072141108	Spacer 110/8 (4×2)
07114125.1	Spacer 125/8 (4×2)
072142008	Spacer 200/8 (4×2)







OPTOHARD

Single-walled protective pipes OPTOHARD are intended, primarily, for mechanical protection of optical and coaxial cables laid in trenches and channels (building/ reconstruction of transmission lines). Mechanical properties of HDPE protective pipes and low friction coeifficient of the ihned wall allow for trouble-free cable installation at long distance (on ideal conditions, up to 3000 m). Cable introduction into the pipe via drawing or blowing-in technology.

Protective pipes comply with ČSN EN 61386-24 Conduit systems for cable management (Part 24: Particular requirements - Conduit systems buried underground). They have been certified by the Testing and Certification Institute in Zlín.

Project and laying instructions for plastic cable pipes produced by MATEICIUC a.s. (prepared by EGÚ Power Engineering Institute Brno, Power Network Dept.), are intended to facilitate project activities.

DESIGN

- outer wall smooth
- inner wall smooth or longitudinal grooving

MATERIAL

- HDPE

COLOUR

- based on customer request
- on request by the customer, the pipes of the same colour can be differentiated using one, two or three longitudinal stripes around the pipe (90° intervals)

PACKAGING

- wood reel - size 225x117 cm
- coil - length 200 m, size 165x40 cm
- - length 300 m, size 190x40 cm
- tube ends are protected with plugs preventing dirt from coming into the tube

MECHANICAL STRENGTH

- high mechanical strength even at low temperatures
- maximum allowed top load of protective pipes is shown in project and laying instructions issued by MATEICIUC a.s.
- mechanical properties of pipes comply with ČSN EN 61386-24

HEAT RESISTENCE

- handling temperature: of +5 °C to +50 °C
- operation temperature: of -40 °C to +70 °C
- storage temperature: of -40 °C to +60 °C

FIRE RESISTENCE

- PE pipes are included in C3 inflammation class according to ČSN 73 0810

INDUCTION CURRENT RESISTENCE

- polyethylene is a very good insulating material
- no induction current is generated within the pipeline, even in the vicinity of high voltage cable ducts

IDENTIFICATION

- standard identification: pipe type and dimension in mm * producer * relevant technical standard * N 750 * manufacturing date * length in m
- at the customer's request, the logo and the manufacturer's name can be replaced with another logo and name
- the identification is printed in 1 m intervals
- the lettering is standard black and min. 4 mm in size

PIPE CONNECTION

- mechanical couplings

BENDING DIAMETER

- the minimum is ten fold the outer pipe diameter

ENVIRONMENT

- the used of protective pipes not damage the environment
- the used material is fully recyclable

TRANSPORT

- provide for protection of plastic pipes against mechanical damage and deformation when loading/ unloading

STORAGE

- small coils must be stored in horizontal position, max. storage height 2 m and max. storage time up 3 months
- it is not recommended to store in direct sunlight
- ambient conditions must comply with ETS 300 019-1-1, class 1.3E.

LAYING

- observe relevant laws and technical standards when laying protective pipes for power and communication cables
- in order to maintain maximum mechanical strength of protective pipes observe installation instructions issued by MATEICIUC a.s.
- use appropriate protection of pipe ends when laying into soil in order to prevent dirt inside the pipe which could damage the cable
- after introduction of the cable into the pipe seal both ends to prevent dirt from coming into the pipe
- seal the ends of redundant pipe (if installed)

ACCESSORIES

- I, Y, T-branch joint coupling
- vented end coupling
- spacer
- cable gland

outer diameter	inner diameter	length on wood reel	length on coil
mm	mm	m	m
32	27	2500	200, 300
40	33	1800	200, 300
40	34	1800	200, 300

EU DECLARATION OF CONFORMITY No. 02-1-EU-2022

Producer: MATEICIUC a.s., Ke Koupališti 370/15, 742 35 ODRY, Czech Republic, Company Reg No. 60792825

we declare under our sole responsibility that

1) PRODUCT:

Smooth pipes made of PE-HD polyethylene, type OPTOHARD, d 32 mm – d 40 mm, connected using PP mechanical fittings.

2) TYPE:

OPTOHARD		
D 32 × 2,5	D 40 × 3	D 40 × 3,5
0103032	01030400301	010304003

3) SUBJECT OF THE DECLARATION:

Smooth pipes made of PE-HD polyethylene, type OPTOHARD, d 32 mm – d 40 mm, made from PE, are intended as mechanical protection of optical and coaxial cables in trenches and cable ducts laid underground. Resistance to compression is min. 750 N/200 mm, impact resistance normal (code N).

4) THE SUBJECT OF THIS DECLARATION DESCRIBED ABOVE CONFORMS WITH THE RELEVANT EUROPEAN UNION STANDARDISATION LEGISLATION AND OTHER REGULATIONS

EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 2014/35/EU dated 26 February 2014.

Standard ČSN EN 61386-24 Conduit systems for cable laying– Part 24: Specific requirements – Underground conduit systems. Act No.90/2016 Sb. as amended. Government Regulation No. 118/2016 Sb. as amended.

5) CERTIFICATION, NOTIFIED SUBJECT:

The assessment is given in CERTIFICATE No. 20 0445 T and in final protocol No.373500497/2020.
Issued by: Product Certification Body INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a.s. třída Tomáše Bati 299, Louky, 763 02 Zlín, Czech Republic.

6) WE HEREBY CONFIRM THAT:

The EU declaration was issued in accordance with Act No.90/2016 Sb. as amended. In case of mechanical compaction of layers above the protector, take care not to exceed the value of the load capacity of the protector. The MATEICIUC a.s. Company, is certified according to ČSN EN ISO 9001:2016. This EU Declaration of Conformity supersedes all prior statements issued for this type of product.

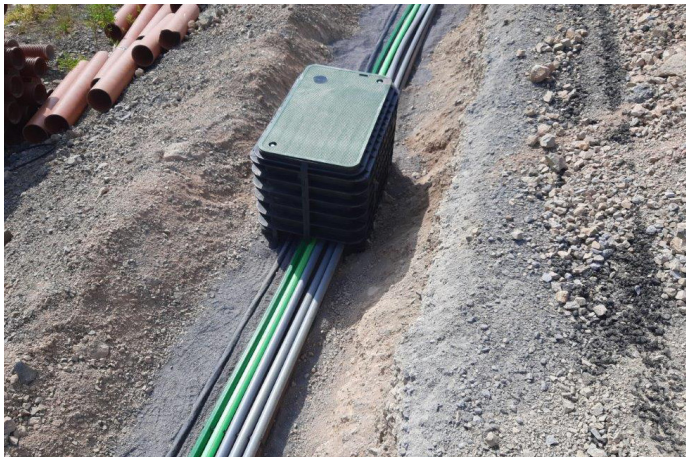
In Odry date 2. 3. 2022

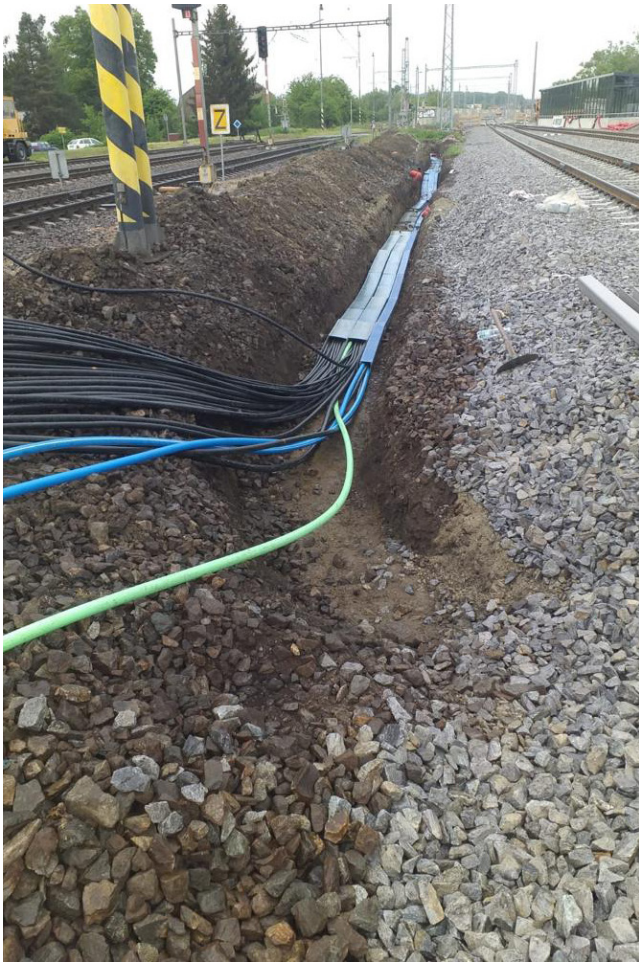
Alois Mik
Sales & technical support

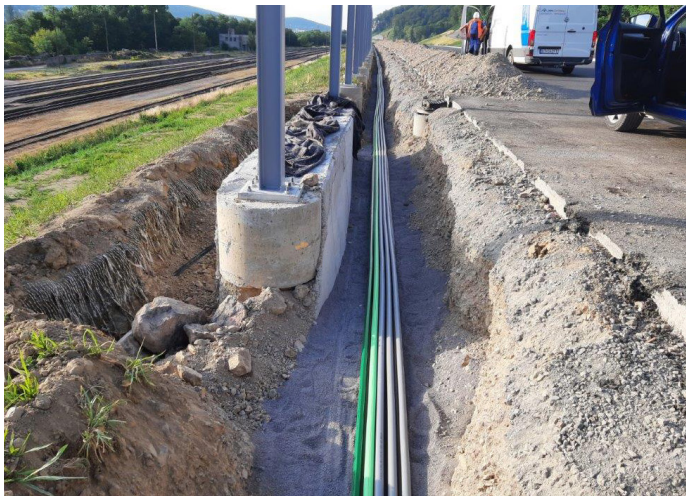
ACCESSORIES:

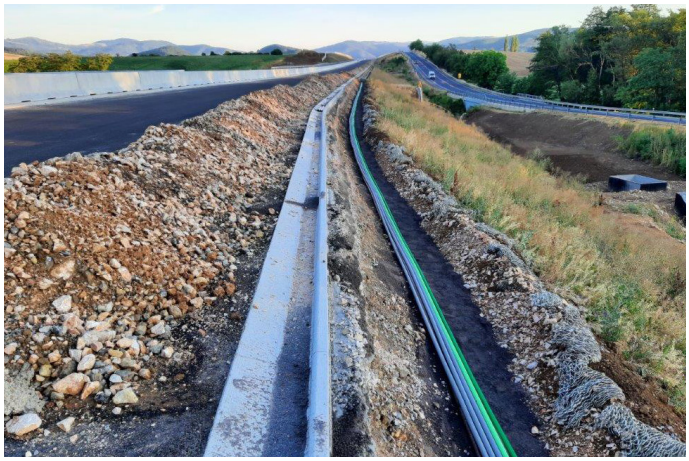
Couplings, endings, PP material

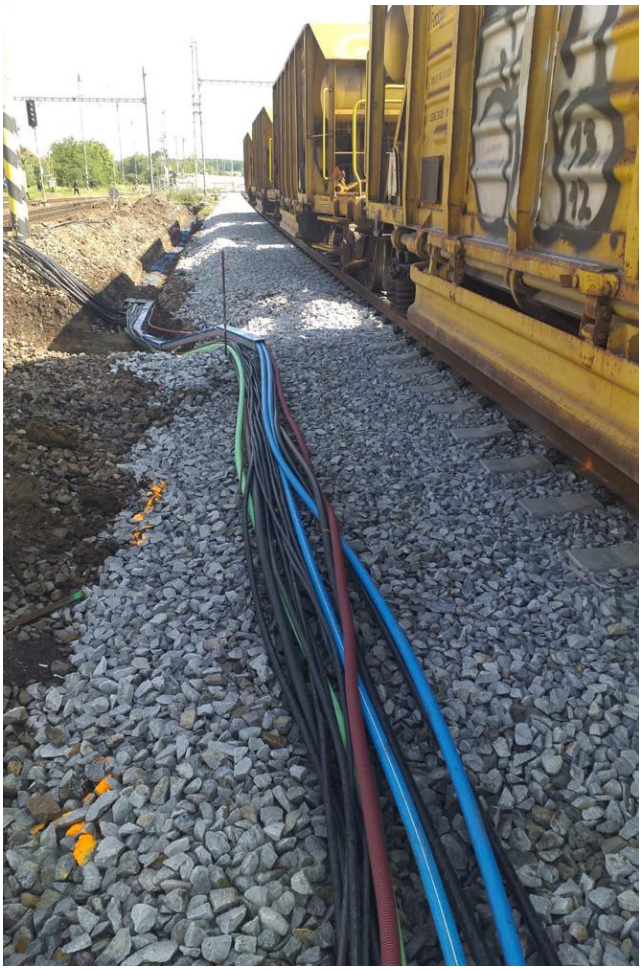
Identification	Name
06101032	PL coupling 32
06112032	PL ending 32
06112032.1	PL ending 32 with walve
061010401	PL coupling 40
06112040	PL ending 40
06112041	PL ending 40 with walve

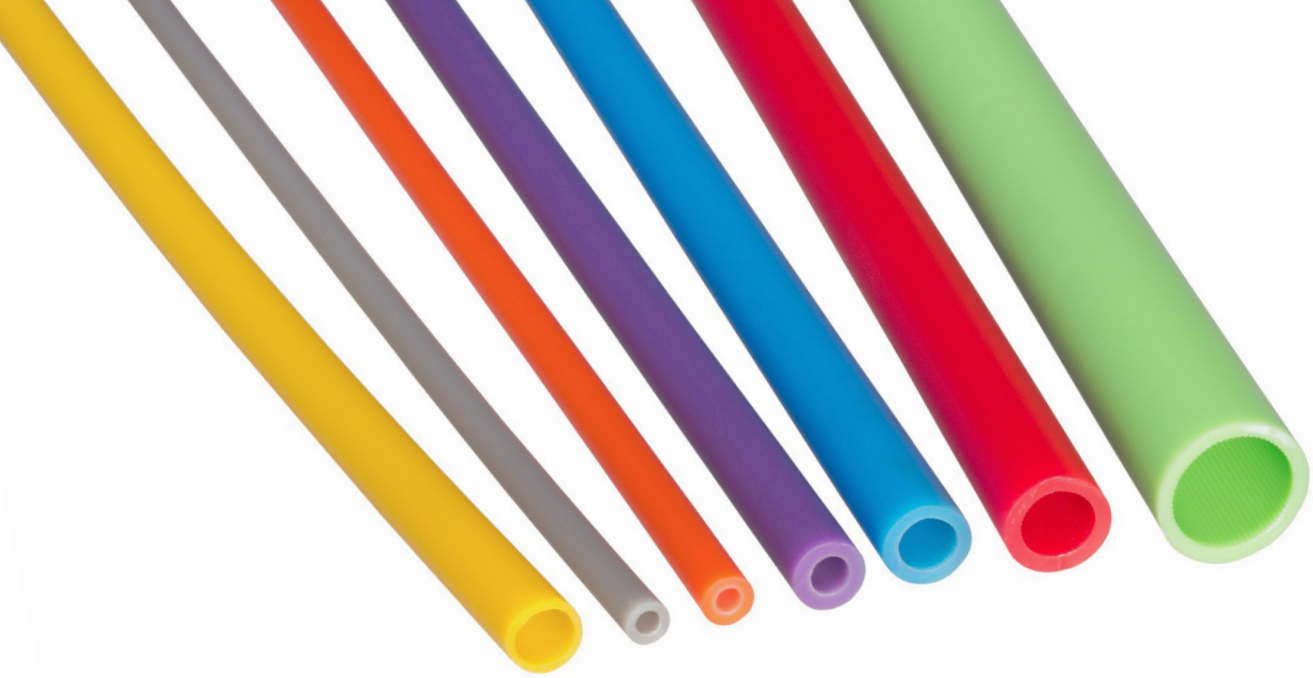












MIKROHARD

Single wall protective pipes MIKROHARD are designed for the latest technology used for optical networks FTTx (Fibre-to-the-X) micro technology. Microducts can be used for installation in an existing ducts of HDPE tubes (MIKROHARD DI), same as for direct installation in the ground without the use of additional protective tube (MIKROHARD DB).

Various quantities of microducts can be installed inside OPTOHARD protectors depending on the inner diameter of the protector and the outer diameter of the microtube (these quantities are derived from the need to install microcables with varying numbers of optical fibres).

DESIGN

- standard (DI)
  - inner wall smooth or grooved, with sliding layer
  - outer wall smooth
- hardened (DB)
  - inner wall smooth or grooved, with sliding layer
  - outer wall smooth

STANDARD PRIMARY MICRODUCTS (DI)

- these are designed for installation into existing OPTOHARD protective tubes, both empty and partially full. Microducts are installed by blowing or pulling for shorter distances

HARDENED MICRODUCTS (DB)

- these are designed for installation into trenches when constructing new access networks without additional protective tubes. The reinforced walls and mechanical properties of these microducts ensure adequate protection for optical microcables

Standard primary microducts (DI)

outer diameter	inner diameter	length on drum	bend radius	max. installation tension force at 20 °C	max. blowing pressure
mm	mm	m	mm	N	bar
7	5,5	2500	70	200	16
10	8	2500	100	380	16
12	10	2500	120	490	16
14	12	1500	140	500	16

MATERIAL

- HDPE
- with UV stabiliser on request

COLOUR

- according to RAL

2004 1037 5015 3020 6018 6029 7045 4005 8016 1011 9011 natur

PACKAGING

- supplied on drum (front made of plywood, core made of pressed paper)

HEAT RESISTANCE

- handling temperature: of +5 °C to +50 °C
- operation temperature: of -40 °C to +70 °C
- storage temperature: of -40 °C to +60 °C

IDENTIFICATION

- standard description: pipe name*material*dimension*design*production time*length
- labels always spaced 1 m apart
- the lettering is standard black and min. 2 mm in size

ENVIRONMENT

- the used of microducts not damage the environment
- the used material is fully recyclable

STORAGE

- max. storage time up 3 months if stored outdoors in Central Europe
- it is not recommended to store in direct sunlight, does not contain UV stabilizer

ACCESSORIES

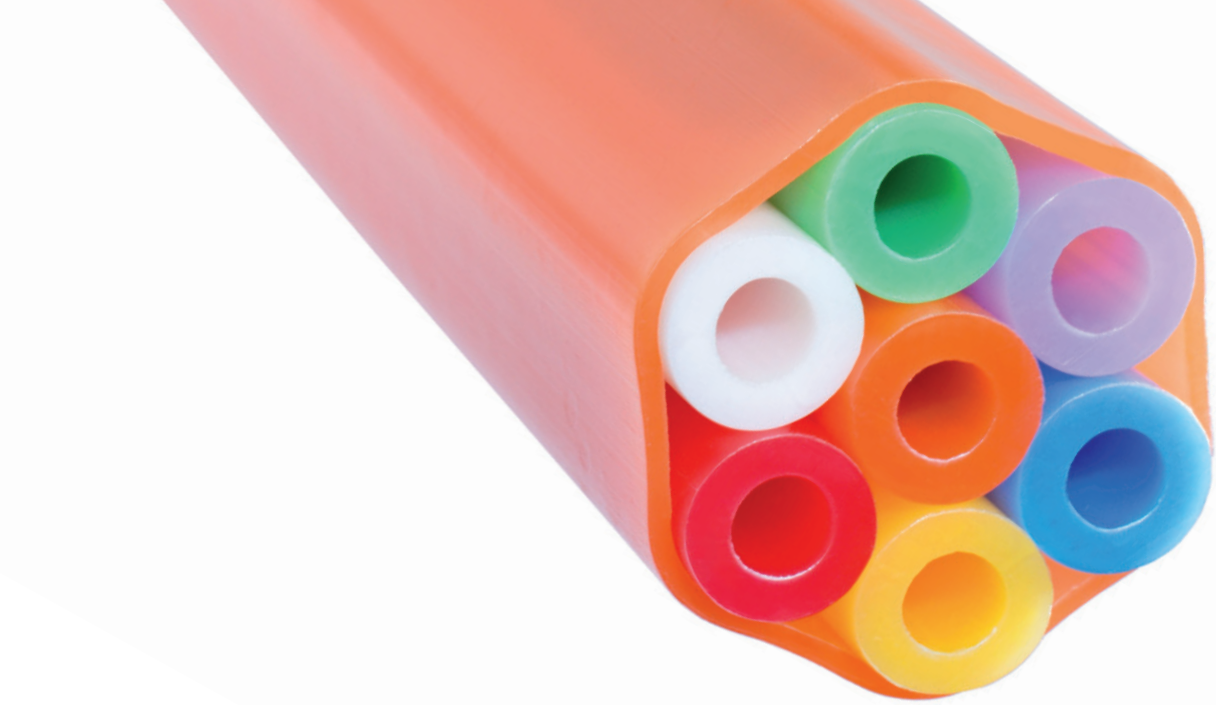
- connector and end stop – Direct Install / Direct Bury
- connector GR/WB
- split end stop GB/WB
- plug

Drum dimension

front diameter	core diameter	drum width	bore
mm	mm	mm	mm
900	300	600	75,5

Hardened microducts (DB)

outer diameter	inner diameter	length on drum	bend radius	max. installation tension force at 20 °C	max. blowing pressure
mm	mm	m	mm	N	bar
7	3,5	2500	60	390	20
7	4	2500	70	350	20
10	5,5	2500	100	750	20
12	8	2000	120	760	20
14	10	1500	140	980	20
16	12	1250	160	980	15
20	16	700	500	1000	16



MULTIPACK DB

Bundle of high-resistance microducts MULTIPACK DB, held tightly together in a sheath, providing mechanical protection of optical cables. Advantage - lower construction costs for new telecommunication networks thanks to preinstalled microducts MIKROHARD DB.

DESIGN

- microducts - inner wall smooth or grooved; outer wall smooth
- the sheath fits tightly to the bundle of microducts, but is not connected to it

MATERIAL

- microducts – HDPE
- sheath - HDPE (min. thickness 0,8 mm)

COLOUR

- microducts according to RAL

2004 1037 5015 3020 6018 6029 7045 4005 8016 1011 9011 natur

- sheath - a natural transparent version or according to RAL at the customer's wishes

PACKAGING

- coil– length 200 m, size 120x45 cm
- reel – dimensions differ depending on the type of bundle and the required length
- the ends of the bundles are fitted with plastic end caps, which prevent dirt from entering the microducts

DIMENSIONS AND NUMBER OF TUBES IN THE BUNDLE

- according to the customer's requirements

LENGTH ON THE DRUM

- according to the customer's requirements

MECHANICAL STRENGTH

- laid directly into the soil without any additional protective pipes

HEAT RESISTANCE

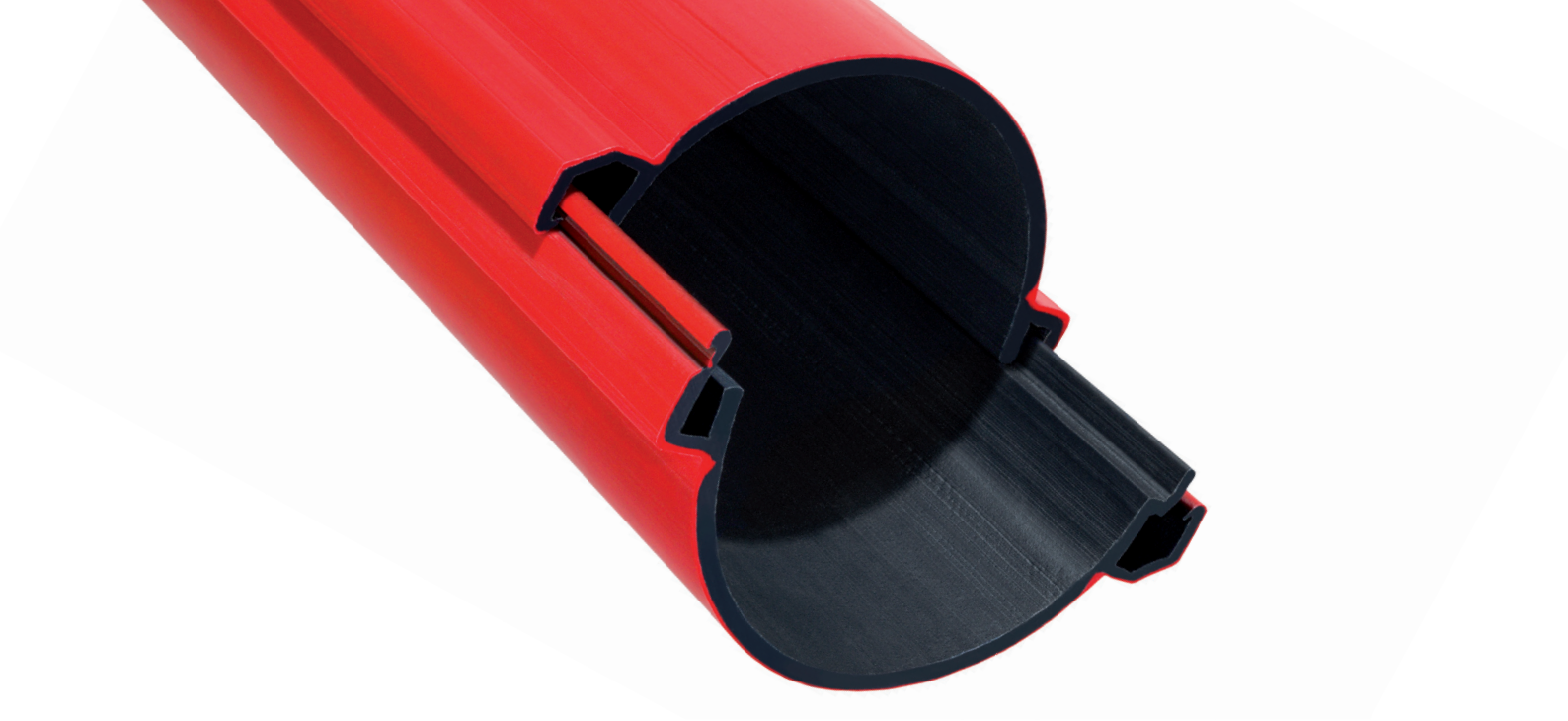
- handling temperature: of +5 °C to +50 °C
- operation temperature: of -40 °C to +70 °C
- storage temperature: of -40 °C to +60 °C

ENVIRONMENT

- the used of microduct and sheath not damage the environment
- the used material is fully recyclable

STORAGE

- max. storage time up 3 months if stored outdoors in Central Europe
- it is not recommended to store in direct sunlight, does not contain UV stabilizer



SINGLE WALL HALFPIPE

The divided duct system is intended for protecting existing underground cables in industrial and road works, railway tracks, airport and power plant construction and when routing energy and communications lines laid in the ground. It can be used for additional protection of previously installed ground cables.

DESIGN

- smooth interior and exterior wall
- rigid, made from two identical parts

MATERIAL

- HDPE

COLOUR

- outer wall – red, blue
- inner wall – black

PACKAGING

- packed assembled

MECHANICAL RESISTANCE

- high strength
- corrosion resistant

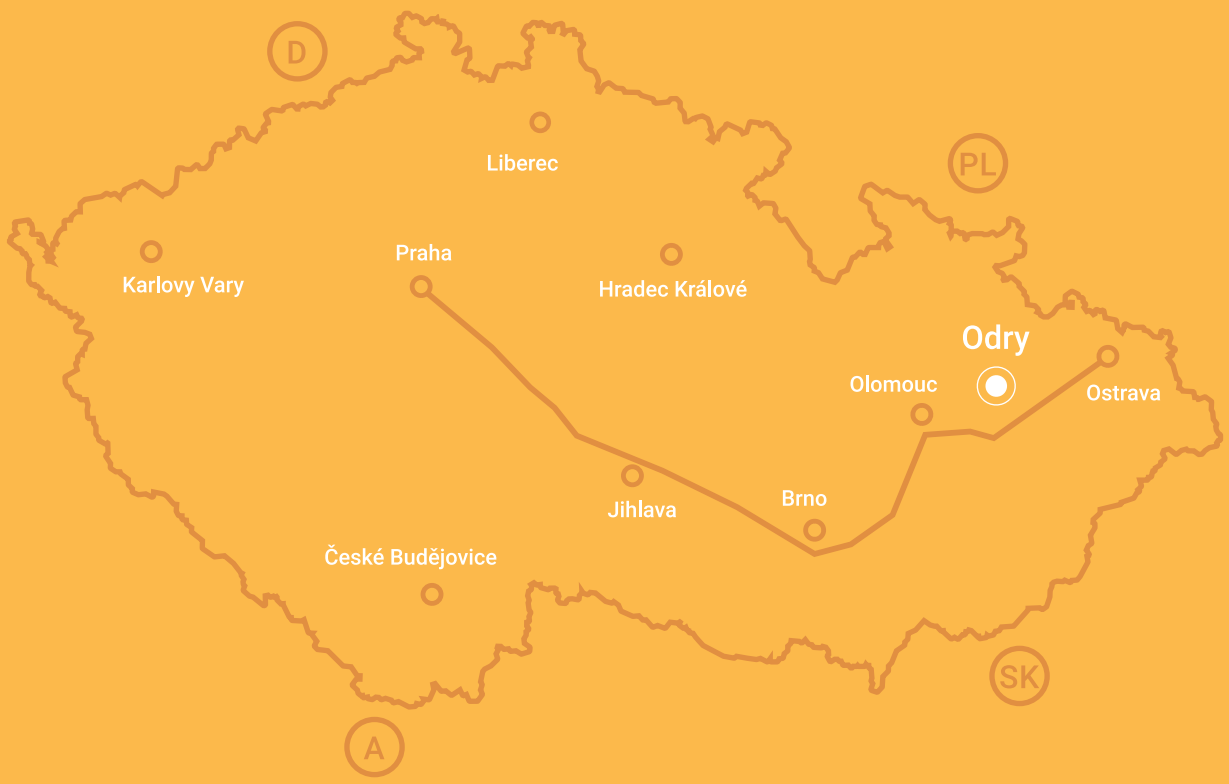
CONNECTION

- application of pressure and a lock, snap the upper section into the lower section

ENVIRONMENT

- the used material is fully recyclable

outer diameter	inner diameter	length	palets length
mm	mm	m	m
110	100	3	180
160	150	3	72



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