

OPTICAL

TecniKabel

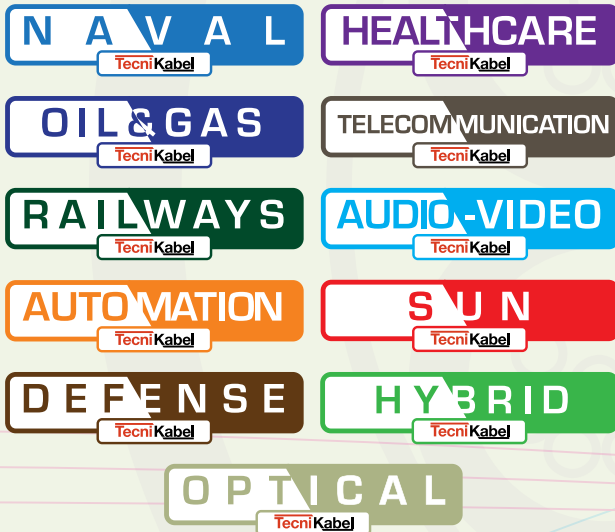
TecniKabel  
SPECIAL ELECTRICAL CABLES

## TECNIKABEL

has been among the European leaders in the cable industry for more than thirty years.

Advanced machinery, investments in research, a high level of know-how of the staff and excellent quality of the products recognized by the leading certification bodies make TECNİKABEL a consolidated business and a constantly growing group.

Our product lines include the following sectors:



# COMPANY

## COMPANY NUMBERS

Business: Special electrical and optical cables

Founded in: 1978

Share Capital: € 1,040,000

Proportion Exported: 45 %

Factory Area: 37,000 sq m

Manufacturing Area: 17,000 sq m

Laboratories and Offices: 3,000 sq m

Employees: 100

Quality System: ISO 9001 since 1994

Iris certification

FIBRE OPTIC DEPARTMENT MANUFACTURING AREA

Area: 2,000 sq m

## MANUFACTURING CAPACITY

Keeping up with the modern technologies in the industry and to continue increasing our manufacturing capacity our facility includes:

- 15 extrusion lines
- 12 stranding machines
- 40 braiding machines
- 1 colouring line
- 1 SZ stranding line

## CERTIFICATIONS



## OPTICAL FIBRES

TECHNIKABEL is equipped to produce optical cables with the following manufacturing specifications:

### STRUCTURE

900µm single-layer and double-layer tight buffer  
600µm single-layer tight buffer  
900µm semitight  
Jelly-filled loose tube  
Dry loose tube

### DRAWING ELEMENTS

Aramidic fibres  
Glass fibres  
Round and flat rods in fibreglass  
Steel wires  
Aramidic ropes

### CARRYING ELEMENTS

Fibreglass Carrier,  
Aramidic Carrier,  
Metallic carrier (Steel Cables/Wires)

### METALLIC AND DIELECTRIC PROTECTIONS/ARMOURINGS

Corrugated steel belts hot-welded to the sheath  
Galvanized steel belts  
Galvanized steel wire braid  
Steel wire spiral  
Aluminium humidity barrier  
Fibreglass flat rods  
Dielectric antiballistic protections  
Dielectric rodent protection

### SHEATHES

PVC (various grades)  
Flame-retardant LSZH with low production of toxic gases  
Polythene  
Polyurethane (various grades)  
Reticulated sheathes resistant to oils, hydrocarbons, drilling sludges (MUD).

TECHNIKABEL can also carry out at its laboratory transmission, mechanical, and climatic tests, in accordance with the main international standards. Particular needs will be examined by our technical office which will make available our thirty years of experience, and will be able to direct the customer to the best possible solution.

# FEATURES

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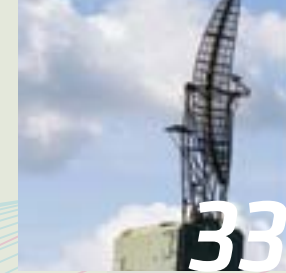
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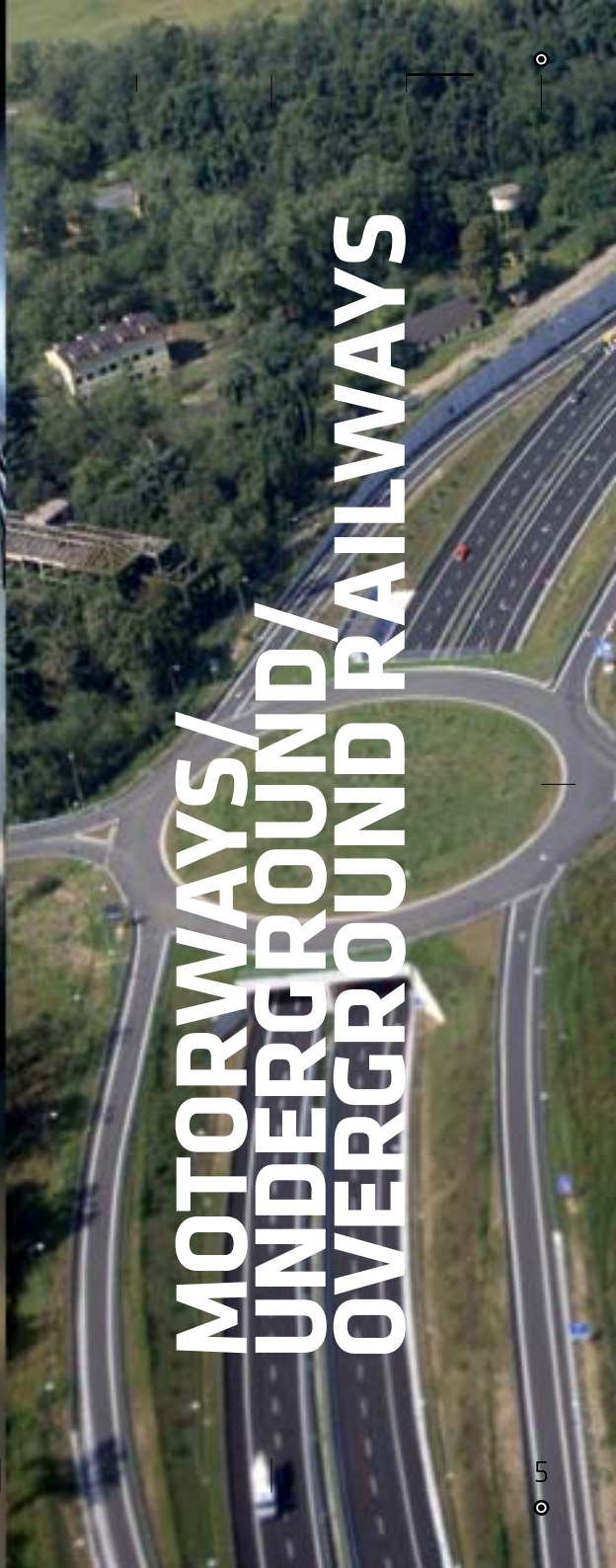
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# MOTORWAYS/ UNDERGROUND/ OVERGROUND RAILWAYS

## TK - DIELECTRIC ARMED LOOSE MULTI-TUBE

Suitable for laying in pipes, good rodent and damp penetration resistance and with excellent mechanical features.

### – **Standard characteristics**

Loose tube structure up to 24 fibres for each tube

Potentially up to 432 Optic Fibres

Dielectric protection in rodent resistant glass (or alternatively aramidic fibres)

Sheath suitable for outdoor use

### – **Types of fibre used**

Singlemode Low water peak ITU-T G.652D

Singlemode NZD ITU-T G.655/656

Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – **Specifications for use/laying**



-40°C ÷ +70°C



up to 10000 N



15 X Ø mm



MOTORWAYS/UNDERGROUND/OVERGROUND RAILWAYS

SECTION OF THE CABLE



### – **Construction options**



## TK - DIELECTRIC ARMED LOOSE MONO-TUBE

Suitable for laying in pipes, good rodent and damp penetration resistance and with good mechanical features.

### – . *Standard characteristics*

Simplex loose tube structure  
Potentially up to 24 fibres  
Dielectric armouring in rodent resistant glass (or alternatively aramidic fibres)  
Sheath suitable for outdoor use

### – . *Types of fibre used*

Singlemode Low water peak ITU-T G.652D  
Singlemode NZD ITU-T G.655/656  
Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10  
Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – . *Specifications for use/laying*



-40°C ÷ +70°C



up to 3000 N



10 X Ø mm



MOTORWAYS/UNDERGROUND/OVERGROUND RAILWAYS

SECTION OF THE CABLE



### – . *Construction options*





## TK - METALLIC ARMED LOOSE MULTI-TUBE

Suitable for direct burial, excellent rodent and damp penetration resistance and excellent mechanical features.

### – • *Standard characteristics*

Loose tube structure up to 24 fibres for each tube

Potentially up to 432 Optic Fibres

Double sheath

Protection with aramidic fibres (or alternatively glass fibres)

Metallic armoring in corrugated steel hot-welded to the sheath

Sheath suitable for outdoor use

### – • *Types of fibre used*

Singlemode Low water peak ITU-T G.652D

Singlemode NZD ITU-T G.655/656

Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – • *Specifications for use/laying*



-40°C ÷ +70°C



up to 12000 N

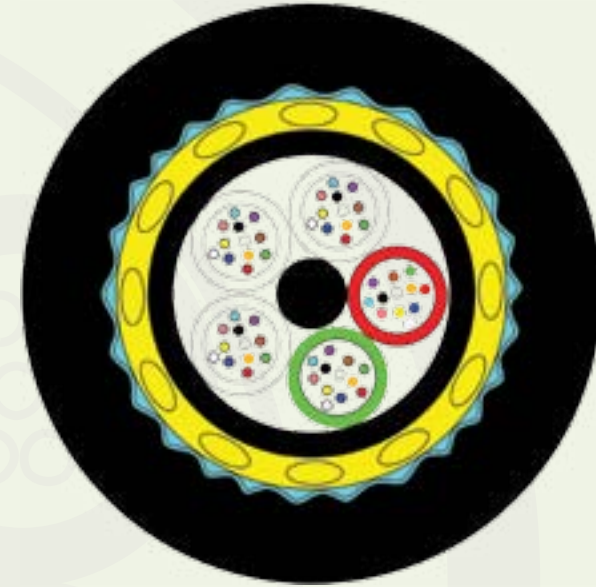


20 X Ø mm



MOTORWAYS/UNDERGROUND/OVERGROUND RAILWAYS

SECTION OF THE CABLE



### – • *Construction options*



## TK - METALLIC ARMED LOOSE MONO-TUBE

Suitable for direct burial, excellent rodent and damp penetration resistance and good mechanical features.

### – . *Standard characteristics*

Simplex loose tube structure

Potentially up to 24 fibres

Metallic armoring in corrugated steel hot-welded to the sheath

Sheath suitable for outdoor use (or alternatively thin internal sheath and steel braid)

### – . *Types of fibre used*

Singlemode Low water peak ITU-T G.652D

Singlemode NZD ITU-T G.655/656

Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – . *Specifications for use/laying*



-40°C ÷ +70°C



15 X Ø mm



up to 750 N



up to 5000 N (with insertion of aramidic and /or glass fibres under the armoring)

MOTORWAYS/UNDERGROUND/OVERGROUND RAILWAYS

SECTION OF THE CABLE



### – . *Construction options*





## TK - MULTI TIGHT WITH DIELECTRIC PROTECTION

Suitable for internal use, good flexibility, easily installed in cabinets, low size and weight.

### – . *Standard characteristics*

900µm tight buffer structure

Potentially up to 24 fibres

Dielectric armouring of aramidic fibres (or alternatively glass fibres)

Sheath suitable for indoor/outdoor use (Flame retardant Halogen Free)

### – . *Types of fibre used*

Singlemode Low water peak ITU-T G.652D

Singlemode NZD ITU-T G.655/656

Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – . *Specifications for use/laying*



-30°C ÷ +70°C



up to 2000 N

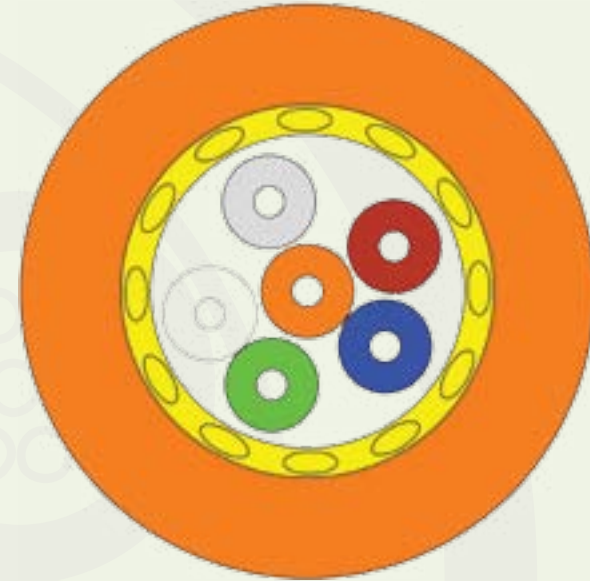


10 X Ø mm



## MOTORWAYS/UNDERGROUND/OVERGROUND RAILWAYS

SECTION OF THE CABLE



### – . *Construction options*



## TK - BREAKOUT

Suitable for internal use, good flexibility, easily installed in cabinets, protection on every single fibre.

### – **Standard characteristics**

900µm tight buffer structure protected singularly with aramidic fibres (or alternatively 600 µm tight buffer and Semitight)  
Potentially up to 37 fibres  
Sheath suitable for indoor use (Flame retardant Halogen Free)

### – **Types of fibre used**

Singlemode Low water peak ITU-T G.652D  
Singlemode NZD ITU-T G.655/656  
Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10  
Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – **Specifications for use/laying**



-30°C ÷ +70°C



up to 3,000 N

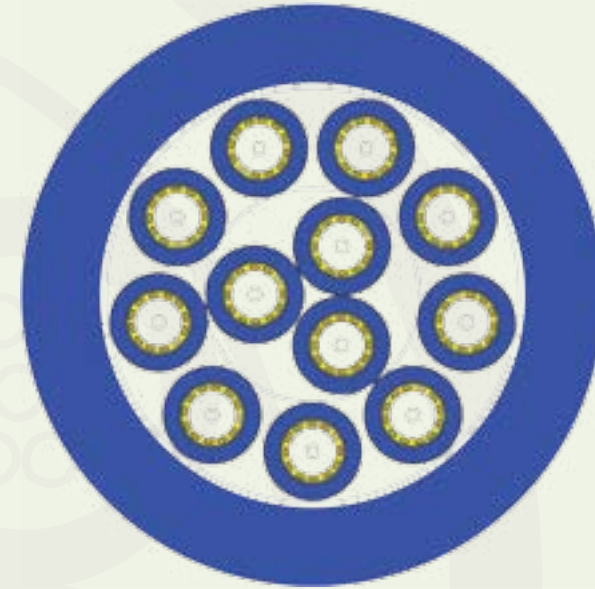


10 X Ø mm



## MOTORWAYS/UNDERGROUND/OVERGROUND RAILWAYS

SECTION OF THE CABLE



### – **Construction options**





# SUSPENDED LINES



## TK - ADSS (ALL DIELECTRIC SELF SUPPORTING)

Suitable for overhead use, resistant to UV rays and damp penetration and excellent mechanical features.

### – *Standard characteristics*

Loose tube structure up to 24 fibres for each tube  
Potentially up to 288 Optic Fibres  
Dielectric armouring with aramidic fibres  
Sheath suitable for outdoor use

### – *Types of fibre used*

Singlemode Low water peak ITU-T G.652D  
Singlemode NZD ITU-T G.655/656  
Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10  
Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – *Specifications for use/laying*



-40°C ÷ +80°C



up to 10000 N



15 X Ø mm



# SUSPENDED LINES

SECTION OF THE CABLE



### – *Construction options*





## TK - METALLIC SELF-SUPPORTING

Suitable for overhead use, resistant to UV rays and damp penetration and excellent mechanical features.

### – **Standard characteristics**

Loose tube structure up to 24 fibres for each tube  
Potentially up to 288 Optic Fibres  
Self-supporting steel cable  
Figure of 8  
Sheath suitable for outdoor use

### – **Types of fibre used**

Singlemode Low water peak ITU-T G.652D  
Singlemode NZD ITU-T G.655/656  
Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10  
Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – **Specifications for use/laying**



-40°C ÷ +80°C



up to 15000 N



15 X Ø mm



# SUSPENDED LINES

SECTION OF THE CABLE



### – **Construction options**







# CITIES/HOMES

## TK HOME - FTTH (FIBRE TO THE HOME)

Cable designed for use in buildings up to the end user, mechanical performance is guaranteed by the presence of two steel wires contained in the thin sheath.

### – • *Standard characteristics*

Divisible structure  
Steel carriers (or alternatively dielectric carriers)  
Sheath suitable for indoor use (Halogen Free)

### – • *Types of fibre used*

Singlemode Low water peak ITU-T G.652D  
Singlemode Microbending G.657  
Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

### – • *Specifications for use/laying*



-20°C ÷ +70°C

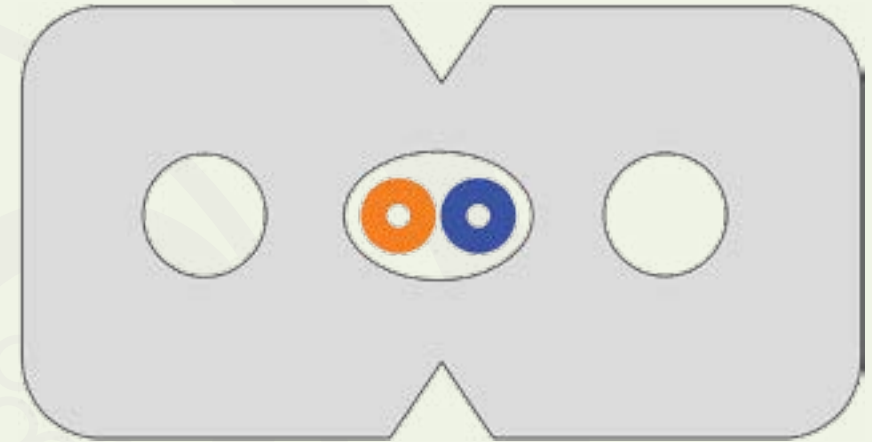


10 X Ø mm



# CITIES/HOMES

SECTION OF THE CABLE





## TK HOME - SELF-SUPPORTING MULTITIGHT

Cable suitable for vertical use in buildings, single tight fibres extractable for the length necessary to reach the user at every floor.

### – • *Standard characteristics*

900µm tight buffer structure

Potentially up to 24 fibres

Dielectric armouring with glass rods embedded in the sheath

Sheath suitable for indoor/outdoor use (Flame retardant Halogen Free)

### – • *Types of fibre used*

Singlemode Low water peak ITU-T G.652D

Singlemode Microbending G.657

Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

### – • *Specifications for use/laying*



-20°C ÷ +70°C

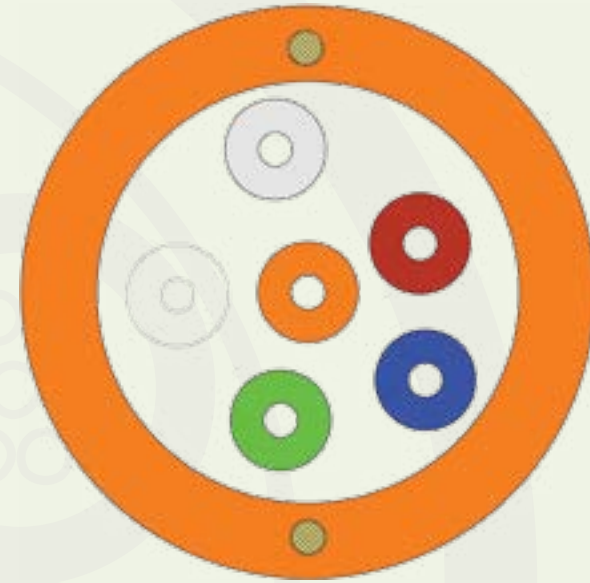


10 X Ø mm



# CITIES/HOMES

SECTION OF THE CABLE





## TK - AIR BLOWN

Suitable for use with the Air-Blown system, can be installed in cities avoiding excavations and breaking of the road surface, reducing significantly the installation costs.

Dimensions and weight reduced to the minimum to facilitate blowing in the plastic tubes.

### – • **Standard characteristics**

Loose tube structure up to 24 fibres for each tube

Potentially up to 144 Optic Fibres

Sheath for external use in material with a low friction coefficient

### – • **Types of fibre used**

Singlemode Low water peak ITU-T G.652D

Singlemode NZD ITU-T G.655/656

### – • **Specifications for use/laying**



-40°C ÷ +70°C



up to 1000 N



10 X Ø mm



# CITIES/HOMES

SECTION OF THE CABLE





# MILITARY

## TK - TACTICAL CABLE

Suitable for temporary outdoor use (military camps), excellent flexibility, resistant to atmospheric agents, excellent mechanical performance, completely dielectric, can be reused.

### – • *Standard characteristics*

900µm tight buffer structure  
Potentially up to 12 fibres  
Dielectric armouring in aramidic fibres  
Highly-flexible sheath suitable for outdoor use

### – • *Types of fibre used*

Singlemode Low water peak ITU-T G.652D  
Singlemode Microbending ITU-T G.657  
Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

### – • *Specifications for use/laying*



-30°C ÷ +80°C



up to 3000 N



10 X Ø mm



# MILITARY

SECTION OF THE CABLE



### – • *Construction options*





## TK - DROP CABLE

Suitable for use inside conduits, good mechanical performance, completely dielectric.

### – . *Standard characteristics*

Simplex loose tube structure

Potentially up to 48 fibres

Carriers in glass resin incorporated in the outer sheath

Sheath suitable for outdoor use

### – . *Types of fibre used*

Singlemode Low water peak ITU-T G.652D

Singlemode NZD ITU-T G.655/656

Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

### – . *Specifications for use/laying*



-30°C ÷ +70°C



up to 3000 N



15 X Ø mm

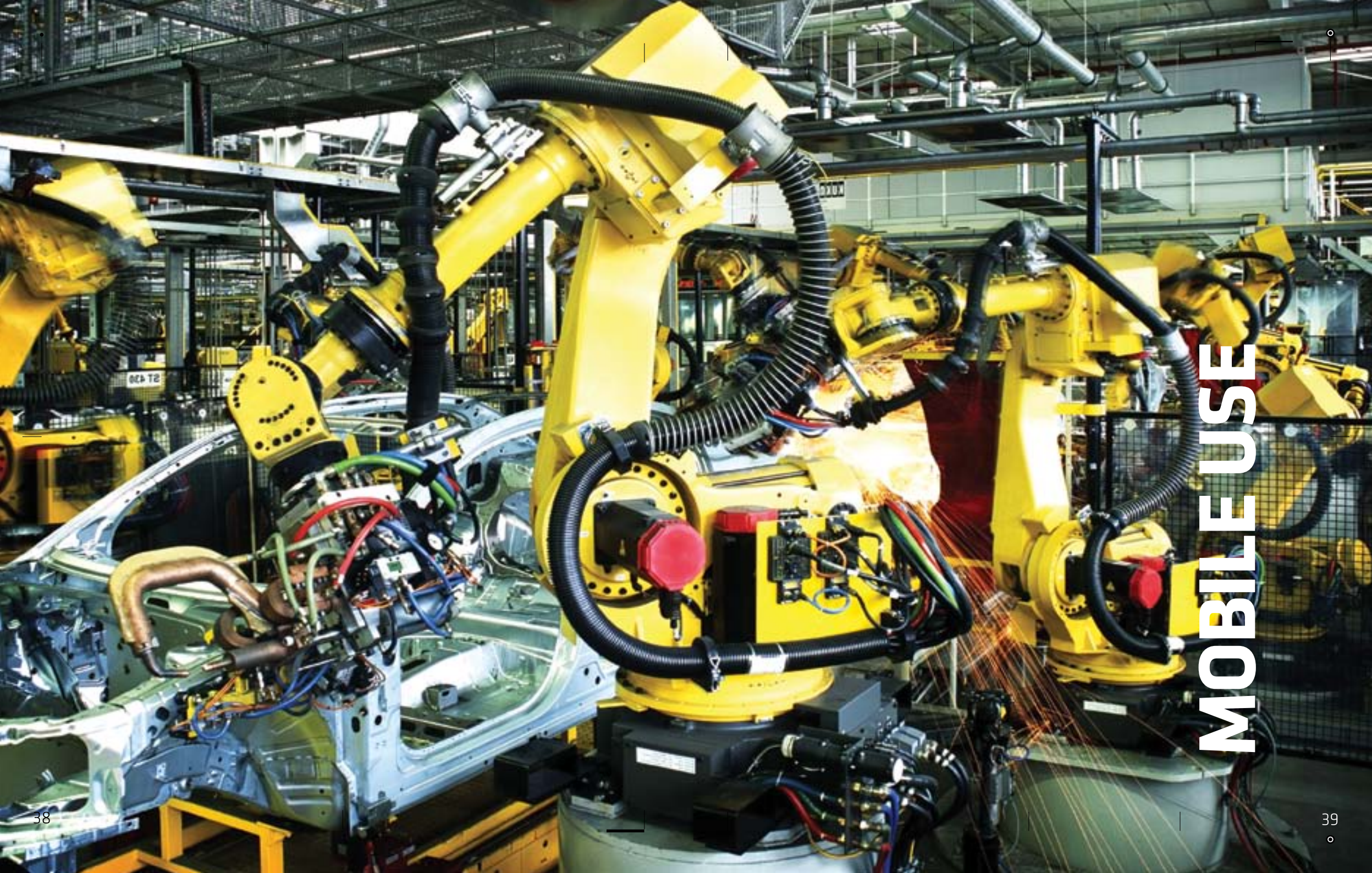


# MILITARY

SECTION OF THE CABLE







# MOBILE USE



## TK - MOBILE USE

Suitable for mobile use, dielectric protection on every single fibre.

### – *Standard characteristics*

900µm tight buffer structure

Potentially up to 6 fibres

Dielectric protection with aramidic fibres on every single fibre

Highly-flexible sheath suitable for indoor use

### – *Types of fibre used*

Singlemode Low water peak ITU-T G.652D

Singlemode microbending ITU-T G.657

Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10

Plastic optical fibre 980/1000

### – *Specifications for use/laying*



-20°C ÷ +60°C

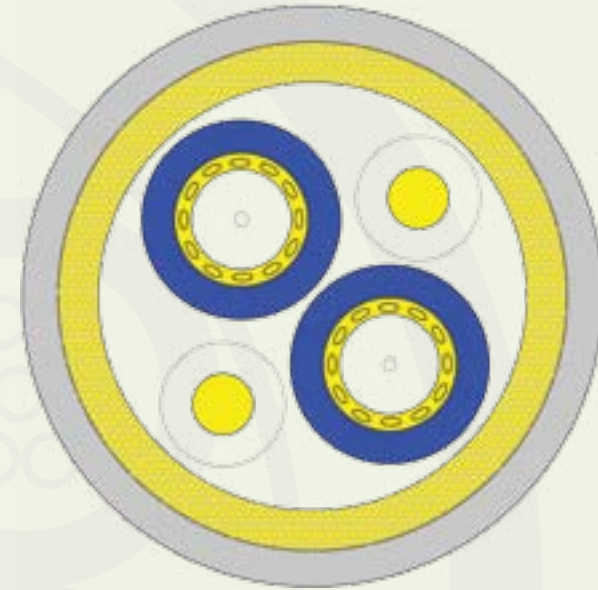


5 X Ø mm



# MOBILE USE

SECTION OF THE CABLE





# OIL & GAS

## TK - METALLIC ARMED LOOSE MULTI-TUBE

Suitable for use in critical environments with the presence of hydrocarbons, oils, and aggressive chemical agents, rodent resistance, with excellent mechanical characteristics and fire resistant.

### – *Standard characteristics*

Loose tube structure up to 24 fibres for each tube  
Potentially up to 432 Optic Fibres  
Double sheath  
Metallic armoring with steel wires  
Sheath resistant to hydrocarbons, oils and chemical agents

### – *Types of fibre used*

Singlemode Low water peak ITU-T G.652D  
Singlemode NZD ITU-T G.655/656  
Multimode 50/125 G.651 - 62.5/125 IEC 60793-2-10  
Multimode 50/125 OM3/OM4 ISO/IEC 11801 IEC 60793-2-10

### – *Specifications for use/laying*



-40°C ÷ +70°C

up to 12000 N

20 X Ø mm

# OIL & GAS

SECTION OF THE CABLE



### – *Construction options*







**Tecní Kabel**

# KEY

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Outdoor



Indoor



Resistant to propagation  
of water



Antiballistic protection



Rodent resistant



No propagation of fire



No propagation  
of flames



Fire Resistant



Resistant to impact



Laid in buried conduct



Resistant to oils  
and hydrocarbons



Reduced emission of fumes  
and toxic gases



Minimum radius of  
curvature



Operating temperature



Maximum tensioning  
applicable



Resistant to  
crushing



Resistant to crushing  
and vibrations



Silicon free



Metallic braid armouring



