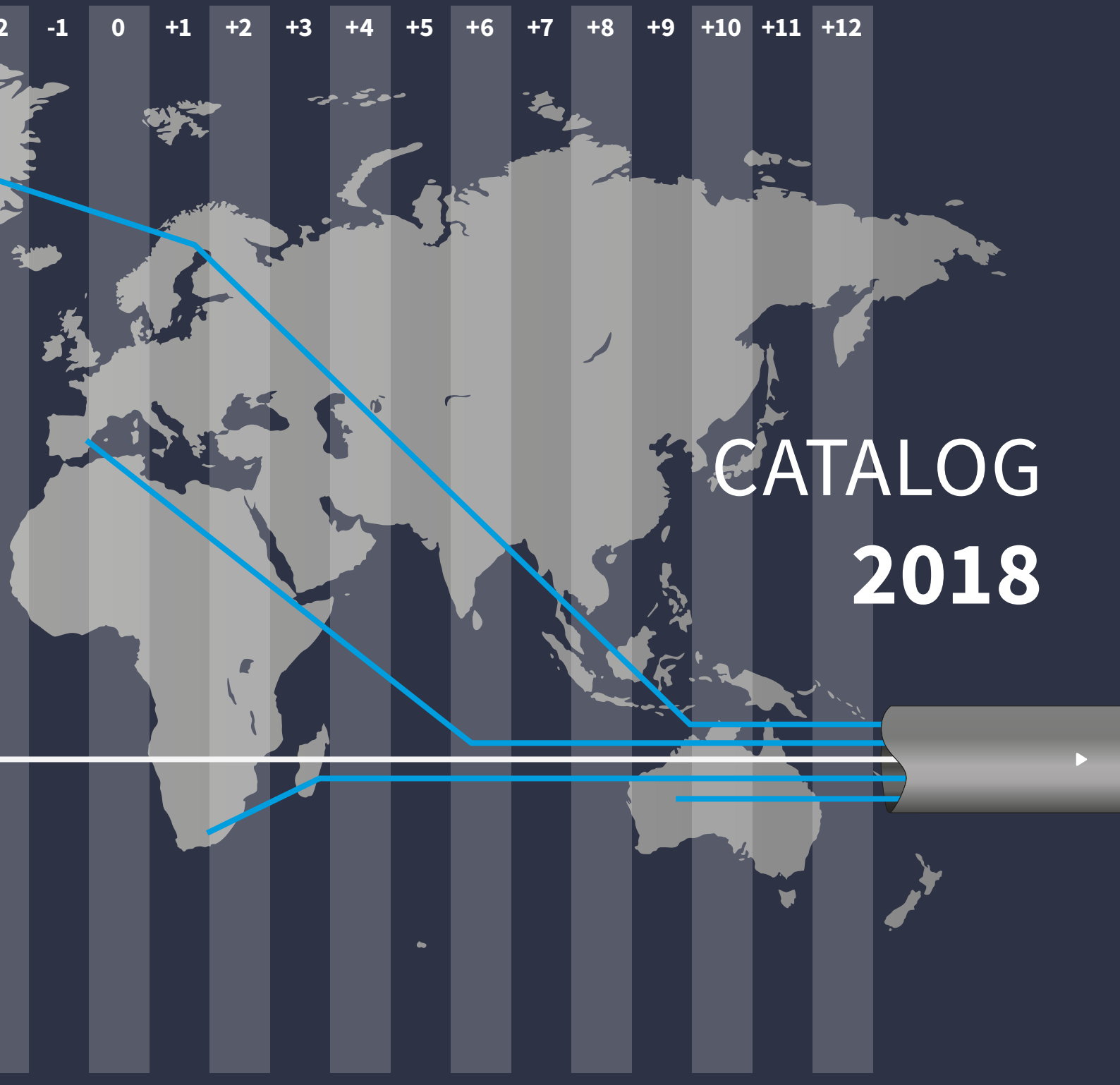
# KONEKT




# CATALOG 2018

**SOLUTIONS FOR EXTERNAL NETWORKS**

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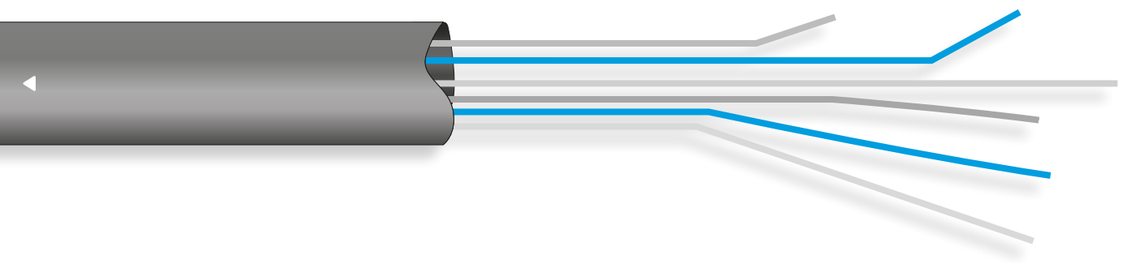
- SPAIN
- INTERNATIONAL


CONCEPTION & REALISATION BY GRAPHY CAMÉLÉON
COMMUNICATIONS AGENCY & DESIGN STUDIO
**GRAPHYCAMELEON@GMAIL.COM**

# RECOGNIZED MANUFACTURER

**KONEKT permanently analyses the needs and concerns of the market,** specifically our customer's needs. As a result of this approach, we constantly keep developing new and innovative products, including customized developments.

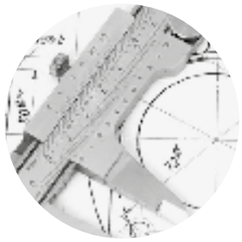
**Mission: KONEKT** as a specialized manufacturer in the telecommunications and electrical sector has the mission to supply and manufacture products with an added value that allows responding to both a general market need and an exclusive request from a customer. We respond to the needs of the market thanks to a team present in different continents.

**Vision:** Our company has a simple vision of being a pioneer in the telecommunications market. It wants to be recognized as a leader in innovation that is why it invests every year high R & D budgets.

**Values:** With 20 years of experience in the sector, **KONEKT** is a young and dynamic company respected for its proactivity, seriousness and commitment.
Our values of customer satisfaction, respect, integrity, team spirit and responsibility are key elements that allow us to benefit from a good reputation and a real image of excellence.

**KONEKT** manages product life cycles since we make use of mechanical engineering, quality laboratory, moulding department, injection, etc.

Our company always works very close to its market and its operators to manufacture products with high added value.



**Our products are used in different sectors by companies specialized in:**

**TELECOMMUNICATIONS**
*Movistar, Telefónica España, Jazztel, Orange, Vodafone, ONO.*

INFRASTRUCTURES
*Cobra, Elecnor, Abentel-Abegnoa, Ezentis, FCC.*

**ENERGY**
*Iberdrola, Endesa et autres.*

**ENGINEERING, WHOLESALERS AND DISTRIBUTORS OF THE SECTORS ABOVE.**

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# RESEARCH AND DEVELOPMENT

INNOVATIVE SME

**KONEKT,** creator of technical solutions.

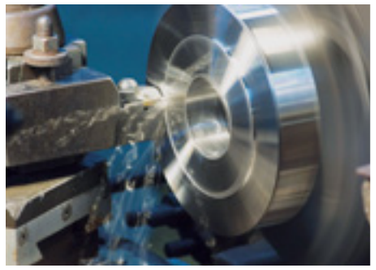
**KONEKT** has more than 20 years of experience in creating and launching new products in the FTTH sector.

## WE ARE ALWAYS WORKING TO BE AT THE FOREFRONT OF TECHNOLOGY

CERTIFICADO ISO 9001 Nº REC 1215-9/17

**NOUS DISPOSONS DE MOYENS HUMAINS ET TECHNIQUES**

- An R & D department
- A quality department
- 2 laboratories inside our factories of Barcelona and Valencia
- Customized tools for the test phases
- State-of-the-art in production equipment



**TECHNICAL MANUFACTURING SKILLS IN SEVERAL AREAS**

**3D design and printing**

**Mechanical Engineering**
- CNC lathes, CAD CAM mechanization
- Parts machining
- Laser cutting

**Stamping, cutting and press-forming of metal parts**
- Design and construction of dies
- Prototypes and 3D moulded

**Plastic injection and manufacture of rubber parts with injection moulding machines**
- Design and construction of dies
- Prototypes and 3D moulded
- Thermoplastic and thermosetting materials from 10 g to 7 kg
- Adaptable production line
- Injection by blowing up to 10 l.

## PRODUCTIONS CERTIFIED BY EXTERNAL AND NORMED LABORATORIES

- **Products regularly tested:** thermal cycling, vibration, mechanical tests, with or without chemical agents, aging test…
- Extensive tests to guarantee quality
- Quality controls at each stage of production
- Traceability from production to distribution

AFITI LICOF Centre for Fire Testing and Research
Association for the Promotion of Research and Fire Safety Technology

Telstar

ilac-MRA ENAC ENSAYOS Nº 41/LE104

AIMME INSTITUTO TECNOLÓGICO METALMECÁNICO

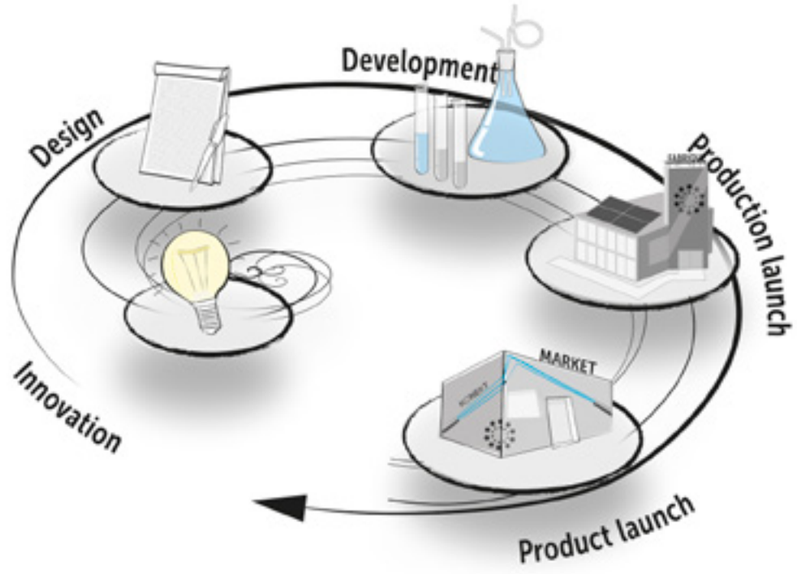
## CUSTOMIZED PROJECTS FOR OUR CLIENTS AND A LONG-TERM PARTNERSHIP RELATIONSHIP ESTABLISHED

We anticipate the needs of the market.

Sometimes these needs are determined and detected by our customers who face realities.
Telecom operators, who are for us partners above all, provide us information in situ. So that why we can together analyse any difficulties and offer them, adapted solutions.

Each situation is analysed and follows a defined process until the validation of the solution until its approval for the implementation on the infrastructures.

We manufacture, in all confidentiality, the projects of our customers.




## ENVIRONMENTAL RESPONSIBILITY

CERTIFICADO ISO 14001 Nº REC 1215-3/17

We are a company committed to the environment and the future.
By acting responsibly, we reduce the production of non-biodegradable waste and we directly reduce our impact on the environment.

We believe in sustainable development and the protection of the environment.
We reduce all the negative impacts that our productions could have.



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# OUR SOLUTIONS

## **UNDERGROUND** PRODUCTS

- **FISS: SELF INFLATING SYSTEM FOR OCCUPIED DUCTS, FIRESTOP SEALING SYSTEM**
- **OKT: SELF INFLATING SYSTEM FOR OCCUPIED DUCTS**
  **TO: DUCT PLUG FOR EMPTY CONDUIT**
  **TA: BBANCHORING AND SEALING PLUG**



## **AERIAL** PRODUCTS

- **UNIVERSAL DROP CLAMP FOR OPTICAL FIBRE CABLE (Copper option available)**
  **FIBRE OPTIC DROP CLAMP WITH LEVER (Curved option available)**



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# **UNDERGROUND** SOLUTIONS

### OKT: SELF INFLATING SYSTEM FOR OCCUPIED DUCTS

The OKT is suitable to close the duct at the entry point of pipes ensuring effective protection for existing wiring. Prevents the accumulation of moisture, gas, and liquids in general.

### FISS: SELF INFLATING SYSTEM FOR OCCUPIED DUCTS, FIRESTOP SEALING SYSTEM

The FISS is recommended for plugging existent ducts with their cables by manual action. It adds excellent fire resistance thanks to an innovative system placed inside.

### TO: DUCT PLUG FOR EMPTY CONDUIT

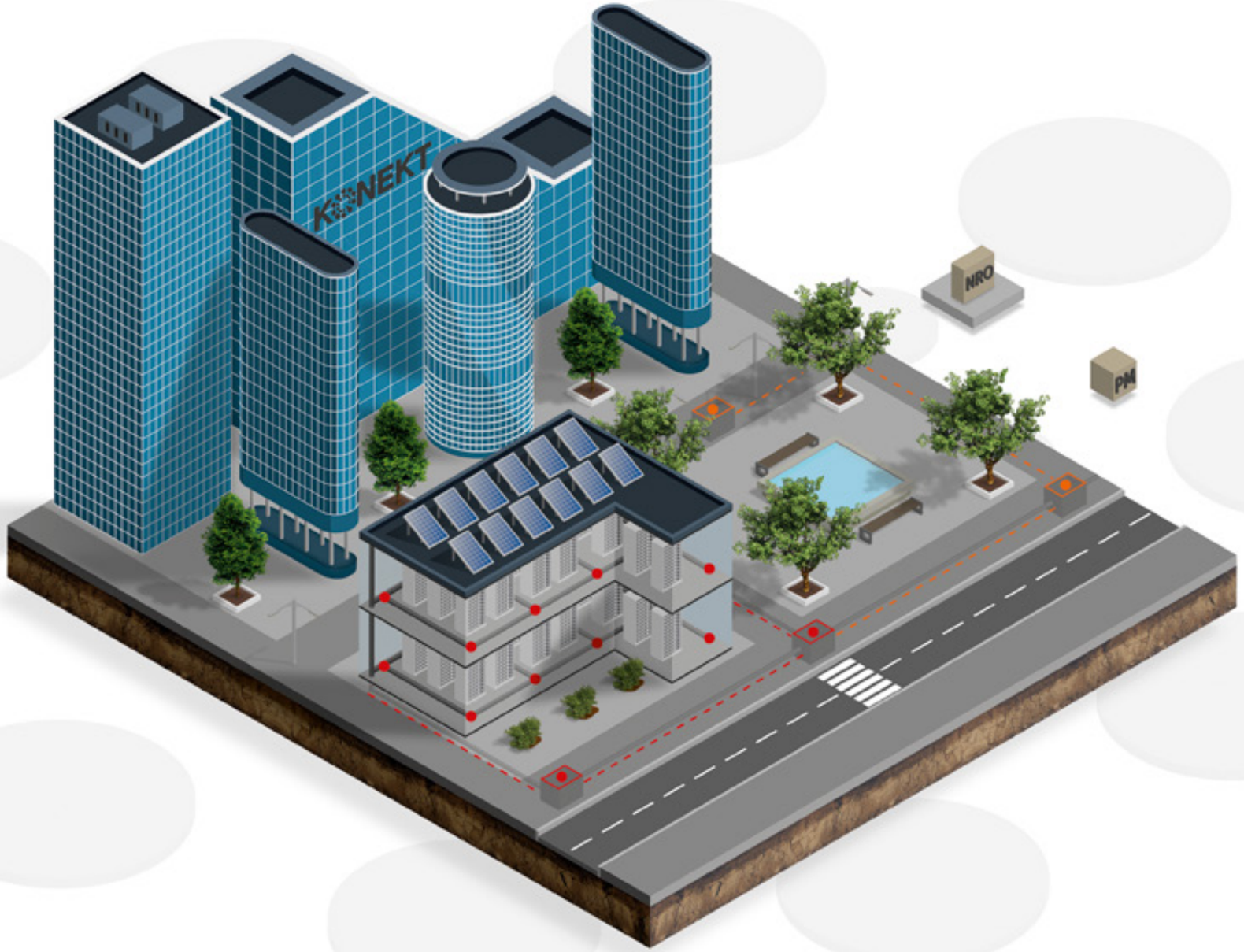
Used to seal and seal temporarily empty subterranean duct, ie without cable.
Ensure that in the future these ducts will be in perfect condition for facilities subconducts or cables, prevented the entry of liquids, chemicals, dirt, gases, rodents, and any other element that can hinder and even prevent the use of the duct.

### TA: BANCHORING AND SEALING PLUG

This element ensures anchoring and sealing of the assembly formed by the duct and the subducts placed inside, preventing the entry in all, liquids, chemicals, dirt, gases, rodents and any other items that may hinder or even prevent its use.

### DUCT PLUG FOR EMPTY CONDUIT PRODUCT DESCRIPTION

Contact us for more information of this range of products.



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# OKT: SELF INFLATING SYSTEM FOR OCCUPIED DUCTS

## PRODUCT DESCRIPTION

The OKT is recommended for plugging existent ducts with their cables by manual action. Quick and easy to install, it self-inflates in seconds. The product doesn't need either heat or others component to close the duct at the entry point of pipes. Prevents the accumulation of moisture, gas, and liquids in general.

The bladder is fabricated from sheet aluminium, polyethylene, and polyester. It is provided with a system of sealant closing base.

The gas used for inflating the bladder is located in a cartridge Co2 pressure that is activated from the outside.

## RECOMMENDATIONS

It is recommended to store the OKT in a dry and closed place and far away from different chemical products. The use of OKT shutter is specified at entry of impermeable pipe (plastic, metal, etc.) to ensure the complete sealing of the pipe. It is important to follow the installation instructions for a correct installation and uninstallation.

## PRODUCT FEATURES

Internal pressure of 300 ± 30 Kpa. Used for sealing and shutter occupied ducts subjected to an internal maximum pressure of 50 kPa (5 meter water level in the access manholes).

## ADDITIONAL INSTALLATION ACCESSORIES

The clip and the lubricant are the complementary accessories necessary for the installation of the OKT. *(see page 17).*

## LABORATORY TESTS

### TEMPERATURE TEST
20 cycles of 12 hours at 50 kPa of pressure, switching temperature between –15°C and +30°C.

### VIBRATION TEST
10 days with 10 Hz frequency cycles, 6 mm amplitude and pressure of 50 kPa.

### MECHANICAL TESTS
Tensile test D/2 x 10 N (5h), D twisting N (5 min in each direction) and folding action between 35 and 45 degrees (5 min each way).

### CHEMICAL RESISTANCE TEST
Chlorhydric acid (pH 2), sodium hydroxide (pH 12), sodium sulfate, sodium chloride, and diesel oil.

### LEAK TEST
Water immersion for 48 hours with 50 kPa of pressure in the conduit after the previous tests.

## EXTERNAL MEASURES OF THE DUCT TO BE OBTURED

| Model | Ø (mm) Cond. Ext. | Ø (mm) Cables max. | Ø (mm) Cables min. | Weight (g) |
|---|---|---|---|---|
| **OKT 25** | 25 | 12 | 7 | 13 ± 3 g |
| **OKT 32** | 32 | 17 | 7 | 19 ± 3 g |
| **OKT 40** | 40 | 22 | 7 | 40 ± 5 g |
| **OKT 50** | 50 | 30 | 7 | 53 ± 5 g |
| **OKT 63** | 63 | 45 | 7 | 125 ± 5 g |
| **OKT 75** | 80 | 55 | 10 | 135 ± 5 g |
| **OKT 90** | 90 | 70 | 12 | 193 ± 5 g |
| **OKT 110** | 110 | 85 | 12 | 230 ± 5 g |
| **OKT 160** | 160 | 99 | 14 | 292 ± 5 g |
| **OKT 200** | 200 | 132 | 19 | 350 ± 7 g |

## INTERNAL MEASURES OF THE DUCT TO BE OBTURED

| Model | Ø (mm) Cond. Int. | Ø (mm) Cables max. | Ø (mm) Cables min. | Weight (g) |
|---|---|---|---|---|
| **OKT 25** | 20-21 | 12 | 5 | 13 ± 3 g |
| **OKT 32** | 27-28 | 17 | 5 | 19 ± 3 g |
| **OKT 40** | 33-36 | 21 | 5 | 40 ± 5 g |
| **OKT 50** | 45-48 | 30 | 7 | 53 ± 5 g |
| **OKT 63** | 54-60 | 45 | 7 | 125 ± 5 g |
| **OKT 75** | 68-72 | 55 | 10 | 135 ± 5 g |
| **OKT 90** | 85-90 | 65 | 12 | 193 ± 5 g |
| **OKT 110** | 100-107 | 75 | 12 | 230 ± 5 g |
| **OKT 160** | 125-135 | 90 | 14 | 292 ± 5 g |
| **OKT 200** | 155-165 | 120 | 19 | 350 ± 7 g |

# FISS: SELF INFLATING SYSTEM FOR OCCUPIED DUCTS FIRESTOP SEALING SYSTEM

## PRODUCT DESCRIPTION

The **FISS** (**FI**restop **S**ealing **S**ystem), is recommended for plugging existent ducts with their cables by manual action. It adds excellent fire resistance thanks to an innovative system placed inside.

The bladder is fabricated from sheet aluminium, polyethylene, and polyester. It is provided with a system of sealant closing base. The gas used for inflating the bladder is located in a cartridge $CO_2$ pressure that is activated from the outside.

## RECOMMENDATIONS

It is recommended to store the FISS in a dry and closed place and far away from different chemical products. The use of FISS shutter is specified at entry of impermeable pipe (plastic, metal, etc.) to ensure the complete sealing of the pipe. It is important to follow the installation instructions for a correct installation and uninstallation (same instructions that the OKT)

The FISS is environmentally friendly.

## PRODUCT FEATURES

Internal pressure of 300 ± 30 kPa. Used for sealing and shutter occupied ducts subjected to an internal maximum pressure of 50 kPa (5 meter water level in the access manholes).

## ADDITIONAL INSTALLATION ACCESSORIES

The clip and the lubricant are the complementary accessories necessary for the installation of the FISS. *(see page 17)*

## LABORATORY TESTS

### TEMPERATURE TEST
20 cycles of 12 hours at 50kPa of pressure, switching temperature between –15°C and +30°C.

### VIBRATION TEST
10 days with 10 Hz frequency cycles, 6 mm amplitude and pressure of 50 kPa.

### MECHANICAL TESTS
Tensile test D/2 x 10 N (5h), D twisting N (5 min in each direction) and folding action between 35 and 45 degrees (5 min each way).

### CHEMICAL RESISTANCE TEST
Chlorhydric acid (pH 2), sodium hydroxide (pH 12), sodium sulfate, sodium chloride, and diesel oil.

### LEAK TEST
Water immersion for 48 hours with 50 kPa of pressure in the conduit after the previous tests.

### FIRE RESISTANCE
Ta > 1000°C. EI 120, according UNE EN 1366-1.

## EXTERNAL MEASURES OF THE DUCT TO BE OBTURED

| Model | Ø (mm) Cond. Ext. | Ø (mm) Cables max. | Ø (mm) Cables min. | Weight (g) |
|---|---|---|---|---|
| **FISS 25** | 25 | 12 | 7 | 13 ± 3 g |
| **FISS 32** | 32 | 17 | 7 | 19 ± 3 g |
| **FISS 40** | 40 | 22 | 7 | 40 ± 5 g |
| **FISS 50** | 50 | 30 | 7 | 53 ± 5 g |
| **FISS 63** | 63 | 45 | 7 | 125 ± 5 g |
| **FISS 75** | 80 | 55 | 10 | 135 ± 5 g |
| **FISS 90** | 90 | 70 | 12 | 193 ± 5 g |
| **FISS 110** | 110 | 85 | 12 | 230 ± 5 g |
| **FISS 160** | 160 | 99 | 14 | 292 ± 5 g |
| **FISS 200** | 200 | 132 | 19 | 350 ± 7 g |

## INTERNAL MEASURES OF THE DUCT TO BE OBTURED

| Model | Ø (mm) Cond. Int. | Ø (mm) Cables max. | Ø (mm) Cables min. | Weight (g) |
|---|---|---|---|---|
| **FISS 25** | 20-21 | 12 | 5 | 13 ± 3 g |
| **FISS 32** | 27-28 | 17 | 5 | 19 ± 3 g |
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| **FISS 63** | 54-60 | 45 | 7 | 125 ± 5 g |
| **FISS 75** | 68-72 | 55 | 10 | 135 ± 5 g |
| **FISS 90** | 85-90 | 65 | 12 | 193 ± 5 g |
| **FISS 110** | 100-107 | 75 | 12 | 230 ± 5 g |
| **FISS 160** | 125-135 | 90 | 14 | 292 ± 5 g |
| **FISS 200** | 155-165 | 120 | 19 | 350 ± 7 g |

## FISS UTILISATION (FIRESTOP SEALING SYSTEM)

With the FISS, **KONEKT** has managed to develop a new product that extends the properties of OKT, by adding a fire protection. This passive fire protection allows to act as a fire door in strategic places where the FISS is installed.

In effect, the FISS is a direct response against fires and allows the expansion of fire to be retarded, thus protecting the infrastructures

**Example of securing Data-Center**

## POSSIBLE APPLICATION ZONES FISS

**STRATEGIC AREAS:**
- Data-Centers
- Airports
- Business centers
- Military bases
- Publics Services

**RESIDENTIAL AREAS:**
- Buildings in general

Several points of intervention and control against fires are foreseen in the set of many buildings, why not protect the optical fiber with the importance that it has at present?

The FISS is designed to withstand more than 2 hours in case of fire, so the installation will be protected until the intervention of the means of extinction. The FISS works like a fire door and prevents the spread of fumes and gases harmful to people.

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## THE PRODUCT HAS BEEN TESTED IN LABORATORY ACCORDING TO THE AENOR STANDARD IN 1366-3: 2011

# Classification Report
## Fire Resistance Laboratory

**AFITI**
**(Association for the Promotion of Research and Fire Safety Technology)**

In the Spanish Association for the Promotion of Research and Fire Safety Technology (AFITI) is experts in studying the functioning of the elements of active fire protection (extinguishers, hoses, sprinklers, etc.), as well as fire performance of multiple products used in construction (doors, coatings, ducts, etc.). AFITI also covers those other needs that the sector may have on the research and improvement of products or systems and advice for compliance with current legislation in the field of fire safety.

**ILAC**
**(International Laboratory Accreditation Cooperation)**

ILAC is the international organisation for accreditation bodies and inspection bodies.
This organisation is a formal cooperation with a charter to establish a network of mutual recognition agreements among accreditation bodies from 90 economies worldwide.
ILAC enables the development and harmonization of laboratory accreditation practices and inspection bodies, the promotion of accreditation and the overall recognition of test results.

**ENAC**
**(Entidad Nacional de Acreditación)**

ENAC - is the agency appointed by the government to operate in Spain as the only National Accreditation Body, pursuant to Regulation (EU) No 765/2008 that regulates the functioning of accreditation in Europe.
This global infrastructure operates through two organizations:
- **ILAC**, International Laboratory Accreditation Cooperation
- **IAF**, International Accreditation Forum, which rely on both regional organizations (America, Asia, Pacific, etc.).

In Europe the regional organization is (EA) European Accreditation, member for 20 years, date of its creation.

## EUROPEAN CLASSIFICATION

**The FISS is classified according to the performances recorded in the following table:**

| Fire Resistance Classification | EI 120 |
|---|---|

**This classification is obtained from the following table:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **E** | 15 | – | 30 | 45 | 60 | 90 | 120 |
| **EI** | 15 | 20 | 30 | 45 | 60 | 90 | 120 |

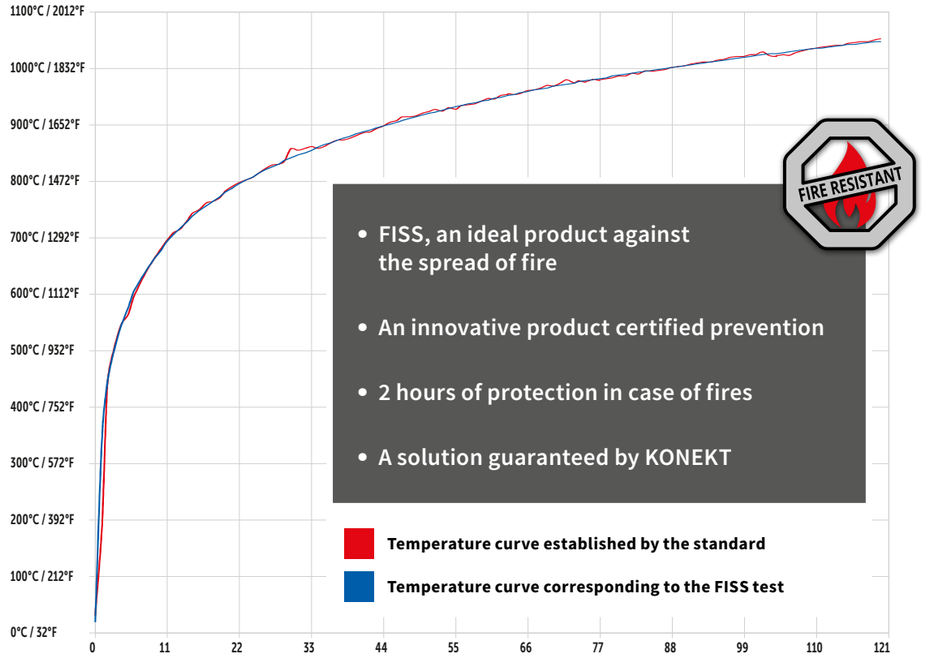
**E** **Integrity:** The integrity E is the ability of a test specimen of a separating element of building construction, when exposed to fire on one side, to prevent the passage through it of flames and hot gases and to prevent the occurrence of flames on the unexposed side. The requirements are the following:
- cracks gaps of certain dimensions
- ignition of a cotton wool pad
- sustained flaming on the unexposed side

**I** **Insulation:** The insulation is the ability of a test specimen of a separating element of building construction when exposed to fire on one side, to restrict the temperature rise of the unexposed face to below specified levels.





## TEMPERATURE SUPPORTED BY THE FISS IN TIME




## FIRE RESISTANCE TESTED IN LABORATORY

**The products are placed in the pipes prepared to analyze their behavior in real situation. Thermocouples are installed to measure high temperatures.**

**The fire on this side of the wall makes its action.**

**AFTER 120 MINUTES OF TEST, THE FISS ALLOWED TO REDUCE THE FIRE PROPAGATION.**

**Back view**

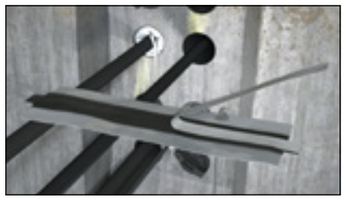
**Front view**

## INSTALLATION INSTRUCTIONS (same installation instructions for the FISS)

1. **SAFETY ADVICE**
   The use and installation of the OKT does not require special safety measures
2. **TOOLS / EQUIPMENT**
   The installation does not require special tools or equipment.
3. **THE STANDARD KIT CONTAINS**
   A certain number of OKTs wrap around themselves, a lubricant solution, an instruction manual and according to models a band of sealant.
4. **INSTALLATION**
   The OKT, is composed of an inflatable bladder. Inside is located a mini bottle containing pressurized $CO_2$ gas which is released automatically pulling on the strip.

## INSTALLATION PROCEDURE FOR THE OKT (same installation instructions for the FISS)

1° Clean of duct and the cable sheath with a wet cloth in order to eliminate residues.



2° Remove the protective paper from the sealing strip on the outside and inside surface of the OKT (don't remove the cellophane paper).

3° Thanks to the lubricant include in the box lubricate the inside and outside mastic strip and cables sheath.

4° Wrap the OKT around the cable and try to touch both ends of the mastic strips. Let the string outside the duct on the upper part.

5° Slide completely into the duct the OKT and center the product inside the duct.

6° Pull on the string to the outside (90°) to engage automatic inflation of the bladder and the OKT will be totally installed. It is possible to release the gas without the string by exerting upward pressure (90°) with the finger on the anchor point of the string.

## UNINSTALLATION OF THE OKT (same uninstallation instructions for the FISS)

1° Deflate the OKT by piercing with a screwdriver.

2° Separate the bag from the cables taking care not to damage them or the duct. Remove the bag out from the duct with pliers if necessary.

## INSTALLATION WITH MULTIPLE CABLES IN DUCT

1. Start again the installation phases 1 to 3.
2. Use the additional sealant tape (clip), make two rounds with the tape around each of the cables and around the assembly. The goal is to bundle the cables in order to obtain a block of cables for a perfect seal.
3. Place the OKT around the cables. Be careful to never put the OKT between the cables. Continue phases 4 to 6.

### SEALANT TAPE (CLIP)

The use of the clip is preferable for the installation when we have to install the OKT with more than one cable into the pipe. This type sealant has adhesive properties and allows better maintenance and separation of cables.

**USE**

Before installation, first apply the lubricant solution (bottle supplied with OKT / FISS). It is possible to install several clip in order to obtain a better grip area.

| Ref. | Ref. | Mesures | Packaging |
|---|---|---|---|
| OKT-CR30 | FISS-CR30 | 30 x 15 x 1,5 mm | Box 10 |
| OKT-CR70 | FISS-CR70 | 70 x 30 x 3 mm | Box 10 |
| OKT-CR100 | FISS-CR100 | 100 x 50 x 3 mm | Box 10 |

### LUBRICANT

**PRODUCT FEATURES**

To facilitate the installation of the product, without lag of the mastic inside the product, KONEKT delivers a lubricant solution that has to be applied to the inner surface.

**COMPOSITION**

- SOAPY BASE 30%
- Water ($H^2O$) 70%
- Allergen Fragrances: Citral

**STANDARDS**

- Sanitary Technical Regulations R.D.770/1999

**WEIGHT**

- 0.5 kg

## PACKAGING FOR OKT AND FISS

**Product delivered in box with 12 units + 1 lubricant**

| | | |
|---|---|---|
| OKT 25 | FISS 25 | 12 u |
| OKT 32 | FISS 32 | 12 u |
| OKT 40 | FISS 40 | 12 u |
| OKT 50 | FISS 50 | 12 u |
| OKT 63 | FISS 63 | 12 u |
| OKT 75 | FISS 75 | 12 u |
| OKT 90 | FISS 90 | 12 u |
| OKT 110 | FISS 110 | 12 u |
| OKT 160 | FISS 160 | 6 u |
| OKT 200 | FISS 200 | 6 u |

*It is recommended to store the OKT in a dry and closed place and far away from different chemical products.*



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# TO: DUCT PLUG FOR EMPTY CONDUIT PRODUCT DESCRIPTION

## DESCRIPTION DU PRODUIT

Used to seal and seal temporarily empty subterranean duct, ie without cable.

Ensure that in the future these ducts will be in perfect condition for facilities subconducts or cables, prevented the entry of liquids, chemicals, dirt, gases, rodents, and any other element that can hinder and even prevent the use of the duct.

## PRODUCT FEATURES

Quick and easy installation, saving time in assembly and disassembly. Duct sealing and sealing plastic, metal and even cement (depending on the permeability of the latter) supporting an internal pressure 50 KPa above.

Reusable, once uninstalled can be reinstalled again as many times as needed.
Minimum useful life 20 years. The plug of KONEKT ensures reliable and secure installation for many years.

It is the only seal of empty ducts approved and used by *Telefónica of Spain* in their facilities.

| Model | Ref. | Ø mm Duct Ext. | Ø mm Duct Int. |
|---|---|---|---|
| **TO25** | **511380** | 25 | 21-23 |
| **TO32** | **546152** | 32 | 27,5-30 |
| **TO40** | **546151** | 40 | 32-35,5 |
| **TO63PEAD** | **511382** | 63 | 52-56 |
| **TO63** | **511417** | 63 PEAD | 56-61 |
| **TO90** | **544833** | 90 | 91-96 |
| **TO100** | **545619** | 110 | 95-100 |
| **TO110** | **544825** | 110 | 102,5-107,5 |

## LABORATORY TESTS

**TEMPERATURE TEST**
20 cycles of 12 hours at 50kPa of pressure, switching temperature between –15°C and +30°C.

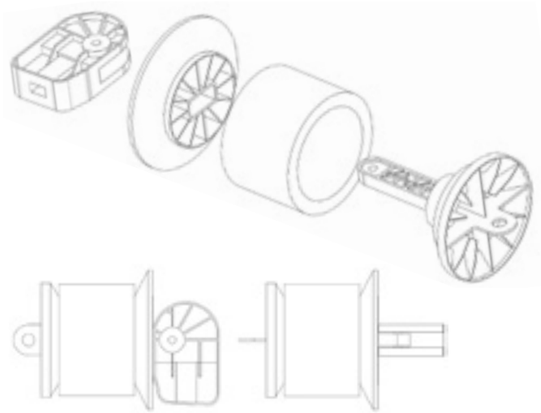
**VIBRATION TEST**
10 days with 10 Hz frequency cycles, 6 mm amplitude and pressure of 50 kPa.

**MECHANICAL TESTS**
Tensile test D/2 x 10 N (5h), D twisting N (5 min in each direction) and folding action between 35 and 45 degrees (5 min each way).

**CHEMICAL RESISTANCE TEST**
Chlorhydric acid (pH 2), sodium hydroxide (pH 12), sodium sulfate, sodium chloride, and diesel oil.

**LEAK TEST**
Water immersion for 48 hours with 50 kPa of pressure in the conduit after the previous tests.

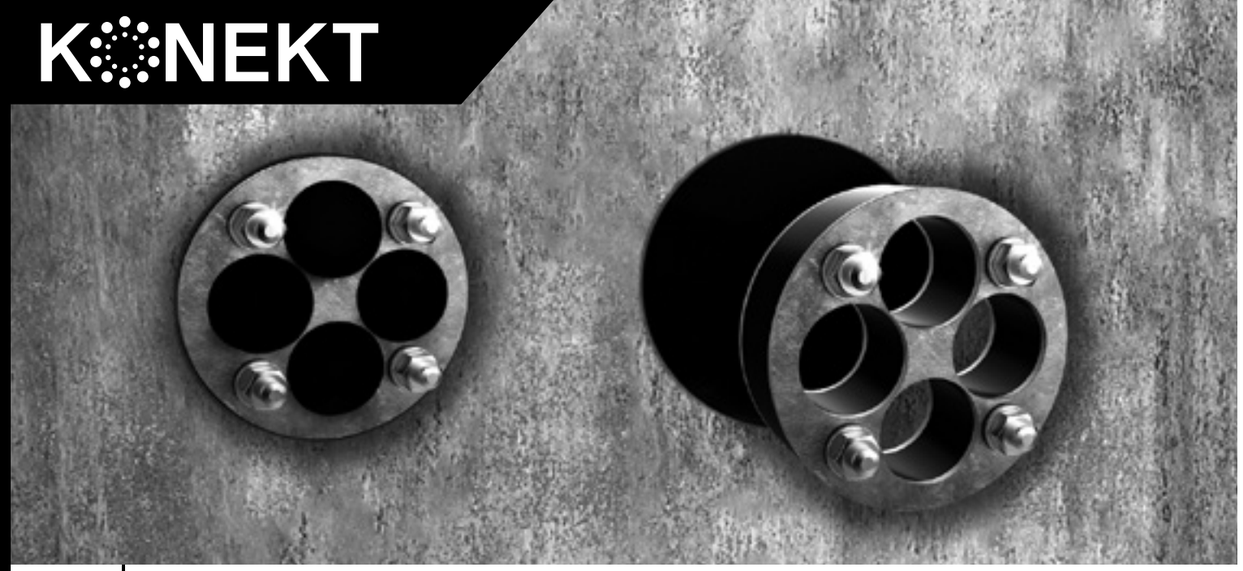
## PLANIMETRY



**TA32**
Empty duct
**Ref. 546152**

**TA63**
Empty duct
**Ref. 511382**

**TA110**
Empty duct
**Ref. 544825**



# TA: ANCHORING AND SEALING PLUG

## PRODUCT DESCRIPTION

Cet élément assure l'ancrage et l'étanchéité de l'ensemble formé par la conduite et les sous-conduites placées dedans, évitant ainsi l'entrée pour chacun d'eux, de tout liquide, de toute substance chimique, saleté, gaz, nuisible ou tout autre élément qui pourrait nuire à son utilisation et son efficacité.

Inoxydable et résistant aux conditions extérieures diverses, tant en surface qu'en installation souterraine.

## PRODUCT FEATURES

Installation rapide et facile, il permet de gagner du temps tant au montage qu'au démontage. Plusieurs modèles sont disponibles pour s'adapter au diamètre de conduites de 90, 100, 110 et sous-conduites de 32 et 40 mm avec plusieurs possibilités d'ouvertures : 2, 3, ou 4. Réutilisable plusieurs fois après démontage.

Durée de vie du produit estimée à 20 ans.

Le bouchon d'ancrage de KONEKT, garanti une installation fiable et sûre pour plusieurs années. Il est l'unique bouchon d'ancrage homologué et utilisé par *Telefónica Espagne*.

| Model | Ref. | Ø mm Duct Ext. | Ø mm Duct Int. | Ø mm Ext sub. | Sub. |
|---|---|---|---|---|---|
| TA110 - 3 x 25 - 2 x 40 | 511437 | 110 | 102,5-108 | 25-40 | 5 |
| TA110 - 3 x 32 | 511432 | 110 | 102,5-108 | 32 | 3 |
| TA110 - 4 x 32 | 511433 | 110 | 102,5-108 | 32 | 4 |
| TA110 - 3 x 40 | 511439 | 110 | 102,5-108 | 40 | 3 |
| TA90 - 2 x 40 | 511404 | 90 | 87-92 | 40 | 2 |
| TA100 - 2 x 40 | 511421 | 100 | 94-99 | 40 | 2 |

## LABORATORY TESTS

**TEMPERATURE TEST**
20 cycles of 12 hours at 50kPa of pressure, switching temperature between –15°C and +30°C.

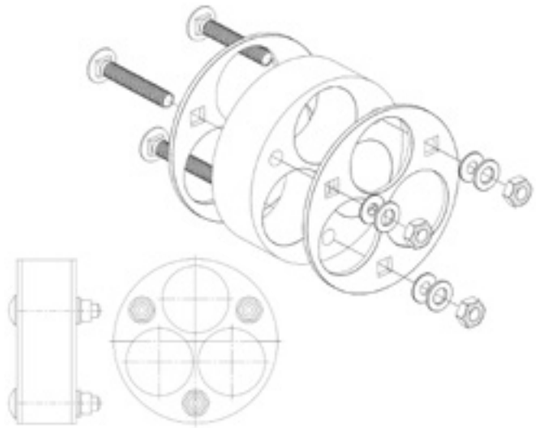
**VIBRATION TEST**
10 days with 10 Hz frequency cycles, 6 mm amplitude and pressure of 50 kPa.

**MECHANICAL TESTS**
Tensile test D/2 x 10 N (5h), D twisting N (5 min in each direction) and folding action between 35 and 45 degrees (5 min each way).

**CHEMICAL RESISTANCE TEST**
Chlorhydric acid (pH 2), sodium hydroxide (pH 12), sodium sulfate, sodium chloride, and diesel oil.

**LEAK TEST**
Water immersion for 48 hours with 50 kPa of pressure in the conduit after the previous tests.

## PLANIMETRY

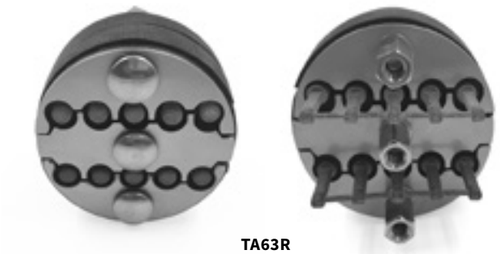


## TA63 – ANCHORING AND SEALING PLUG WITHOUT DISASSEMBLY OF CABLES

This product has the particularity of being reusable without removing cables already installed. It is possible to adapt this solution to the different technical configurations of our customers. For F.O. cable diameter from 5 to 7 mm.

## PRODUCT FEATURES

Metal Plate (AISI 304 steel).
Intermediate part of vulcanized thermoplastic.
Plastic plug made of polypropylene.
A2 stainless steel screws.



**TA63R**
Subconduct for 5 until 7 mm

**TA110 - 3 x 25 - 2 x 40**
Subducts of 25 until 40 mm
**Ref. 511437**

**TA110 - 3 x 32**
Subducts until 32 mm
**Ref. 511432**

**TA110 - 4 x 32**
Subducts until 32 mm
**Ref. 511433**

**TA110 - 3 x 40**
Subducts until 40 mm
**Ref. 511439**

**TA90 - 2 x 40**
Subducts until 40 mm
**Ref. 511404**

**TA100 - 2 x 40**
Subducts until 40 mm
**Ref. 511421**



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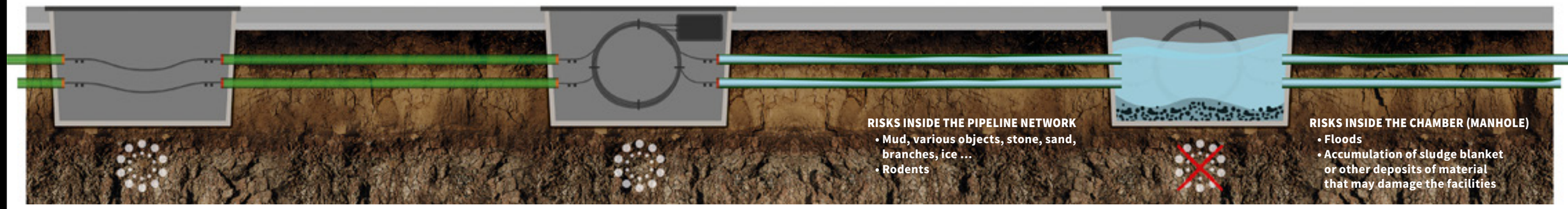
# SOLUTIONS DESIGNED TO LAST AND ADD VALUE AT YOUR INVESTMENTS

## PREPARE CABLES CHAMBERS TO FUTURE DEPLOYMENT

The complete solution for sealing that KONEKT provide allow several benefits in the short and medium term.

We recommend the installation of our OKT, TO, TA products in each cable chamber to secure the infrastructures. These products can be adapted according to the technical needs of the operators.

| SHORT TERM | MEDIUM / LONG-TERME |
|---|---|
| • Reduced incidence rate | • Better management in case of changing technology |
| • Reduce breakdowns rate | • Faster deployment of future fibre optic network |
| • Faster deployment of fibre optic network and lower cost in civil engineering | • Maintain the value of infrastructure assets |



## SOLUTIONS DESIGNED TO LAST AND ADD VALUE AT YOUR INVESTMENTS

### SHORT-TERM BENEFITS

**REDUCTION OF THE NUMBER OF INCIDENTS**
Class of most common incidents: floods and Effects of floods that block the ducts.

**REDUCTION OF BREAKDOWNS**
Class of major breakdowns: cable cutting by rodents or Sunken.

**FASTER DEPLOYMENT OF FIBRE OPTIC NETWORK AND REDUCTION OF CIVIL ENGINEERING COSTS**
Having the cable chamber protected and sealed allows to add cables without problems over the existing pipeline network.

### MEDIUM AND LONG-TERM BENEFITS

**BETTER MANAGEMENT IN CASE OF CHANGING TECHNOLOGY**
Time and money saved in case of changing from copper to fibre. In addition, the technology may change after the fibre, however, chamber will be prepared for those changes.

**FASTER DEPLOYMENT OF FUTURE FIBRE OPTIC NETWORK**
Direct consequences of good infrastructure ready for future projects. No additional investment to provide in civil engineering.

**MAINTAIN THE VALUE OF INFRASTRUCTURE ASSETS**
Investments in infrastructure are very expensive in civil engineering. So, we preserve the value of the network with our products.

### CHAMBER (MANHOLE) WITHOUT PROTECTION

**HIGH INTERVENTION COSTS**
**In case of flood for example:** sending a team with a pump and equipment to empty the register rooms. Our products work as a dam to each chamber.

**HIGH COSTS BECAUSE OF LOST TIME**
Localisation of Incidences or localisation of breakdowns. To start construction work we often need works permits issued by town halls to intervene and make a trench for example.

**DIRECT COSTS ON INFRASTRUCTURE**
Staff + Authorizations + Excavator ... etc.
= All expensive work when an entire pipe is lost.

**DIRECT IMPACT ON TURNOVER**
Claims, commercial rebates, increased customer service calls and high image cost.

Sometimes it is possible to bypass the service or reconnect the user in another area however, at some point it will be necessary to intervene directly in the infrastructure. Unless deciding to abandon this portion of the network therefore we have a direct loss.

**At the short term, our products help solve more quickly problems in case of incidents and breakdowns.**

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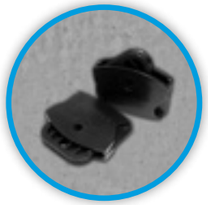
46200 PAIPORTA (VALENCIA - ESPAGNE)

# **AERIEL** SOLUTIONS **& FAÇADES**



### UNIVERSAL DROP CLAMP FOR OPTICAL FIBRE CABLE

The new universal drop clamp for optical fibre allows secure installations on walls and poles for overhead lines, retaining the cable firmly.
This product can be uses for optical fibre cable) and the copper retainer.

### UNIVERSAL DROP CLAMP FOR OPTICAL FIBRE CABLE COPPER OPTION

This drop clamp is recommended for 5mm copper cables. Allows safe installations on poles for aerial laying and facades, retaining the cable firmly over short distances (10 meters).

### FIBRE OPTIC DROP CLAMP WITH LEVER

The drop clamp for optical fibre with lever, for optical fibre, allows secure installations on walls and poles for overhead lines, retaining the cable firmly.

### FIBRE OPTIC CURVED DROP CLAMP WITH LEVER

This device is suitable for optic fibre cables of de 7 mm. allows safe installations on poles for aerial laying and facades, retaining the cable firmly over long distances (100 meters).

### COMPLEMENTARY PRODUCTS FOR AERIAL SOLUTIONS AND FACADES

In our range of products, we have integrated a set of complementary references to the air installations.

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46200 PAIPORTA (VALENCIA - ESPAGNE)

# UNIVERSAL DROP CLAMP FOR OPTICAL FIBRE CABLE (Copper option available)

## PRODUCT DESCRIPTION

The new universal drop clamp for optical fibre allows secure installations on walls and poles for overhead lines, retaining the cable firmly.
This product can be uses for optical fibre cable) and the copper retainer.

The universal drop clamp allows safe installations on poles for aerial laying and facades, retaining the cable firmly over short distances (10 meters).

The main advantage of this new product is its versatility, since it can be used in both, fibre optic cables and copper cables.

**Universal drop clamp for optical fibre round cable**
**Ref. MT542417**

## BENEFITS

### SUSTAINABILITY

The lifespan of the product is more than 20 years.

### MECHANICAL RESITANCE

Product composed of a thermoplastic material that allows it to resist at important withstand stresses cables.

### VERSATILITY

Possibility of use in central fixation (on facade) or by hook (of a facade to another façade for example.)

## PRODUCT FEATURES

It consists of an element formed by two plastic pieces: a main body and a moving part. The moving part slides and rotates inside the main body to exert the forces that allow the retention of the cables. The cable is housed between the main body and the movable part.

**The universal drop clamp,** withstands a tensile strength above 850 N and is very resistant to UV rays.

It can be installed easily on walls using just a screwdriver.

Although it is designed to wire 5 mm of diameter. It can be used securely with similar dimensions. The fastening to poles is done by hooks. Possibility of stacking the product.

**Tolerances allowed are as follows:** for 4 mm at 6 mm cables.

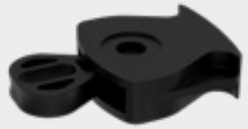
This product fulfills the same functions as the other Drop clamp with lever provided for F.O cables or the Drop Clamp for copper cable.

## DROP CLAMP FOR COPPER CABLES

**No tolerances allowed:** for 5 mm cables.

The drop clamp for copper cables, withstands a tensile strength above 850 N and is very resistant to UV rays. it is designed with the same materials as the universal drop clamp.

**Use:** allows safe installations on poles for aerial laying and facades, retaining the cable firmly over short distances (10 meters).

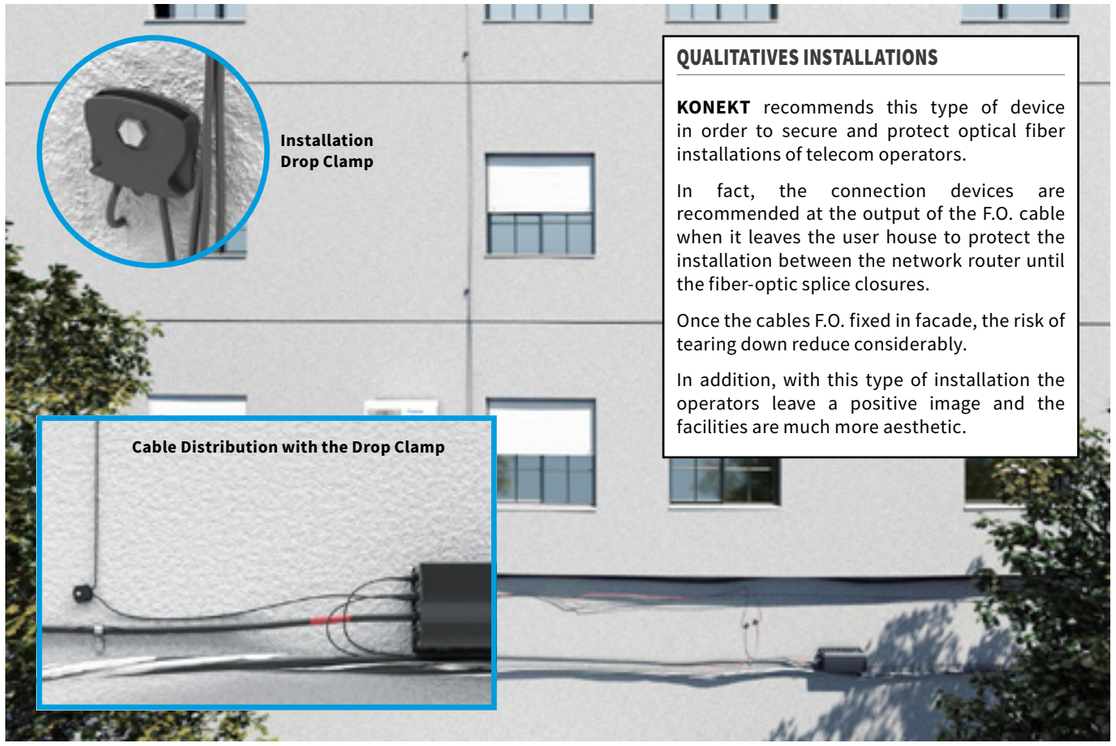


**Drop Clamp**
**Ref. 542415**





## EXAMPLE FACADE INSTALLATION




### QUALITATIVES INSTALLATIONS

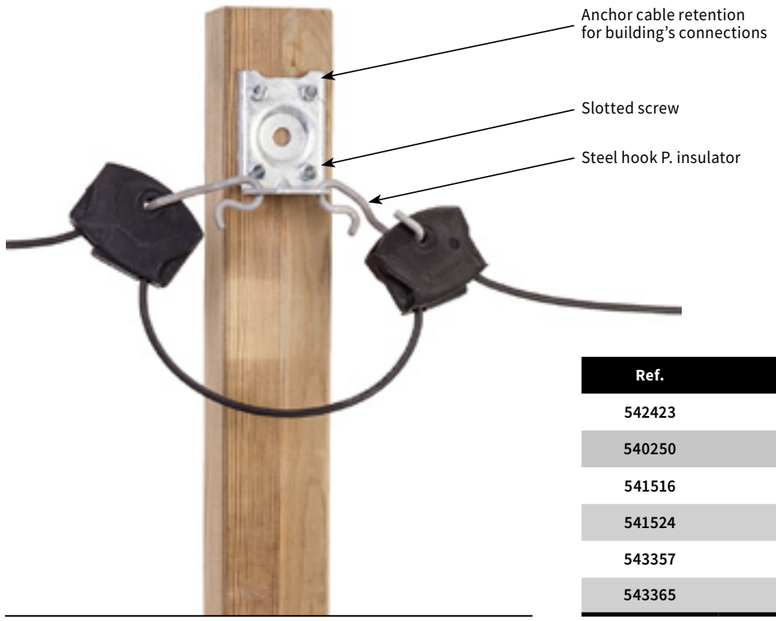
**KONEKT** recommends this type of device in order to secure and protect optical fiber installations of telecom operators.

In fact, the connection devices are recommended at the output of the F.O. cable when it leaves the user house to protect the installation between the network router until the fiber-optic splice closures.

Once the cables F.O. fixed in facade, the risk of tearing down reduce considerably.

In addition, with this type of installation the operators leave a positive image and the facilities are much more aesthetic.

## EXAMPLE INSTALLATION ON WOOD POLE (additional installation accessories)




| Ref. | Description |
|---|---|
| 542423 | Anchor cable retention rush |
| 540250 | Steel hook p. insulator |
| 541516 | Screw 6 x 30 Din 571 - Slotted |
| 541524 | Screw 6 x 60 Din 571 - Slotted |
| 543357 | Anchor exp. Polyamide fins 10 x 25 |
| 543365 | Anchor exp. Polyamide fins 10 x 50 |

# FIBRE OPTIC DROP CLAMP WITH LEVER (Curved option available)

## PRODUCT DESCRIPTION

The drop clamp for optical fibre with lever, for optical fibre, allows secure installations on walls and poles for overhead lines, retaining the cable firmly.

This drop clamp allows safe installations on poles for aerial laying and facades, retaining the cable firmly over short distances (10 meters).

The main advantage and innovation is that the drop clamp for optical fibre does not produce any curvature in the fibre optic cable, so that their properties remain intact.

It is made of thermoplastic material UV, ideal for outdoor use. Attachment to poles or walls with fixing screws or wall hooks. It can be installed easily and stacked several of them.

**Fibre optic drop clamp with lever**
**Ref. JZ542416**

## BENEFITS

### SUSTAINABILITY

The lifespan of the product is more than 20 years.

### MECHANICAL RESITANCE

Product composed of a thermoplastic material that allows it to resist at important withstand stresses cables.

### VERSATILITY

Possibility of use in central fixation (on facade) or by hook (of a facade to another façade for example.)

## PRODUCT FEATURES

This drop clamp, withstands a tensile strength above 850 N and is very resistant to UV rays.

It can be installed easily on walls using just a screwdriver. It can be used securely with similar dimensions.
The fastening to poles is done by hooks. Possibility of stacking the product.

Although it is designed to wire diameter of 5 mm. It can be used with fully guarantee to be used with similar dimensions.

**Tolerances allowed are as follows:** for 4 mm at 6 mm cables.

The lifespan of the product is more than 20 years.

### FIBRE OPTIC DROP CLAMP CURVED WITH LEVER

**Tolerances allowed are as follows:** for 6 mm at 8 mm cables.

The drop clamp curved with lever, withstands a tensile strength above 850 N and is very resistant to UV rays.

It is designed with the same materials as the universal drop clamp.

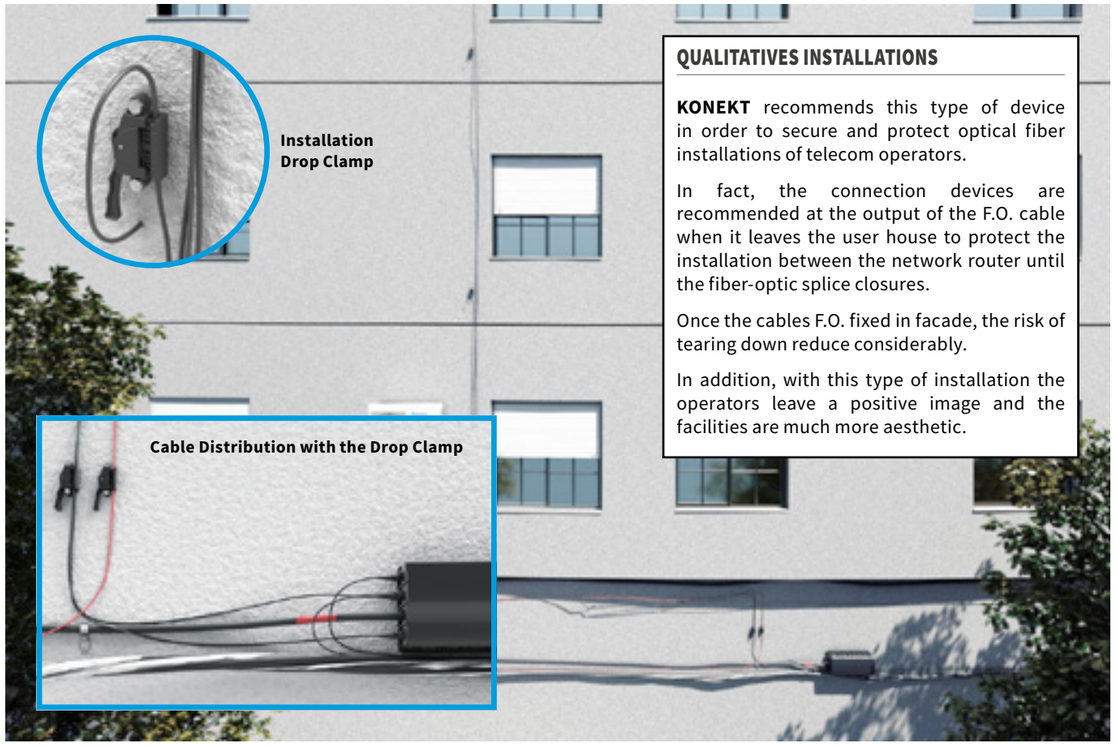
**Use:** allows safe installations on poles for aerial laying and facades, retaining the cable firmly over long distances (100 meters).

**Fibre optic drop clam with lever**
**Ref. MT542417**





## EXAMPLE FACADE INSTALLATION




### QUALITATIVES INSTALLATIONS

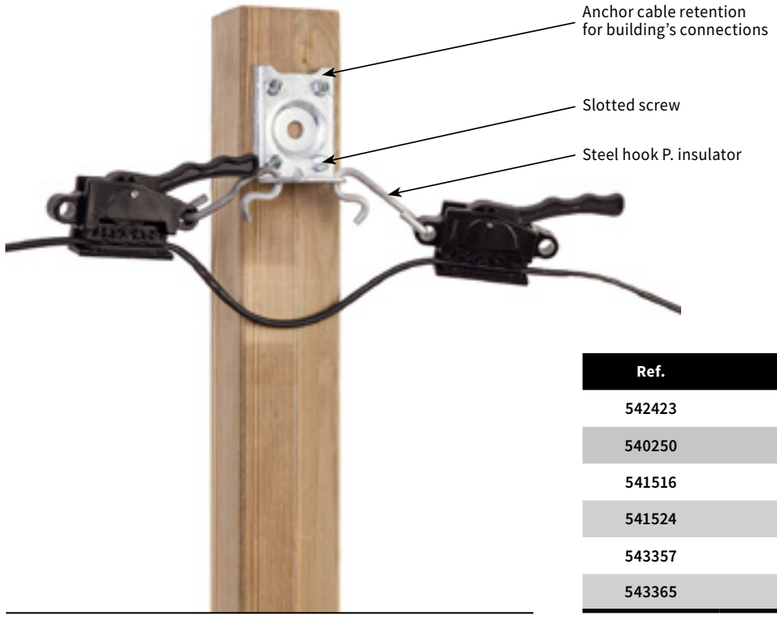
**KONEKT** recommends this type of device in order to secure and protect optical fiber installations of telecom operators.

In fact, the connection devices are recommended at the output of the F.O. cable when it leaves the user house to protect the installation between the network router until the fiber-optic splice closures.

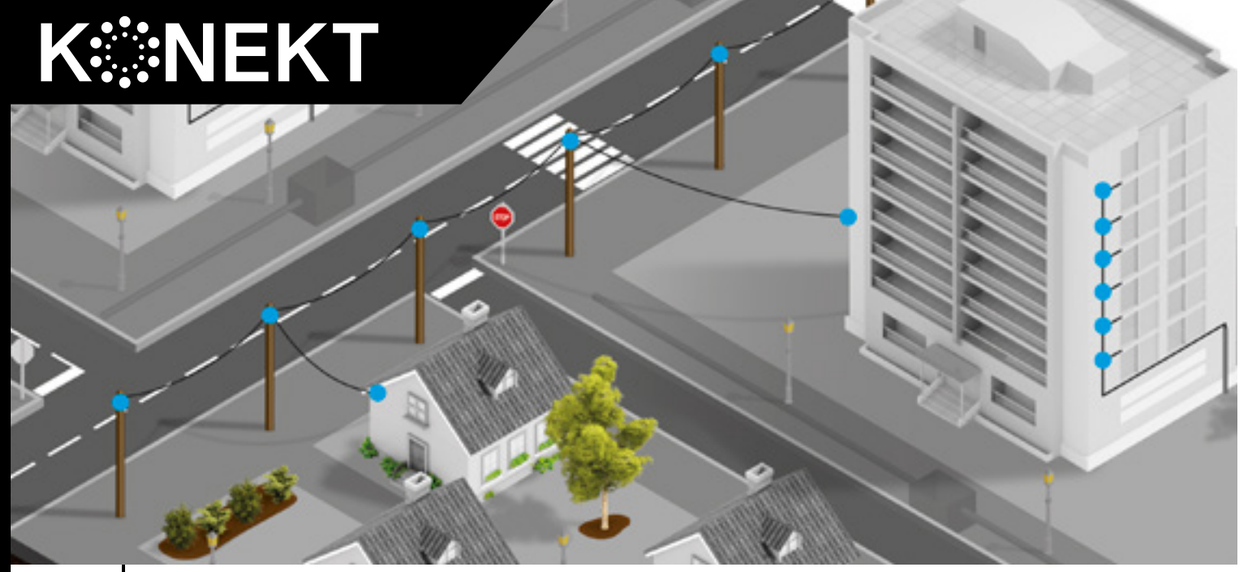
Once the cables F.O. fixed in facade, the risk of tearing down reduce considerably.

In addition, with this type of installation the operators leave a positive image and the facilities are much more aesthetic.

## EXAMPLE INSTALLATION ON WOOD POLE (additional installation accessories)




| Ref. | Description |
|---|---|
| 542423 | Anchor cable retention rush |
| 540250 | Steel hook P. insulator |
| 541516 | Screw 6 x 30 Din 571 - Slotted |
| 541524 | Screw 6 x 60 Din 571 - Slotted |
| 543357 | Anchor exp. Polyamide fins 10 x 25 |
| 543365 | Anchor exp. Polyamide fins 10 x 50 |



# COMPLEMENTARY PRODUCTS FOR AERIAL SOLUTIONS AND FACADES

### CATEGORY CONNECTION FOR F.O. CABLES AND COPPER

- 1 FIBRE OPTIC DROP CLAMP WITH LEVER
- 1 FIBRE OPTIC CURVED DROP CLAMP WITH LEVER
- 1 UNIVERSAL DROP CLAMP FOR OPTICAL FIBRE CABLE
- 1 UNIVERSAL DROP CLAMP FOR OPTICAL FIBRE CABLE COPPER OPTION
- 2 ANCHOR CABLE RETENTION FOR BUILDING'S CONNECTIONS & STEEL HOOK P. INSULATOR (WOOD– CONCRETE)

### CATEGORY SET UP AND OPTICAL FIBRE PROTECTION

- 3 REDUCING SLEEVE
- 4 NEOPRENE CONE
- 5 PLASTIC TUBE FACADE (CABLES & FACADES)
- 5 STEEL TUBE FACADE (CABLES & FACADES)
- 6 WOODEN HANDLE
- 7 POLE METAL PROTECTION
- 8 STRIP OF BANDING
- 9 GROUND ELECTRODE
- 10 ANCHOR SCREW FOR WOODEN POLE
- 11 HOOK STRUT
- 12 CABLE CLAMP
- 13 CABLE H07V-U (GROUND/EARTH)

### CATEGORY VARIOUS FIXATION FOR POLES AND FACADES

- 14 GALVANIZED STEEL CLIP
- 14 SCREW FIXING
- 14 GALVANIZED STEEL RING
- 14 RING TIPE C, E, A
- 14 PLASTIFIED IRON WIRE
- 14 RELEASABLE STAINLESS STEEL CABLE TIES
- – SCREW DIN-571
- – MASTIC EPOXY
- – NAIL FOR ROUND CABLE

### CATEGORY MOUNTING HARDWARE

- 15 COILING DEVICE FOR OPTICAL FIBRE CABLE
- 16 ACCESSORY FOR AERIAL CLOSURE ON COILING DEVICE
- – POLE BRACKET CONCRETE FOR AERIAL CLOSURE
- 17 RING NUT
- 17 SQUARE WASHER
- 17 STEEL ANCHOR BOLT

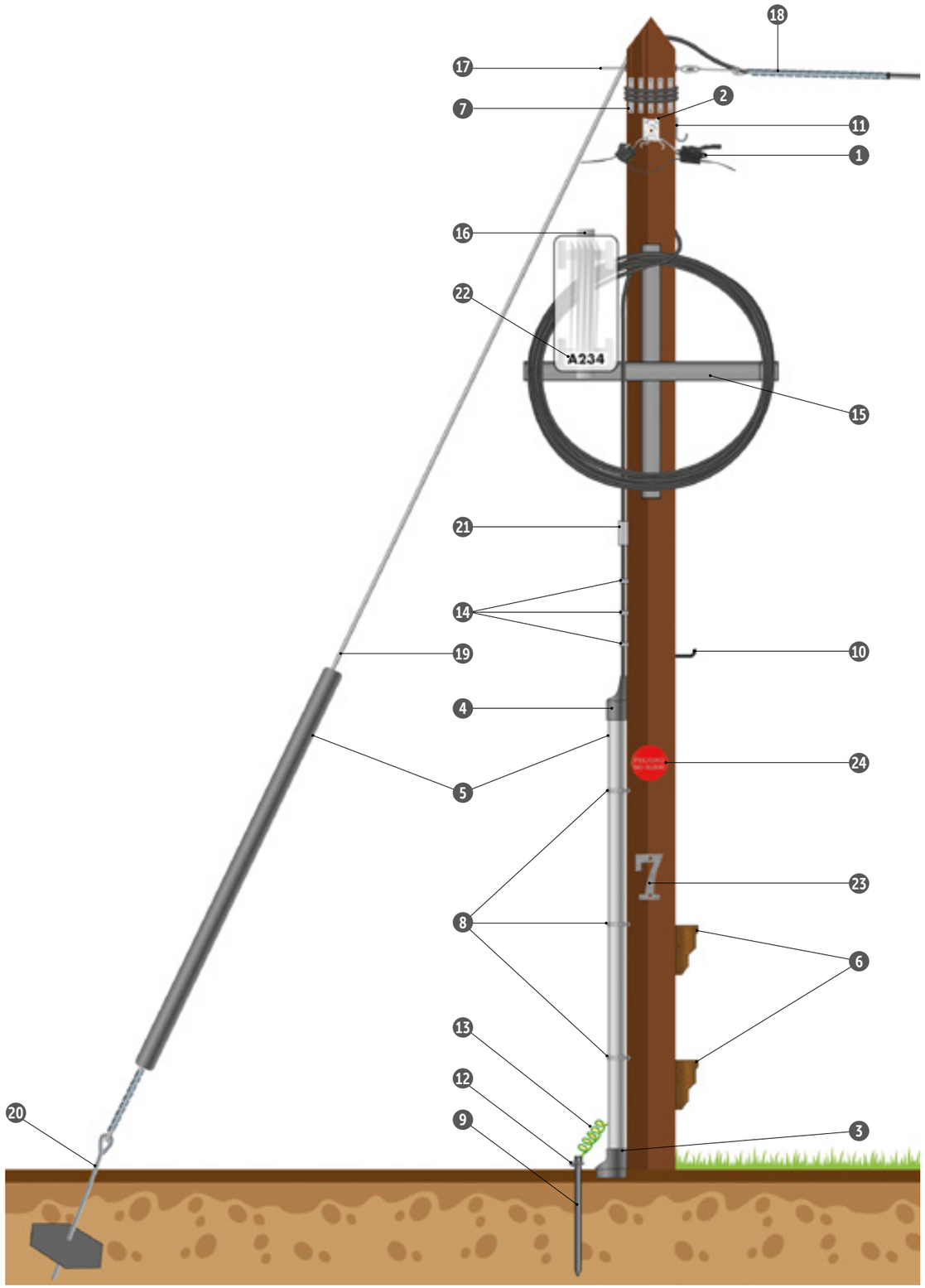
### CATEGORY DEAD-ENDING

- 18 DEAD-END
- 18 DEAD-END WITH ACCESORIES (THIMBLE, TURNBUCKLE)
- 18 RETENTION
- 19 GALVANISED STEEL WIRE FOR SUSPENSION OR STRUT
- 20 CLAMPING BAR

### CATEGORY IDENTIFICATION AND SIGNS

- 21 INDENTIFICATION TAGS FOR CABLES
- – SELF ADHESIVE INSULATION
- 22 ADESIF DIGITS
- 23 ALU & INOX DIGIT
- 24 DISC. SIGNS

**Non-exhaustive list**



## CATEGORY CONNECTION FOR F.O. CABLES AND COPPER

### FIBRE OPTIC DROP CLAMP WITH LEVER

Straight retention element, producing no bending of the cable.
Tensile Strengh above 850 N and is highly resistant to UV rays.
Cables Ø 3,5-5 mm. Composed of PA6 and fiberglass.

| N° | Ref. | Description | Ø | U / Box |
|---|---|---|---|---|
| 1 | JZ542416 | Fibre optic drop clamp with lever | 5 mm | U |

### FIBRE OPTIC CURVED DROP CLAMP WITH LEVER

Curved retention element, producing no bending of the cable.
Tensile Strengh above than 800 N and has a high resistance to UV rays.
Cables Ø 6-8 mm. Composed of PA6 and fiberglass.

| N° | Ref. | Description | Ø | U / Box |
|---|---|---|---|---|
| 1 | 542414 | Fibre optic curved drop clamp with lever | 5 mm | U |

### UNIVERSAL DROP CLAMP FOR OPTICAL FIBRE CABLE

Retention element, made of 2 parts.
Tensile Strengh above than 850 N and is highly resistant to UV rays.
Cables Ø 5-6 mm. Composed of PA6 and fiberglass.

| N° | Ref. | Description | Ø | U / Box |
|---|---|---|---|---|
| 1 | AN542417 | Universal drop clamp for optical fibre cable | 4-6 mm | U |

### UNIVERSAL DROP CLAMP FOR OPTICAL FIBRE CABLE COPPER OPTION

The optional copper connection device is highly resistant to UV rays and has a tensile strengh above than 850 N.
Composed of PA6 and fiberglass.

| N° | Ref. | Description | Ø | U / Box |
|---|---|---|---|---|
| 1 | 542415 | Universal drop clamp for optical fibre cable copper option | 5 mm | U |

### ANCHOR CABLE RETENTION FOR BUILDING'S CONNECTIONS & STEEL HOOK P. INSULATOR (WOOD– CONCRETE)

Anchoring clamps, made in galvanized steel.
Use for fixing drops clamps on wood pole; use at least 2 x 6 x 60 mm screws arranged diagonally.
For concrete poles, we will use concrete metal dowels placed on the central hole.
Elastic limit Reh = 275 N / $mm^2$ minimum.
Tensile Strengh Rm 430 - 580 N / $mm^2$.

| N° | Ref. | Description | Ø | U / Box |
|---|---|---|---|---|
| 2 | 542423 | Anchoring clamps | 6 mm | U |
| | 543250 | Steel hook p. insulator | | |

## CATEGORY SET UP AND OPTICAL FIBRE PROTECTION

### REDUCING SLEEVE

Element that secures the union between the 90/110 rigid PVC connexion and the steel tubes of 48 mm for cable exit.
Casting material type FGE 42-12 (standard UNE 36 188) with thread 1 1/2'' et 2 1/2''.
Elastic limit Reh = 270 N/$mm^2$ minimum.
Tensile Strengh > Rm 400 N/$mm^2$.

| N° | Ref. | Description | Ø | Type | U / Box |
|---|---|---|---|---|---|
| 3 | 510157 | Reducing sleeve | 45 mm | Type A | U |
| | 510165 | | 73 mm | Type B | |

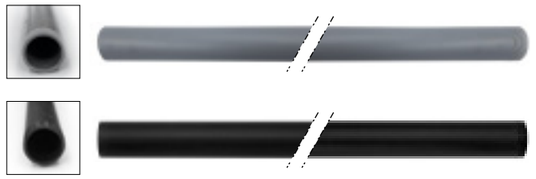
### NEOPRENE CONE

It ensures the closure, in the facade exits, between the pipe and the telephone cable, (maximum diameter 30 mm).
Made from a black neoprene, smooth and homogeneous.

| N° | Ref. | Description | Ø | U / Box |
|---|---|---|---|---|
| 4 | 543489 | Neoprene cone | 30 mm | U |

### PLASTIC TUBE FACADE (CABLES & FACADES)

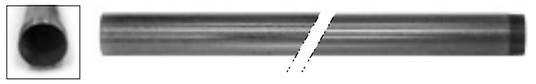
Protective tubes for cables rising from facades or pole.
PVC resistant to UV rays.



| N° | Ref. | Description | Measure | Ø | Color | U / Box |
|---|---|---|---|---|---|---|
| 5 | 501271 | PVC tube facade (cables) | 2,5 m | 30 mm | Grey | U |
| | 510289 | Plastic tube facade | 2,5 m | 30 mm | Black | |
| | 510289.1 | | 2,5 m | 30 mm | Grey | |
| | 510297 | | 2,5 m | 46 mm | Black | |

### STEEL TUBE FACADE (CABLES & FACADES)

Element of protection for the cables in the ascent to facades and / or poles, in hot galvanized iron or PVC resistant to UV rays



| N° | Ref. | Description | Measure | Ø | Type | U / Box |
|---|---|---|---|---|---|---|
| 5 | 510262 | Steel tube | 2,5 m | 50 mm | Facade 1 | U |
| | 510271 | | 2,5 m | 50 mm | Facade 2 | |



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Calle Acequia de Quart, 42
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## CATEGORY SET UP AND OPTICAL FIBRE PROTECTION

### WOODEN HANDLE

To start the climb to the wooden post. With holes for nails fixation.

| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| 6 | 500526 | Wooden handle | 200 mm | 100 |

### POLE METAL PROTECTION

Protective sheet, which protects the pole from the friction of the steel cable. Manufactured in hot-dip galvanized steel.

| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| 7 | 500216 | Pole metal protection | 200 mm | 100 |

### STRIP OF BANDING

Perforated steel strip galvanized.
Length 10 m - Width 17 mm - Thickness 0,80 mm.
Distance between perforations 20 mm - Empty space 7 mm Ø.
Mainly used to support side exit pipes in facades, walls and posts. Can be used to insure other elements.

| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| 8 | 540307 | Strip of banding | 10 m | U |

### GROUND ELECTRODE

It is recommended to bury the element near the pole to avoid possible electric shocks (Mass / Earth).
Made of hot-dip galvanized steel.

| N° | Ref. | Description | Mesure | U / Box |
|---|---|---|---|---|
| 9 | 571695 | Ground electrode | 2 m | U |





## CATEGORY SET UP AND OPTICAL FIBRE PROTECTION

### ANCHOR SCREW FOR WOODEN POLE

Used for climbing on wood pole.

| N° | Ref. | Description | U / Box |
|---|---|---|---|
| 10 | 540480 | Anchor screw for wooden pole | U |

### HOOK STRUT

Located in the center of the pole metal protection, for placement of anchoring retentions.
Manufactured in galvanized steel.

| N° | Ref. | Description | U / Box |
|---|---|---|---|
| 11 | 500232 | Hook strut | U |

### CABLE CLAMP

DIN 741 cable clamp, surface-galvanized.
Used for union or cable assemblies.

| N° | Ref. | Description | Mesure | U / Box |
|---|---|---|---|---|
| 12 | SC04 | Cable clamp D-741 | 4 mm - 1/8" | U |
| | SC05 | | 5 mm - 3/16" | |
| | SC06 | | 6 mm - 1/4" | |
| | SC08 | | 8 mm - 5/16" | |
| | SC10 | | 10 mm - 3/8" | |

### CABLE H07V-U (GROUND/EARTH)

Copper cable with plastic coating (ground / earth).
Protects against electrocution.

| N° | Ref. | Description | Measure | Color | U / Box |
|---|---|---|---|---|---|
| 13 | 570168 | Cable H07V-U – 1,5 mm² | 200 m | Green-Yellow | U |
| | 570893 | Cable H07V-U – 6 mm² | 100 m | | |
| | 571067 | Cable H07V-U – 25 mm² | 100 m | | |

## CATEGORY VARIOUS FIXATION FOR POLES AND FACADES

### GALVANIZED STEEL CLIP

They are used as a fastening system for telephone cables on walls, facades and poles.
The surface of the galvanized steel clip is in contact with the wall, facade or post and allows through a hole its fixation with screws 6 x 30.
Parts manufactured by steel folding, hot galvanized. With a thickness of 1.5-3 mm.
They allow to add rings that are attached to the clip, to pass more cables.

| N° | Ref. | Description | Mesure | Type | U / Box |
|---|---|---|---|---|---|
| 14 | 540501 | Galvanized steel clip | 9 mm | N° 00 | 120 |
| | 540528 | | 12 mm | N° 01 | |
| | 540536 | | 16 mm | N° 02 | |
| | 540544 | | 19 mm | N° 03 | 600 |
| | 540552 | | 22 mm | N° 04 | 700 |
| | 540561 | | 26 mm | N° 05 | 600 |

### SCREW FIXING

Zinc plated, with a tensile strength of 30 kg.
Fixing of PVC and / or iron pipes to facades, walls or posts.

| N° | Ref. | Description | Mesure | U / Box |
|---|---|---|---|---|
| 14 | ABPU025 | Screw fixing | 25 mm | 100 |
| | ABPU032 | | 32 mm | 50 |
| | ABPU040 | | 40 mm | |
| | ABPU050 | | 50 mm | |
| | ABPU063 | | 63 mm | |

### GALVANIZED STEEL RING

They are used as a fastening system for telephone cables on walls, facades and poles.

| N° | Ref. | Description | Type | U / Box |
|---|---|---|---|---|
| 14 | 540099 | Galvanized steel ring | Type 1 | 1000 |
| | 540102 | | Type 2 | 500 |

### RING TIPE C, E, A

They are used as fastening system for telephone cables on walls, facades and poles.
Its design facilitates the installation - uninstallation of the cable, while avoiding its accidental exit.
Parts manufactured by steel folding, hot galvanized.
With a thickness of 5 mm.
Inside diameters: 20 mm (E) - 35 mm (C) - 45 mm (A)

| N° | Ref. | Description | Type | U / Box |
|---|---|---|---|---|
| 14 | 540072 | Ring tipe | Type C | 375 |
| | 540081 | | Type E | 1000 |
| | 540064 | | Type A | 300 |



## CATEGORY VARIOUS FIXATION FOR POLES AND FACADES

### PLASTIFIED IRON WIRE

Reel of 120 meters of wire used to sew the telephone cable to the suspension steel cable.
Made of steel covered with plasticized coating, black color.

| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| 14 | 544108 | Plastified iron wire | 120 m | U |

### RELEASABLE STAINLESS STEEL CABLE TIES

Releasable stainless steel cable ties , resistant to the most corrosive environments and coated with polyamide that provides greater protection and durability.It is used to hold mainly cables, but they can also be used to hold other elements. This product can be recovered and reused.
Thickness steel 0,5 mm. Thickness with 1.5 mm coating. Width 10 mm.
Elastic limit Reh = 200 N / $mm^2$ minimum.
Tensile strength> Rm 500 N / $mm^2$. Elongation at break = 40%.

| N° | Ref. | Description | Measure | Type | Span lengh | U / Box |
|---|---|---|---|---|---|---|
| 14 | MT540324 | Releasable stainless steel cable ties | 200 x 10 mm | 60 mm | 80 kg | 100 |
| | MT540332 | | 450 x 10 mm | 137 mm | 81 kg | |
| | MT540341 | | 600 x 10 mm | 185 mm | 82 kg | |

### SCREW DIN-571

Screw DIN-571, hexagonal head and slotted, made of galvanized steel.
Several uses, the main ones are, fixing staples, strip of banding, drop clamp, anchors, etc.

| N° | Ref. | Description | Measure | Ø | Type | U / Bte |
|---|---|---|---|---|---|---|
| – | 541516 | Nail 6 x 30 | 30 mm | 6 mm | Zinc | 100 |
| | 541524 | Nail 6 x 60 | 60 mm | 6 mm | | |

### MASTIC EPOXY

Element to ensure the closure, in the pole exits, between the tube and the telephone cable.
For use in 2 1/2 «tubes

| N° | Ref. | Description | U / Box |
|---|---|---|---|
| – | 542016 | Mastic epoxy - 5 kg | U |

### NAIL FOR ROUND CABLE

Fixing of stainless numbers, signalling discs and protective sheet.
Made of galvanized steel.

| N° | Ref. | Description | Measure | Type | U / Box |
|---|---|---|---|---|---|
| – | 501034 | Round nail | 40 x 50 | Zinc | 5 kg |
| | 501042 | | 30 x 35 | | |

## CATEGORY MOUNTING HARDWARE

### COILING DEVICE FOR OPTICAL FIBRE CABLE

Designed to store the F.O. cable on pole or wall. Used for installing fibre splice closures.
Manufactured in hot galvanized steel.
Resistance limit Reh = 235 N / mm$^2$ minimum.
Tensile strength Rm 340 - 470 N / mm$^2$.

| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| 15 | 503339 | Coiling device for optical fibre cable | 110 x 110 mm | 5 |

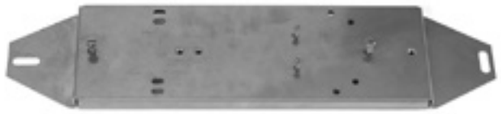
### ACCESSORY FOR AERIAL CLOSURE ON COILING DEVICE

Designed to hold fibre splice closures on poles or walls.
Manufactured in hot galvanized steel.
Resistance limit Reh = 235 N / mm$^2$ minimum.
Tensile strength Rm 340 - 470 N / mm$^2$.

| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| 16 | 546852 | Accessory for aerial closure on coiling device | 40 mm | 4 |

### POLE BRACKET CONCRETE FOR AERIAL CLOSURE

For fixing fibre splice closures, on concrete poles. Manufactured in INOX.
Elastic limit Reh = 175 N / mm$^2$ minimum. Tensile strength Rm 500 - 700 N / mm$^2$.



| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| – | MT502056 | Pole bracket concrete for aerial closure | 40 mm | U |

### RING NUT

Ring nut DIN 582, guaranteeing a good resistance to corrosion.
It is mainly indicated to tie the cables to the poles.

| N° | Ref. | Description | Type | U / Box |
|---|---|---|---|---|
| 17 | 541737 | Ring nut | M16 - Femelle D - 582 | U |
| | 541736 | | M10 - Femelle D - 582 | |



## CATEGORY MOUNTING HARDWARE

### SQUARE WASHER

For fixing bolts. Designed to be used with a bolt and its ring nut.
Made of hot-dip galvanized steel.

| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| | 500054 | | 57 x 6 mm | |
| 17 | 500062 | Square washer 57 x 57 x 6 mm | 20 mm | 10 |
| | 500071 | | 30 mm | |

### STEEL ANCHOR BOLT

Used to support the clamps fixing overhead cables.
Made of galvanized steel.

| N° | Ref. | Description | Measure | U / Box |
|---|---|---|---|---|
| | 500488 | | 360 mm | |
| 17 | 500496 | Steel anchor bolt | 420 mm | 25 |
| | 500500 | | 480 mm | |

## CATEGORY DEAD-ENDING

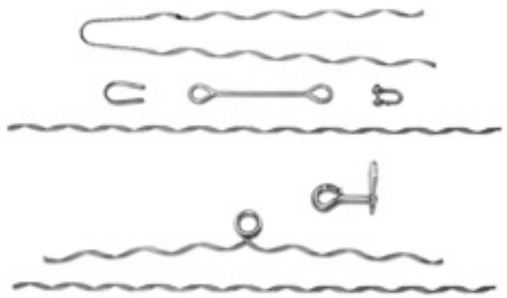
### DEAD-END

Designed to hold the cable at the exit of the poles.

| N° | Ref. | Description | Type - Ø Cable | Stan lenght | U / Box |
|---|---|---|---|---|---|
| 18 | 541770 | Dead-end | Anc 8" 4,8 - Cable 16 mm | < 90 M | 10 |
| | RAAC 039-043 | | Ono - Cable 4 mm | | |

### DEAD-END WITH ACCESORIES (THIMBLE, TURNBUCKLE)

Designed to hold the cable at the exit of the poles.



| N° | Ref. | Description | Type - Ø Cable | Stan lenght | U / Box |
|---|---|---|---|---|---|
| 18 | 500316 | Anchoring dead-end | F.O. – KP 11 mm | < 90 m | 10 |
| | 500317 | Dead-end suspension | F.O. – KP 11 mm | | |
| | 500318 | Ancrages spiralés | F.O. – KP 12 mm | | |
| | 500319 | Suspensions spiralés | F.O. – KP 12 mm | | |
| | 500283 | Anchoring dead-end | F.O. | | |
| | 500291 | Dead-end suspension | F.O. | | |
| | 500321 | Anchoring dead-end | F.O. – multi-utilisation | | |
| | 500330 | Dead-end suspension | F.O. – multi-utilisation | | |
| | 500364 | Anchoring dead-end | F.O. 16-17 mm | | |
| | 500372 | Dead-end suspension | F.O. 16-17 mm | | |

### RETENTION

Designed to hold the cable at the exit of the poles.

| N° | Ref. | Description | Type - Ø Cable | Stan lenght | U / Box |
|---|---|---|---|---|---|
| 18 | 501051 | Start-up | 2,5 mm | < 70 m | 10 |
| | 501069 | Start-up | 3 mm | | |
| | 501085 | Anchoring | 2,5 mm | | |
| | 501115 | Anchoring | 2,1 mm | | |
| | 542636 | Connection | 2,5 mm | | |





## CATEGORY DEAD-ENDING

### GALVANISED STEEL WIRE FOR SUSPENSION OR STRUT

Galvanized steel cables, for use in suspension and in braces.

| N° | Ref. | Description | Measure | Type - Ø Cable |
|---|---|---|---|---|
| 19 | 500178 | Galvanised steel wire for suspen-sion or strut | 600 m | 7 Cables x 2,5 mm T - Ø 7,5 Type I |
| | 500186 | | 600 m | 7 Cables x 3 mm T - Ø 9 Type I |
| | 500194 | | 500 m | 7 Cables x 3,5 mm T - Ø 10,5 Type I |
| | 501336 | | 600 m | 7 Cables x 2,5 mm T - Ø 7,5 Type II |
| | 501344 | | 600 m | 7 Cables x 3 mm T - Ø 9 Type II |
| | 501298.1 | Galvanised steel wire for crossings | 600 m | 7 Cables x 1,6 mm |
| | 501298 | Galvanised steel wire for suspension or strut | 1500 m | 7 Cables x 1,6 mm |

### CLAMPING BAR

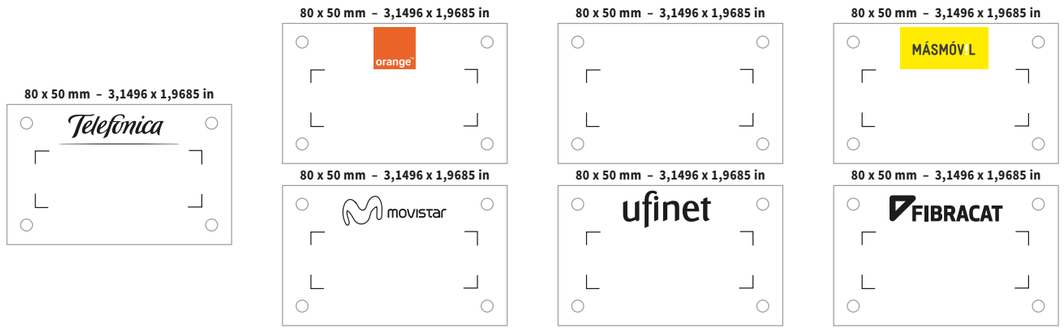
Piece used to tighten the cable used in the bracing of the posts.
Made of galvanized steel.

| N° | Ref. | Description | Type | U / Box |
|---|---|---|---|---|
| 20 | 501182 | Clamping bar | A-3 | U |
| | 501191 | | B-4 | |

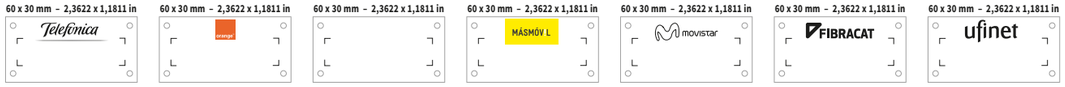
## CATEGORY IDENTIFICATION AND SIGNS

### INDENTIFICATION TAGS FOR CABLES

Labels used primarily to identify cables on fibre splice closures or taps and drains.
Other uses are possible. Adhesive synthetic labels, very weather resistant.




| N° | Ref. | Description | Type | Measure | U / Box |
|---|---|---|---|---|---|
| 21 | 547875 | Indentification tags for cables | Telefonica | 80 x 50 mm | 100 |
| | 547875.OR | | Orange | | |
| | 547875.AN | | Anonyme | | |
| | 547875.MM | | Masmov!L | | |
| | 547875.1 | | Telefonica | | |
| | 547875.OR1 | | Orange | | |
| | 547875.MM1 | | Masmov!L | | |




| N° | Ref. | Description | Type | Measure | U / Box |
|---|---|---|---|---|---|
| 21 | 547876 | Indentification tags for cables | Movistar | 60 x 30 mm | 100 |
| | 547876.OR | | Orange | | |
| | 547876.AN | | Anonyme | | |
| | 547876.MM | | Masmov!L | | |

**KIT PRODUCT, Ref. 547875**

100 tags, size 80 x 50 mm.

2 packages of 100 cable ties manufactured in PA6.6 with U.V. protection

1 indelible marker

1 ruler with template for letters and numbers

**KIT PRODUCT, Ref. 547876**

100 tags, 60 x 30 mm.

2 packages of 100 cable ties manufactured in PA6.6 with U.V. protection

1 stylo indélébile

## LABORATORY TESTS

**THIS PRODUCT RESPECT QUALITATIVE STANDARDS AND GUARANTEED A GREAT DURABILITY:**

**THERMAL CYCLE**
Effective temperature of adhesion between -25°C a 70°C.

**FUNCIONAL TEST**
Resistance to environmental aging, Resistance UV rays.

**MECHANICAL TESTING**
Tensile strength > 70N.

**CHEMICAL RESISTANCE TEST**
Chemical resistance, alcohols, acetone y gasoline. Conditioning for 24h a 23°C y 50%HR.



COMPLEMENTARY PRODUCTS FOR AERIAL SOLUTIONS AND FACADES

## CATEGORY IDENTIFICATION AND SIGNS

### SELF ADHESIVE INSULATION

Self-adhesive insulation made of PVC vinyl film and PSA rubber to provide good insulation properties and permanent adhesion.
Unalterable to most chemicals and moisture.
Excellent resistance to tension strengh and low temperatures.
Products approved by UL CSA CE. It is usually used to indicate different types of cables or to differentiate operators.

| N° | Ref. | Description | Type | Color | U / Box |
|---|---|---|---|---|---|
| – | 540226 | Self adhesive insulation | 10 m x 19 mm | White | 10 |
| | 540242 | | 33 m x 25 mm | Black | |
| | 543934 | | 20 m | Red | |
| | 543942 | | 20 m | Yellow | |
| | 543951 | | 20 m | Green | |
| | 540226.20 | | 20 m | White | |
| | CINTA AIS | | 20 m | Orange | |
| | CINTA AZUL | | 20 m | Blue | |

### ADESIF DIGITS

Numbers and letters in synthetic paper and adhesive. Used mainly to identify cables on fibre splice closures. Other uses are possible

| N° | Ref. | Description | Measure | Type | U / Box |
|---|---|---|---|---|---|
| 22 | 543519 | Adesif digits | 10 mm | N° (0/9) + N° (–) | 11 |
| | 543527 | | 20 mm | N° (0/9) + N° (–) | |
| | 543527.0 | | | N° 0 | |
| | 543527.1 | | | N° 1 | |
| | 543527.2 | | | N° 2 | |
| | 543527.3 | | | N° 3 | |
| | 543527.4 | | | N° 4 | |
| | 543527.5 | | | N° 5 | |
| | 543527.6 | | | N° 6 | |
| | 543527.7 | | | N° 7 | |
| | 543527.8 | | | N° 8 | |
| | 543527.9 | | | N° 9 | |
| | 543527.GUION | | | N° (–) | |
| | 543527.9 | | | 9 | |
| | 543527.GUION | | | (–) | |
| | 543519.PUNTO BAJO | | 10 mm | (.) | |
| | 543527.PUNTO BAJO | | 20 mm | (.) | |
| | 543519.E | | 10 mm | E | |
| | 543527.E | | 20 mm | E | |
| | 543527.A | | | A | |
| | 543527.B | | | B | |
| | 543527.C | | | C | |
| | 543527.D | | | D | |

# CATEGORY IDENTIFICATION AND SIGNS

## ALU & INOX DIGIT

Aluminium numbers, used to identify poles for example.
Made of aluminum or stainless steel.

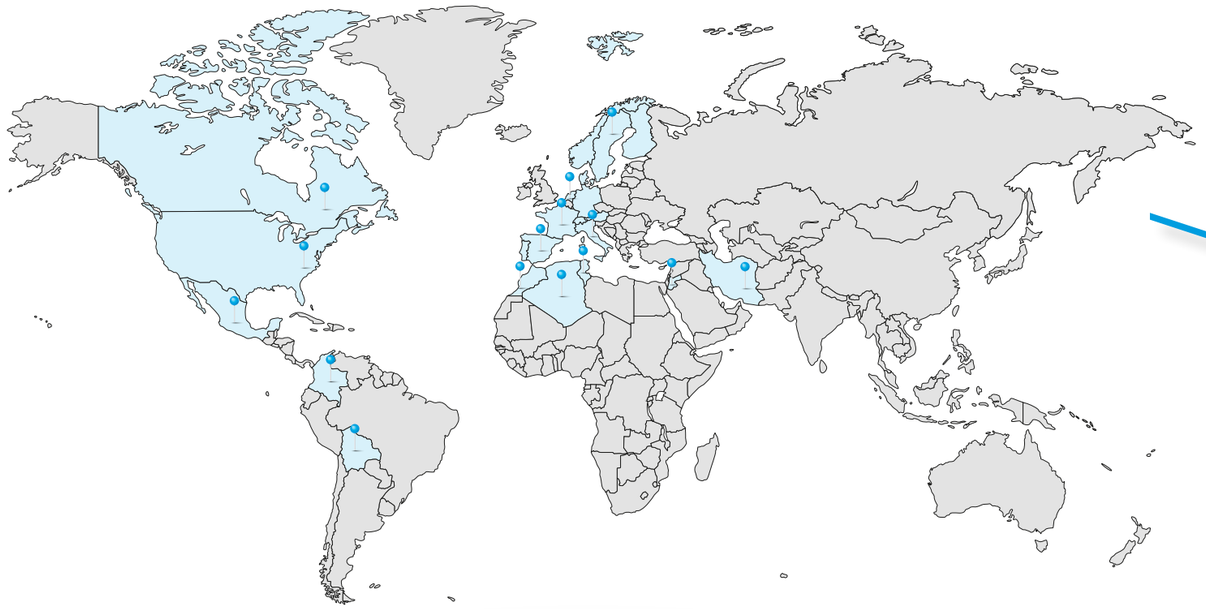
| N° | Ref. | Description | Type | U / Box |
|---|---|---|---|---|
| 23 | 500381 | Alu & inox digit | N° 0 | 25 |
| | 500399 | | N° 1 | |
| | 500402 | | N° 2 | |
| | 500411 | | N° 3 | |
| | 500429 | | N° 4 | |
| | 500437 | | N° 5 | |
| | 500445 | | N° 6 | |
| | 500453 | | N° 7 | |
| | 500461 | | N° 8 | |
| | 500470 | | N° 9 | |

## DISC. SIGNS

Warning discs intended to warn of a danger on the pole.
Made of steel 0.5-1.2 mm.
Available colours: red or yellow.

| N° | Ref. | Description | Type | Color | U / Box |
|---|---|---|---|---|---|
| 24 | 501310 | Disc. Pole danger pole | Métallique | Red | 1 |
| | 501311 | disc. c.coax. danger | Métallique | Yellow | 1 |

# TEAM



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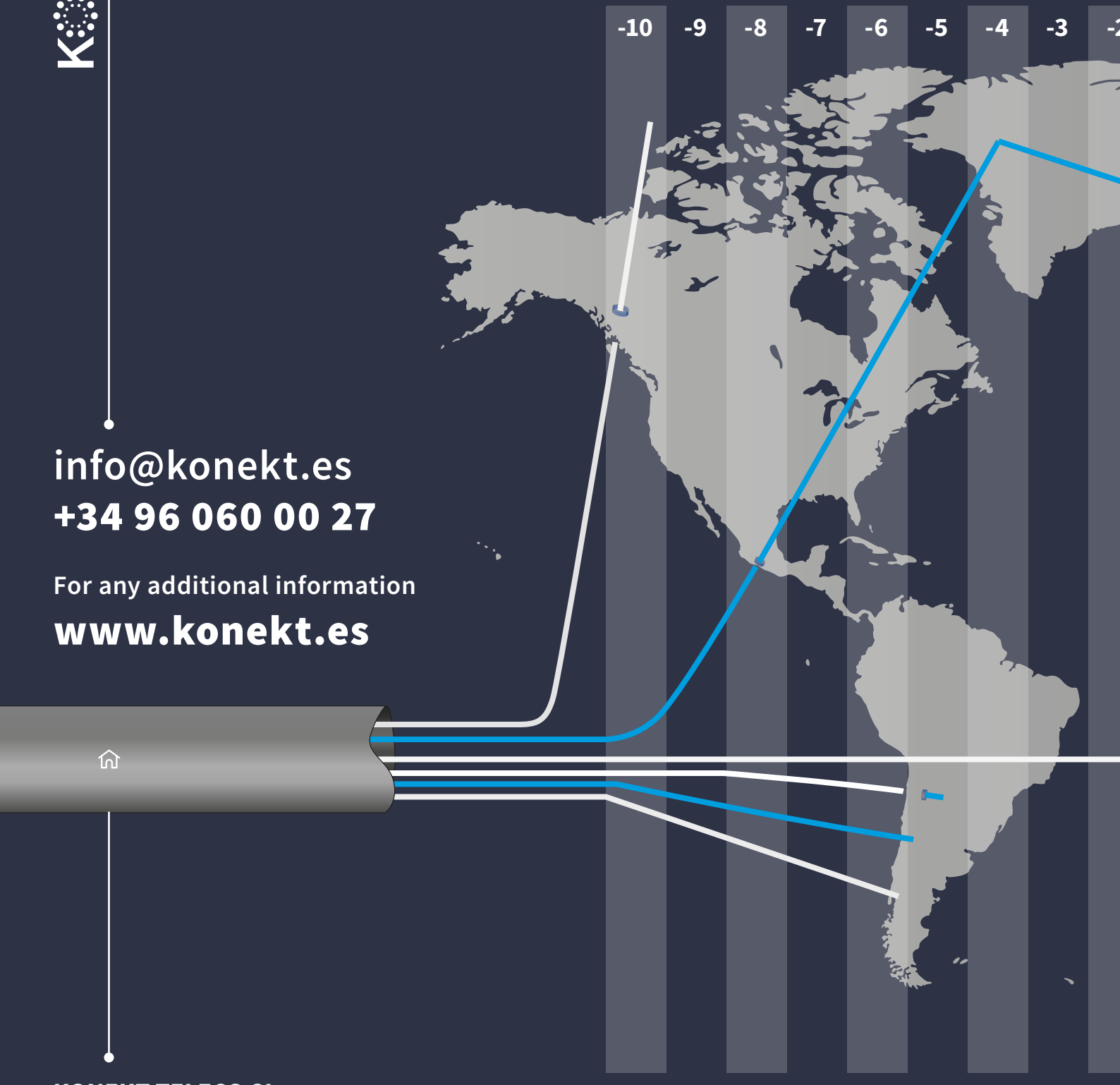


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