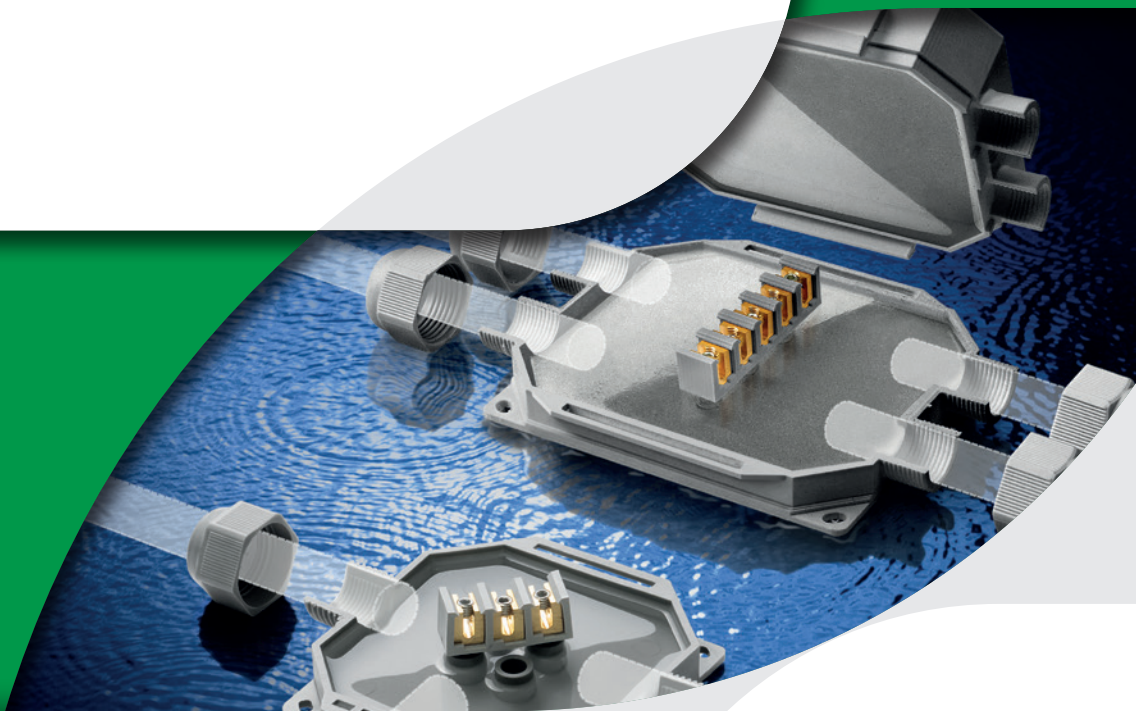


# LOW VOLTAGE

FILLERS - JOINTING BOXES  
CONNECTORS - TERMINAL BLOCKS  
GEL COVER - GEL BOX  
JOINTS - ACCESSORIES







# LOW VOLTAGE FILLERS

## GEL

- MAGIC GEL SPRINT
- MAGIC GEL
- MAGIC FLUID
- MAGIC POWER GEL
- RAY GEL
- WONDER GEL
- MONOGEL

## RUBBER

- GEL GUM
- SKY PLAST
- MAGIC RUBBER

## RESIN

- SEAL UP RESIN
- RAY RESIN





**ALL IN ONE**  
Ready in 1 Bottle!



Gel: UL 94-HB

**Dielectric strength:**

>20 kV/mm

**Cross linking time:**

fast (about 7 min. at 23°C)

**Volume resistivity:**

>2 . 10<sup>15</sup> Ω cm

**Working temperature:**

-60°C / +200°C

**Overload temperature**

for short periods:

up to 250°C

**Stabilised for:**

mould - UV

**Degree of protection:**

IP68 (in proper casings)

Magic Gel Sprint protects against dust and seals the connections from the effects of continuous immersion in water when it is poured into casings protected from the ingress of solid bodies, thus helping to create a **IP68** system.

**IP68**  
OFFICIALLY  
TESTED | **IMQ**



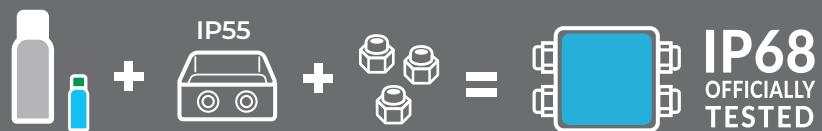
# MAGIC GEL SPRINT

Insulating and sealing gel with very high dielectric and thermal characteristics, ideal for POWER cables, TELECOM cables and ELECTRONICS CIRCUITS.

Magic Gel Sprint is formulated for an extra fast curing directly inside the bottle. Practical, performing, eco-sustainable, it is the ideal GEL for insulating and sealing boxes of the most commonly used dimensions.

## ADVANTAGES

- ▶ Non-toxic, safe and not classified as hazardous under CLP Directive.
- ▶ Suitable for installation in salt water (sea) and in chlorinated water (pools).
- ▶ For any type of indoor / outdoor and even submerged installation.
- ▶ For installations up to 1 kV.
- ▶ Suitable for high temperatures.
- ▶ Removable.
- ▶ No shelf life.



### HOW IS IP68 DEGREE OF PROTECTION OBTAINED?

The GEL protects against dusts and seals the connections from the effects of continuous immersion in water when it is poured into enclosures protected from the ingress of solid bodies, therefore contributing to create an IP68 system.

FILLERS

1 UNSCREW



2 ACTIVATE



3 SHAKE



4 POUR

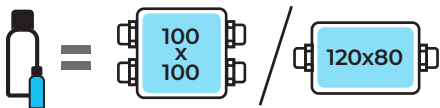


READY IN 1 BOTTLE!

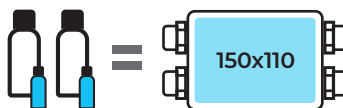
Extra fast curing!



Magic Gel 450 Sprint



Magic Gel 900 Sprint





| PRODUCT / Item                         | Colour | Package type               | Total quantity |
|--|--------|----------------------------|----------------|
| MAGIC GEL SPRINT 450<br>MAGICSPRINT450 | ●      | 1 bottle<br>+ 1 catalyst   | 450 ml         |
| MAGIC GEL SPRINT 900<br>MAGICSPRINT900 | ●      | 2 bottles<br>+ 2 catalysts | 900 ml         |



MAGIC GEL SPRINT is available in 2 version which are sustainable in terms of packaging and in terms of volume, as they are specifically designed for filling boxes in the most commonly used formats.



Gel: UL 94-HB  

**Dielectric strength:**

>20 kV/mm

**Cross linking time:**

fast (about 10 min. at 23°C)

**Volume resistivity**

>2 · 10<sup>15</sup> Ω cm

**Working temperature:**

-60°C / +200°C

**Overload temperature**

for short periods:

up to 250°C

**Stabilised for:**

mould - UV

**Degree of protection:**

IP68 (in proper casings)

*Magic Gel* protects against dust and seals the connections from the effects of continuous immersion in water when it is poured into casings protected from the ingress of solid bodies, thus helping to create a **IP68** system.

**IP68**  
OFFICIALLY  
TESTED | **IMQ**



# MAGIC GEL MAGIC FLUID

Two-component gel with very high dielectric and thermal characteristics, ideal for connection systems (joint shells or enclosures) for power cables.

The insulating and sealing gel, when cast in suitable casings, ensures an IP68 degree of protection and it is able to replace all types of resins. This is a self-sealing insulation polymeric type in two practical bottles or in a single use bag, with cold cross linking. Once poured, the insulation, characterized by very low viscosity, surrounds and envelopes any type of material, cross linking in less than 10 minutes. Completely non-toxic, cross linking with a very low isothermal peak that does not thermally stress the materials it comes into contact with.

## ADVANTAGES

- ▶ For high temperature applications!
- ▶ The gel is not-classified as hazardous under the CLP Directive.
- ▶ Quick cross linking (only 10 minutes).
- ▶ Re-enterable also after long working periods.
- ▶ Low viscosity.
- ▶ No shelf life.



FILLERS



| PRODUCT / Item                  | Colour | Package type   | Total quantity |
|---------------------------------|--------|--|----------------|
| MAGIC GEL 300<br>MAGICGEL300    | ●      | 2 bottles  | 300 ml         |
| MAGIC GEL 420<br>MAGICGEL-420   | ●      | 1 single, two-component bottle<br>1 jug - 1 spatula in wood  | 420 ml         |
| MAGIC GEL 1000<br>MAGIC-GEL     | ●      | 2 bottles - 1 jug<br>1 spatula in wood                       | 1000 ml        |
| MAGIC GEL 2000<br>MAGICGEL-2000 | ●      | 2 single, two-component bottles<br>1 jug - 1 spatula in wood | 2 x 1000 ml    |
| MAGIC GEL 10000<br>MAGICGEL10   | ●      | 2 tanks - 1 jug<br>1 spatula in wood                         | 10 lt          |



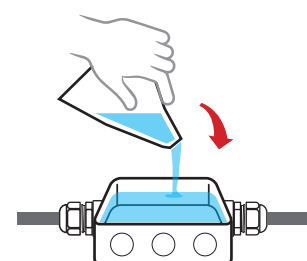
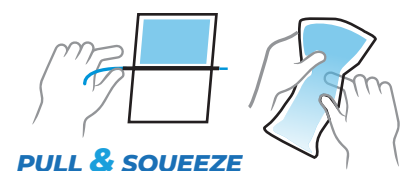
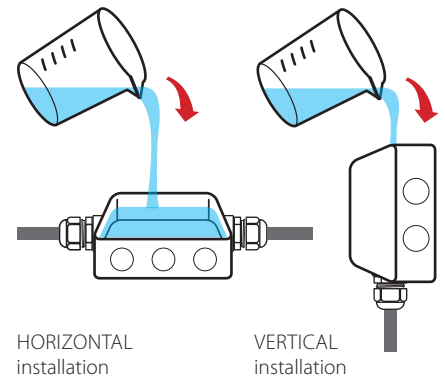
| PRODUCT / Item                | Colour | Package type                  | Total quantity |
|-------------------------------|--------|-------------------------------|----------------|
| MAGIC FLUID 90<br>100090-MAG  | ●      | Two-component single dose bag | 90 ml          |
| MAGIC FLUID 110<br>100110-MAG | ●      | Two-component single dose bag | 110 ml         |
| MAGIC FLUID 170<br>100170-MAG | ●      | Two-component single dose bag | 170 ml         |
| MAGIC FLUID 210<br>100210-MAG | ●      | Two-component single dose bag | 210 ml         |
| MAGIC FLUID 420<br>100420-MAG | ●      | Two-component single dose bag | 420 ml         |
| MAGIC FLUID 550<br>100550-MAG | ●      | Two-component single dose bag | 550 ml         |

**Problem ENERGY**

What does a gel for this type of system have to give?

- ✓ **INSULATION:** Elevated voltages (1 kV operating, 4 kV testing)
- ✓ **THERMAL PERFORMANCE:** Operating temperature 90°C, overload temperature 130°C, short circuit temperature 250°C
- ✓ **SEALING:** Installations also possible in humid environments, flooded wells
- ✓ **DEGREE OF PROTECTION:** Must also work with water between the cores of the cable
- ✓ **CERTIFIED SYSTEMS:** The combination of insulation gel + casing must comply with current standards CEI 20-33 and EN 50393

**Solution:** *Magic Gel* meets all your Energy System requirements!





Gel: UL 94-HB

**Dielectric strength:**

>20 kV/mm

**Cross linking time:**

fast (about 15 min. at 23°C)

**Volume resistivity:**

>2 . 10<sup>15</sup> Ω cm

**Operating temperature:**

-60°C / +200°C

**Overload temperature**

for short periods:

up to 250°C

**Stabilised for:**

mould - UV

**Degree of protection:**

IP68 (in proper casings)

*Magic Power Gel* protects against dust and seals the connections from the effects of continuous immersion in water when it is poured into casings protected from the ingress of solid bodies, thus helping to create a **IP68** system.

**IP68**  
OFFICIALLY  
TESTED | **IMQ**



Nonfood Compounds  
P1

# MAGIC POWER GEL

The unique two component gel in a single bottle, with superior dielectric, sealing and thermal characteristics, re-enterable and re-usable!

**ADVANTAGES**

- ▶ Very sticky.
- ▶ Strong self amalgamating characteristics.
- ▶ The gel is not-classified as hazardous under the CLP Directive.
- ▶ Single compact bottle; convenient twin compartment.
- ▶ Re-usable as well as re-enterable, even after long working periods.
- ▶ It doesn't give any waste.
- ▶ No shelf life.



**INSULATING and SEALING GEL**

**RE-ENTERABLE**

**RE-USABLE**



For all types of connections, even in the toughest conditions, for power, telecom and signalling!

FILLERS



**STICKINESS**

- Exceptional sealing properties in any condition.
- Better resistance to pressure.
- Effective even in vertical or ceiling applications.

**ZERO WASTE**

- Due to the nature of the product waste is eliminated; even residual product can be saved and used for the next application.
- Also any left over product maintains its high performance characteristics.

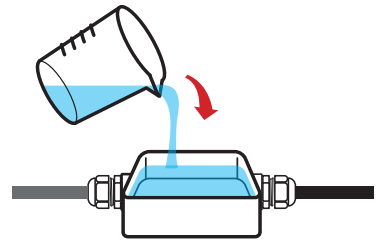
**SELF-AGGLOMERATING**

- Once cross linked it perfectly adheres on itself to get an homogeneous and compact mass.
- It can be therefore applied in multiple layers.

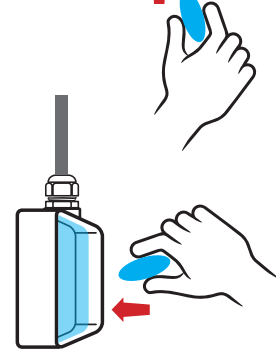
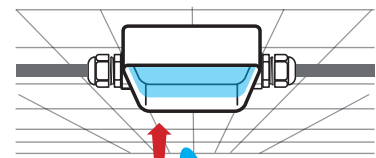
**SINGLE BOTTLE**

- Highly useful.
- The most compact packaging.
- Less space occupied in the toolbox.
- Both components in the same packaging.

**CASTING APPLICATION**  
HORIZONTAL installation



**AFTER CURING MANUAL APPLICATION**  
CEILING or WALL application



| PRODUCT / Item                        | Colour | Package type  | Total quantity |
|---------------------------------------|--------|---|----------------|
| MAGIC POWER GEL 250<br>MAGICPOWER-250 | ●      | 1 single, two-component bottle                              | 250 ml         |
| MAGIC POWER GEL 500<br>MAGICPOWER-500 | ●      | 1 single, two-component bottle<br>1 jug - 1 spatula in wood | 500 ml         |
| MAGIC POWER GEL<br>MAGICPOWER-GEL     | ●      | 1 single, two-component bottle<br>1 jug - 1 spatula in wood | 1000 ml        |



| PRODUCT / Item                              | Colour | Package type                  | Total quantity |
|---|--------|-------------------------------|----------------|
| MAGIC POWER GEL BAG 150<br>MAGICPOWERBAG150 | ●      | Two-component single dose bag | 150 ml         |
| MAGIC POWER GEL BAG 250<br>MAGICPOWERBAG250 | ●      | Two-component single dose bag | 250 ml         |





INTERCOMS  
LED DISPLAY



Gel: UL 94-HB

**Dielectric strength:**

>20 kV/mm

**Cross linking time:**

about 15 min. at 23°C

**Volume resistivity:**

>1,5 x 10<sup>15</sup> Ω cm

**Operating temperature:**

-60°C / +180°C

**Thermal conductivity:**

< 0,2 W/m<sup>2</sup>K

**Dielectric constant:**

< 7

**Degree of protection:**

IP68 (in proper casings)

Ray Gel protects against dust and seals the connections from the effects of continuous immersion in water when it is poured into casings protected from the ingress of solid bodies, thus helping to create a **IP68** system.

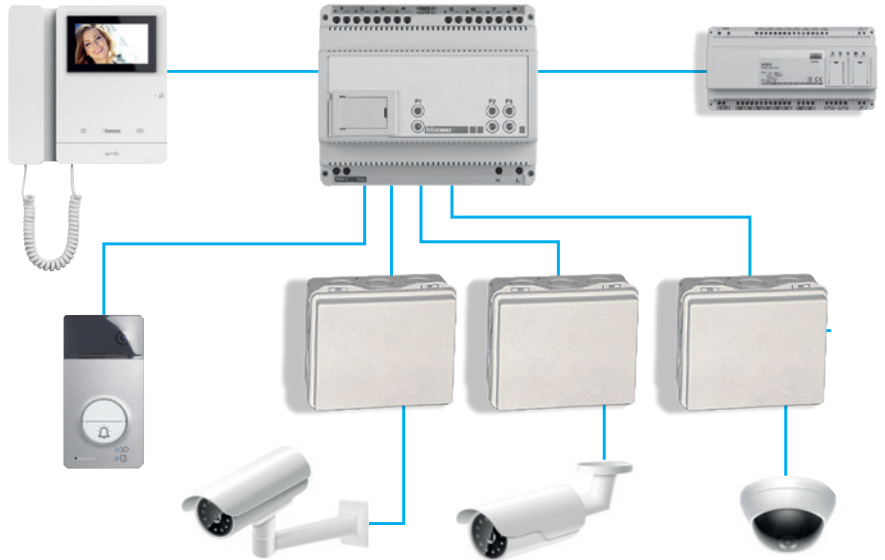
**IP68**  
OFFICIALLY  
TESTED | **IMQ**

# RAY GEL

Insulating, sealing, re-enterable fast cross linking two-component silicone gel for telephone and intercom systems and for LED and display protection.

## ADVANTAGES

- ▶ Quick cross linking.
- ▶ Antioxidant protection.
- ▶ Low temperature resistant.
- ▶ The gel is not-classified as hazardous under the CLP Directive.
- ▶ No shelf life.





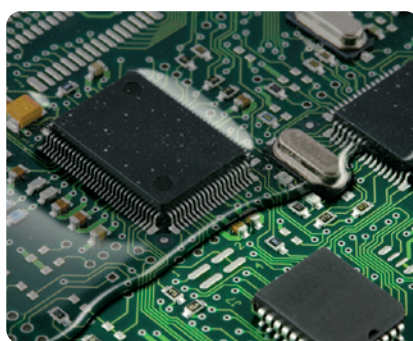
**RED**

- Specially formulated for UV resistance
- Suitable for "surface" installations
- Ideal for intercom systems



**TRANSPARENT**

- Excellent transparency
- Does not opacify
- Ideal for protecting printed circuit boards, for sealing displays, for insulating and sealing LEDs



**Problem TELECOM**

What does a gel for this type of system have to give?

- ✓ **SEALING:** Installations also possible in humid environments, flooded wells.
- ✓ **DEGREE OF PROTECTION:** IP68 in proper casing.
- ✓ **PREVENTION FROM OXIDATION:** Contacts in Telecom connections shouldn't give attenuations (low signal currents).
- ✓ **HIGH INSULATION FLUIDITY:** During casting, the the insulation has to fill all interstitial spaces between the cores of the cable.
- ✓ **ANTICRACKING:** Insulation in the permanently cold joint should not crack at low temperatures.
- ✓ **INSULATION:** The filler should be an insulating component.

**Solution:** Ray Gel meets all your Telecom system requirements.



| PRODUCT / Item                 | Colour | Package type                   | Total quantity |
|--------------------------------|--------|--------------------------------|----------------|
| BAG GEL 200-T<br>BAGGEL200-T   | ○      | Two-component single dose bags | 200 ml         |
| BAG GEL 400-T<br>BAGGEL400-T   | ○      |                                | 400 ml         |
| BAG GEL 200-R<br>BAGGEL200-R   | ●      |                                | 200 ml         |
| BAG GEL 400-R<br>BAGGEL400-R   | ●      |                                | 400 ml         |
| RAY GEL 300-T<br>RAYGEL300-T   | ○      | 2 bottles                      | 300 ml         |
| RAY GEL 1000-T<br>RAYGEL1000-T | ○      |                                | 1000 ml        |
| RAY GEL 300-R<br>RAYGEL300-R   | ●      |                                | 300 ml         |
| RAY GEL 1000-R<br>RAYGEL1000-R | ●      |                                | 1000 ml        |
| RAY GEL 10K-T<br>RAYGEL10K-T   | ○      | 2 tanks                        | 10 lt          |
| RAY GEL 20K-T<br>RAYGEL20K-T   | ○      |                                | 20 lt          |
| RAY GEL 10K-R<br>RAYGEL10K-R   | ●      |                                | 10 lt          |
| RAY GEL 20K-R<br>RAYGEL20K-R   | ●      |                                | 20 lt          |



ALWAYS AT YOUR  
FINGERTIPS!



Gel: UL 94-HB

**Dielectric strength:**

>20 kV/mm

**Volume resistivity:**

>2 · 10<sup>15</sup> Ω cm

**Operating temperature:**

-60°C / +200°C

**Overload temperature**

for short periods:

up to 250°C

**Stabilised for:**

mould - UV

**Degree of protection:**

IP68 (in proper casings)

Wonder Gel protects against dust and seals the connections from the effects of continuous immersion in water when it is poured into casings protected from the ingress of solid bodies, thus helping to create a IP68 system.

**IP68** | **IMQ**  
OFFICIALLY TESTED

# WONDER GEL

Single component insulating gels in cartridge to instantly protect new installations and oversee maintenance of all types of electrical connections.

**Installer's best friends.** Electrical connections, within empty enclosures, are exposed to the risk of short circuit, oxidation and corrosion, at times, resulting in irreparable damages. Without stress and no waiting around, **WonderGel** and **WonderGel Invisible** make your job easier, guaranteeing the protection and safety of systems in compliance to best practice rules to provide the highest quality solution, quick and perfect to get the satisfaction of both you and your clients.

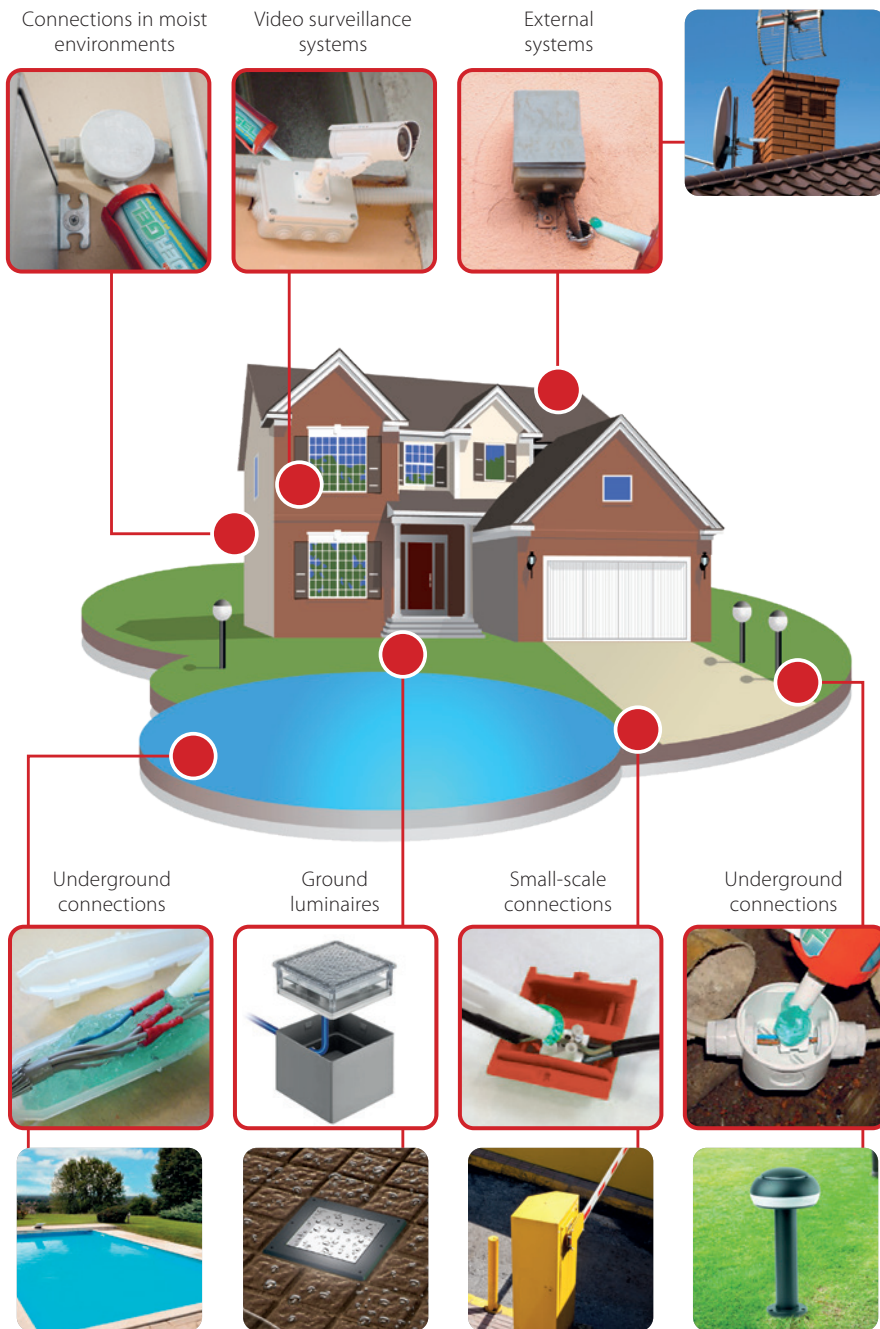
## ADVANTAGES

- ▶ Ready to use! No mixing required! Already cross-linked! No need to wait!
- ▶ Resolve issues connected to incorrect insulation or sealing.
- ▶ Eliminate annoying out of service instances caused by moisture.
- ▶ Protect your systems from the penetration of insects.
- ▶ Protect your electrical connections from oxidation and corrosion.
- ▶ Applicable in all climatic conditions.
- ▶ The gel is not-classified as hazardous under the CLP Directive.



Easy to apply even in areas which are difficult to access!

FILLERS



WHAT IS GEL WONDER?

- A single component gel
- Extremely sticky
- Stays soft with time
- Never dries
- Non-toxic and safe
- No shelf life



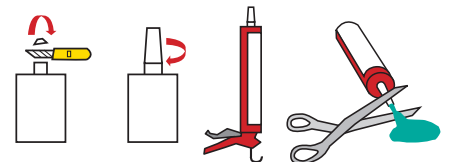
WHAT DOES GUARANTEE?

- Maximum insulation and sealing
- Effective and stable adhesion with the passing of time
- High resistance to water pressure
- Degree of protection IP68 when dispensed in suitable casings



WHY IS IT IN A CARTRIDGE?

- Always ready to use and at your fingertips
- Can be used with standard guns
- It is measurable
- No waste
- Complete with nozzle
- Extremely rapid to use even in difficult positions
- Compact



| PRODUCT / Item                     | Colour | Package type                 | Total quantity |
|------------------------------------|--------|------------------------------|----------------|
| WONDER GEL<br>WONDER               | ●      | Cartridge with dosing nozzle | 280 ml         |
| WONDER GEL INVISIBLE<br>WONDER-INV | ○      | Cartridge with dosing nozzle | 280 ml         |





# WONDER FLUID

Single component insulation fluid gel cartridge.

### ADVANTAGES

- ▶ The gel is not-classified as hazardous under the CLP Directive.
- ▶ Ready-to-use fluid gel.
- ▶ Suitable for box filling.
- ▶ Does not solidify when opened.
- ▶ No waste.
- ▶ No shelf life.



Gel: UL 94-HB

**Dielectric strength:**

>20 kV/mm

**Operating temperature:**

-60°C / +200°C

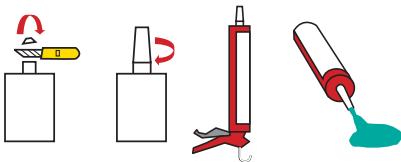
**Installation temperature:**

-40°C / +110°C

**Degree of protection:**

IP68 (in proper casings)

Wonder Gel Fluid protects against dust and seals the connections from the effects of continuous immersion in water when it is poured into casings protected from the ingress of solid bodies, thus helping to create a **IP68** system.



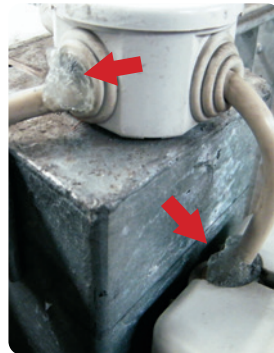
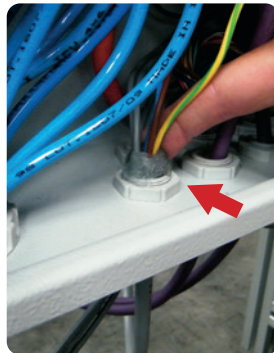
| PRODUCT / Item                  | Colour | Package type                 | Total quantity |
|---------------------------------|--------|------------------------------|----------------|
| WONDER FLUID 280<br>WONDER-F280 | ●      | Cartridge with dosing nozzle | 280 ml         |

# MONOGEL

Single component transparent insulation gel for generic use.

## ADVANTAGES

- ▶ The gel is not-classified as hazardous under the CLP Directive.
- ▶ Ready to use.
- ▶ No shelf life.
- ▶ Inspectable.



| PRODUCT / Item     | Colour | Package type                 | Total quantity |
|--------------------|--------|------------------------------|----------------|
| MONOGEL<br>MONOGEL | ○      | Cartridge with dosing nozzle | 300 ml         |



Gel: UL 94-HB

**Dielectric strength:**

>20 kV/mm

**Operating temperature:**

-60°C / +200°C

**Installation temperature:**

-40°C / +110°C

**Degree of protection:**

IP68 (in proper casings)





## TECHNO GEL GUM

Single bottle two-component insulation with very high dielectric, thermal and sealing characteristics. Waterproof and re-enterable!

TechnoGelGum is a strong hold flexible elastomer whose formula has been optimised for the protection of POWER CABLE, TELECOM CABLE and ELECTRONIC CIRCUIT connections. A new recipe that gives the product a surprising, original texture that combines the characteristics of GEL and RUBBER to emphasise its features. It's elastic and flexible like gel, but also tough and dry like rubber.

### ADVANTAGES

- ▶ For installations up to 1 kV, suitable for high temperatures.
- ▶ Suitable for installation in salt water (sea) and in chlorinated water (pools).
- ▶ For any type of indoor / outdoor and even submerged installation.
- ▶ Waterproof > 1 MPa.
- ▶ Vibration resistant can act as a damper.
- ▶ Removable.
- ▶ The gel is not-classified as hazardous under the CLP Directive.
- ▶ No shelf life.

#### Dielectric strength:

>20 kV/mm

#### Specific weight:

~ 1.05

#### Cross linking time:

fast (about 15 min. at 23°C)

#### Volume resistivity:

>2 . 10<sup>14</sup> Ω cm

#### Operating temperature:

-60°C / +200°C

#### Overload temperature for short periods:

up to 250°C

#### Stabilised for:

mould - UV

#### Degree of protection:

IP68 (in proper casings)

Techno Gel Gum protects against dust and seals the connections from the effects of continuous immersion in water when it is poured into casings protected from the ingress of solid bodies, thus helping to create a **IP68** system.

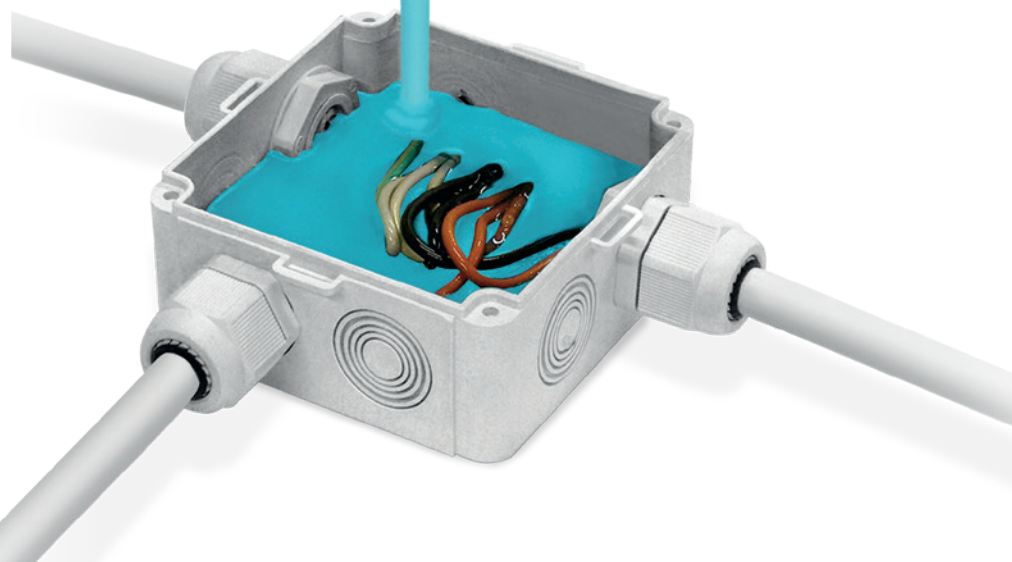
**IP68**  
OFFICIALLY  
TESTED | **IMQ**



Nonfood Compounds  
P1

**STRONG CONSISTENCY**

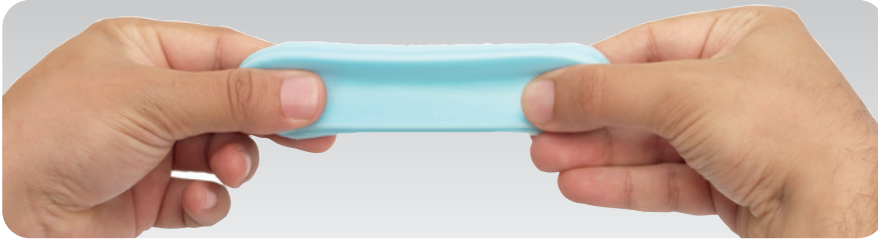
**EXTREMELY FLEXIBLE  
AND WATER-REPELLENT**



FILLERS

FLEXIBLE like GEL

STRONG like RUBBER



SAFE



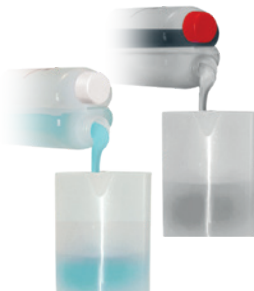
WATERPROOF



RE-ENTERABLE



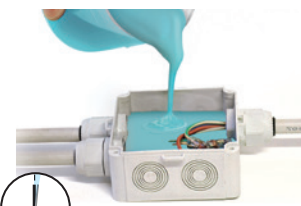
Shake before using.



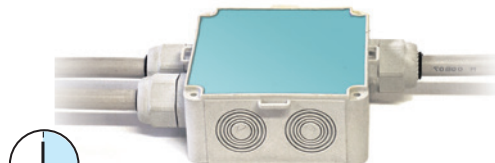
Pour TechnoGelGum into the provided jug in a 1:1 ratio.



Mix for 20" max.



Pour within 1 min. max.



In just 15 minutes the curing is completed.

| PRODUCT / Item                    | Colour | Package type  | Total quantity |
|-----------------------------------|--------|---|----------------|
| TECHNO GEL GUM 500<br>TEGELGUM500 | ●      | 1 single, two-component bottle<br>1 jug - 1 spatula in wood | 500 gr         |
| TECHNO GEL GUM<br>TEGELGUM        | ●      | 1 single, two-component bottle<br>1 jug - 1 spatula in wood | 1 kg           |





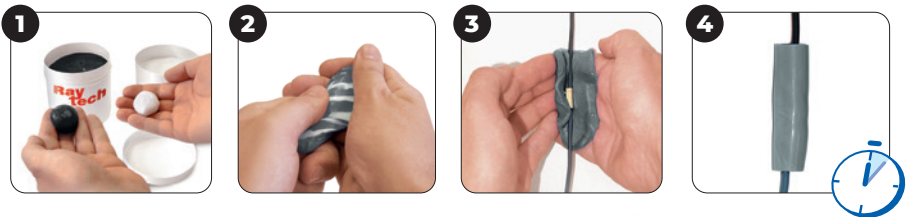
# SKY PLAST

Two-component insulating rubber, mouldable, self-extinguishing paste with high dielectric characteristics.

Sky Plast is ideal for covering, protecting, insulating, finishing and fireproofing any electrical and non-electrical component. Once the 2 components have been blended in a ratio of 1:1 (for max 2 min.) until uniform, it cross links quickly at room temperature in less than 5 minutes. After being wrapped around the component to be protected, Sky Plast quickly transforms into a layer of rubber with high dielectric and self-extinguishing characteristics.

### ADVANTAGES

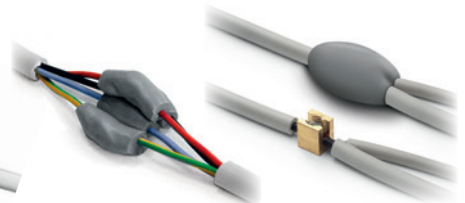
- ▶ Low smoke and toxic and corrosive gases emission.
- ▶ Able to replace taping, heat-shrinking, resin finishes.
- ▶ Flexible and elastic.
- ▶ Quickly ready for use.



Cable gland sealing



Creation of LV terminals



Insulation of multiple connections



Preparation on-site of expanders for inserts



Preparation of bars, washers, round wire insulators



Preparation on-site of seals



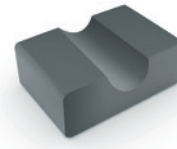
Conduit protection



Preparation on-site of small moulds for reliefs



Drop line, bar, transformer through insulation



On-site preparation of braces and supports



Preparation of deflectors, nozzles, flow deviators



**SKY PLAST  
BECOMES RUBBER  
IN 5 MINUTES**

| PRODUCT / Item               | Colour | Package type | Total quantity |
|------------------------------|--------|--------------|----------------|
| SKY PLAST 250<br>SKYPLAST250 | ●      | 2 cans       | 250 gr         |
| SKY PLAST<br>SKYPLAST        | ●      | 2 cans       | 500 gr         |

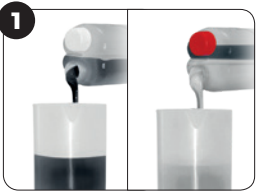
# MAGIC RUBBER

Fast cross linking two-component rubber.

Two-component insulating liquid rubber, extremely conformable and fluid, flexible, elastic and re-enterable. In just a few minutes, transforms into a rubber with very high dielectric, thermal, mechanical and elastic characteristics.


## ADVANTAGES

- ▶ For installation up to 1kV.
- ▶ Low smoke, toxic and corrosive gas emissions.
- ▶ Ideal also for casts and moulds.
- ▶ No shelf life.




**1**

Mix the 2 components in a ratio of 1:1.




**2**

Mix for max 20'.



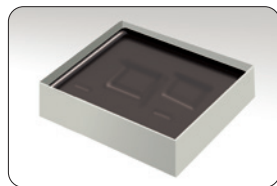
**3**

Pour the product into the casing to be filled.



**4**

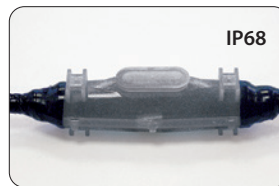
In just a few minutes, the product transforms into rubber.



Moulds for making models



Animal Barrier



Joint filling



**Cross linking time:**  
15 minutes at 23°C

**Volume resistivity:**  
>2 10<sup>15</sup> Ω cm

**Dielectric strength:**  
> 20 kV/mm

**Specific weight:**  
1,22 approx

**Degree of protection:**  
IP68 (in proper casings)

Magic Rubber protects against dust and seals the connections from the effects of continuous immersion in water when it is poured into casings protected from the ingress of solid bodies, thus helping to create a **IP68** system.

| PRODUCT / Item                    | Colour | Package type   | Total quantity |
|-----------------------------------|--------|--|----------------|
| MAGIC RUBBER 500<br>MAGIC-RUBBER  | ●      | 1 single two-component bottle<br>1 jug - 1 spatula in wood | 500 gr         |
| MAGIC RUBBER 10<br>MAGICRUBBER-10 | ●      | Two-component tanks<br>1 jug - 1 spatula in wood           | 10 kg          |

| PRODUCT / Item                      | Colour | Package type                   | Total quantity |
|-------------------------------------|--------|--------------------------------|----------------|
| RUBBER FLUID 200<br>RUBBERFLUID-200 | ●      | Two-component single dose bags | 200 gr         |
| RUBBER FLUID 350<br>RUBBERFLUID350  | ●      | Two-component single dose bags | 350 gr         |

| PRODUCT / Item       | Colour | Package type                        | Total quantity |
|----------------------|--------|-------------------------------------|----------------|
| GASKET KIT RAYGASKIT | ●      | Mould + Two-component liquid rubber | 360 gr         |



Side A



Side B





# SEAL UP RESIN

**NEW**

## SEAL UP RESIN

Insulating removable, sturdy resin with high mechanical resistance designed to prevent the penetration of moisture in both electrical and electronic fields.

**Seal Up Resin** it is suitable for multiple applications, both in the electrical and electronic fields, where reliability and speed of installation even at low temperature are of crucial importance. **Seal Up Resin** it is available in single-dose sachets, which are extremely easy to prepare as it is sufficient to remove the separator placed between the two components, blend the content for a few seconds and pour, thus obtaining, in a few minutes and at room temperature, a solid-plastic insulation. The product is also available in industrial formats. **The removability feature** allows an easy separation of the components at the end of life and consequent disposal of the products/casings in which it has been used.

### ADVANTAGES

- ▶ REACH compliant and free of substances classified as hazardous according to the current CLP regulation.
- ▶ Isocyanate-free resin.
- ▶ Resistant to mold and UV rays.
- ▶ No shelf-life.



**Dielectric strength:**  
>20 kV/mm

**Specific density:**  
Approx. 1 gr/cc

**Curing time:**  
15-20 min. at 23/25°C

**Volume resistivity:**  
>2 · 10<sup>15</sup> Ω cm

**Operating Temperature:**  
-60°C / +200°C

**Overload temperature for short periods of time:**  
Up to 250°C

**Viscosity of the 2 parts:**  
3500 – 4500 cP

**Cone penetration:**  
90-120 1/10 mm (ASTM D217/C)

**Thermal conductivity:**  
0,2 W/mK

**Water absorption after 30 days of immersion:**  
<< 0,05%

**Degree of protection:**  
IP68 (in suitable enclosures)

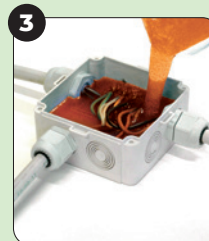
**IP68**  
OFFICIALLY  
TESTED | **IMQ**



1 Remove the separator from the Seal Up Resin.



2 Mix the 2 components.



3 Pour Seal Up Resin in the tray ('1' max).



4 Installation completed.

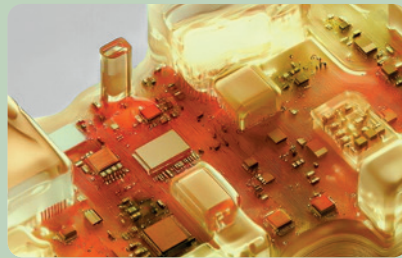
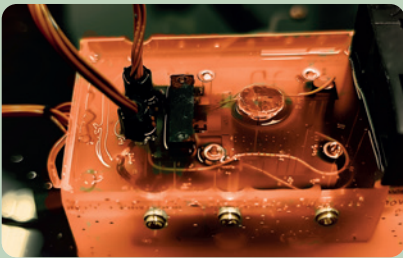
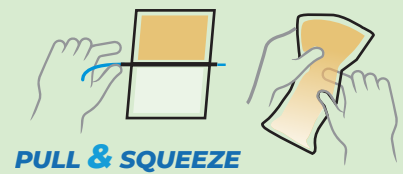
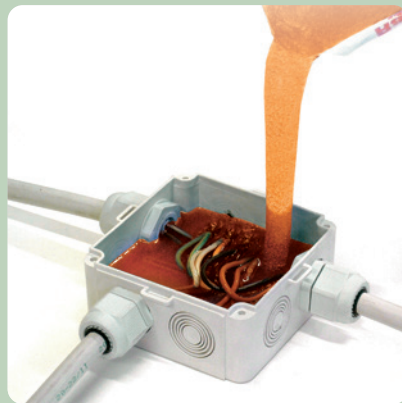


**OTHER BENEFITS**

- No exothermic reaction
- Inspectable as it is translucent amber colour
- Mixing ratio: 1:1
- Performing over time

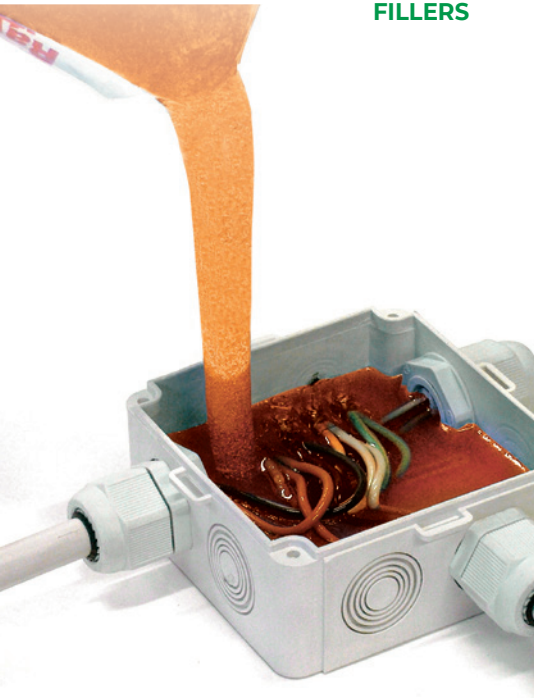
**IDEAL FOR**

- Seal and insulate 0.6/1kV LV cable connections in junction boxes and cases.
- Accessing the connections in case of modifications.
- Direct buried and submerged installations even in the presence of chlorinated water.
- Installations even at low temperatures.

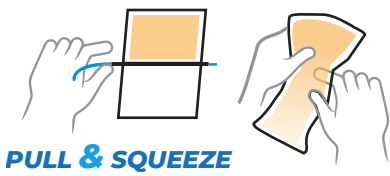


| PRODUCT / Item                        | Colour | Package type                     | Total quantity |
|---------------------------------------|--------|----------------------------------|----------------|
| SEAL UP RESIN 170<br>SEALUPRESIN170   | ●      | Two-component single-dose sachet | 170 gr         |
| SEAL UP RESIN 210<br>SEALUPRESIN210   | ●      | Two-component single-dose sachet | 210 gr         |
| SEAL UP RESIN 420<br>SEALUPRESIN420   | ●      | Two-component single-dose sachet | 420 gr         |
| SEAL UP RESIN 10K<br>SEALUPRESIN10K   | ●      | 5 litre tanks A+B                | 10 lt          |
| SEAL UP RESIN 200K<br>SEALUPRESIN200K | ●      | 200 litre drums A+B              | 400 lt         |





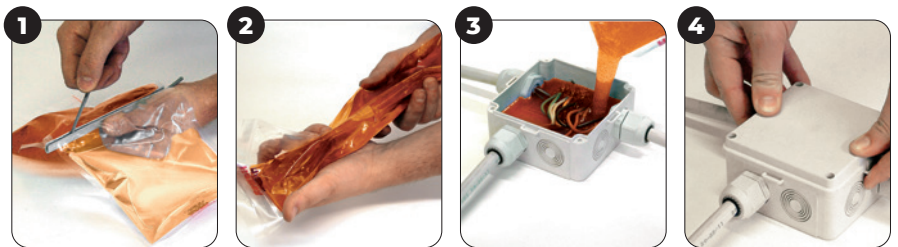
**Cross linking time:**  
25 minutes at 25°C  
**Hardness:**  
95 Shore A  
**Dielectric strength:**  
20 kV/mm  
**Specific weight:**  
1,07 kg/dm<sup>3</sup>  
**Water absorption:**  
0,8% max



# RAY RESIN

Two-component epoxy resin for installations up to 1 kV.

Resin for electrical insulation and for the protection of thermosetting LV and MV accessories. The two components, the base resin and hardener, are mixed in close contact to trigger the cross linking reaction. Excellent bonding to metal, plastic and rubber components.



1 Remove the separator from the Rayresin bag.

2 Mix the 2 components.

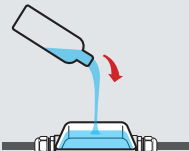

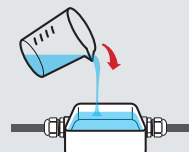
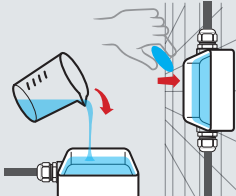
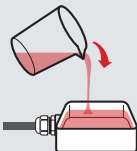
3 Pour Rayresin in the tray (1' max).

4 Installation completed.

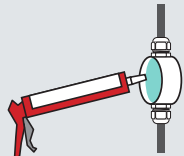
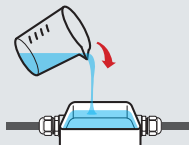
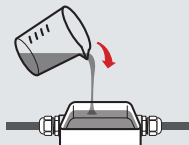
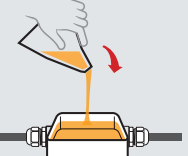
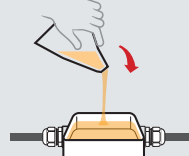
| PRODUCT / Item             | Colour | Package type                   | Total quantity |
|----------------------------|--------|--------------------------------|----------------|
| RAYRESIN 170<br>100170-000 | ●      | Two-component single dose bags | 170 gr         |
| RAYRESIN 210<br>100210-000 | ●      | Two-component single dose bags | 210 gr         |
| RAYRESIN 420<br>100420-000 | ●      | Two-component single dose bags | 420 gr         |

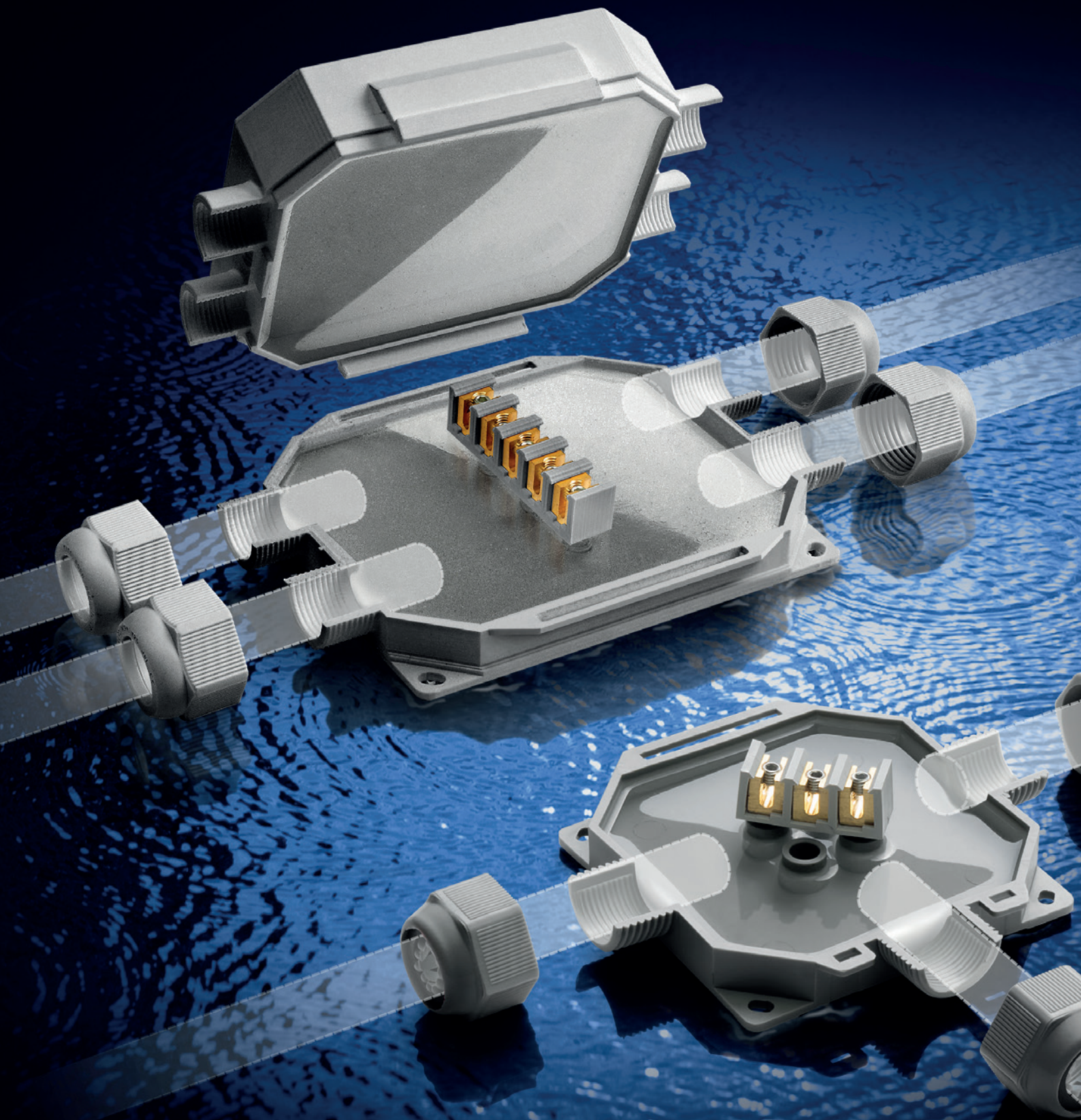
## FILLERS COMPARISON CHART



|                                 | MAGIC GEL SPRINT  | MAGIC FLUID   | MAGIC GEL  | MAGIC POWER GEL   | RAY GEL  |
|---------------------------------|---|---|--|---|--|
| <b>PACK CONTENTS</b>            | 1 bottle + 1 catalyst   | 1 sachet  | 2 bottles or one single 2 compartment bottle + jug + spatula   | One single 2 compartment bottle + jug + spatula   | 2 bottles or 1 sachet  |
| <b>MIXING RATIO</b>             | Predeterminate  | Predeterminate  | 1:1 ratio with measuring Jug   | 1:1 ratio with measuring Jug  | 1:1 ratio  |
| <b>MIXING TIME</b>              | 20 seconds  | 20 seconds  | 20 seconds   | 20 seconds  | 20 seconds   |
| <b>CURING TIME (at 23° C)</b>   | ~ 7 minutes   | ~ 7 minutes   | ~ 10 minutes   | ~ 15 minutes  | ~ 15 minutes   |
| <b>INSTALLATION TEMPERATURE</b> | -15° / +55°C  | -15° / +55°C  | -15° / +55°C   | -15° / +55°C<br>-40° / +60° (cured)   | -15° / +55°C   |
| <b>USAGE</b>                    | By pouring<br><br><b>ALL IN ONE</b><br>Ready in 1 bottle! | By pouring<br><br><b>ALL IN ONE CLASSIC</b> | By pouring<br><br><b>CLASSIC</b> | By pouring or "cure and stick"<br><br><b>SELF AGGLOMERATING</b> | By pouring<br><br><b>INTERCOMS</b><br>Led display |



|                                 | WONDER GEL / FLUID   | TECHNO GEL GUM  | MAGIC RUBBER   | SEAL UP RESIN   | RAY RESIN   |
|---------------------------------|--|---|--|---|---|
| <b>PACK CONTENTS</b>            | 1 cartridge  | One single 2 compartment bottle + jug + spatula   | One single 2 compartment bottle + jug + spatula  | 1 sachet  | 1 sachet  |
| <b>MIXING RATIO</b>             | None   | 1:1 ratio with measuring Jug  | 1:1 ratio with measuring Jug   | Predeterminate  | Predeterminate  |
| <b>MIXING TIME</b>              | -  | 20 seconds  | 20 seconds   | 90 seconds  | 30 seconds  |
| <b>CURING TIME (at 23° C)</b>   | Already cross-linked   | ~ 15 minutes  | ~ 15 minutes   | ~ 19 minutes  | ~ 25 minutes  |
| <b>INSTALLATION TEMPERATURE</b> | -15° / +55°C   | -15° / +55°C  | -15° / +55°C   | -15° / +55°C  | +5° / +55°C   |
| <b>USAGE</b>                    | Injection<br> | By pouring<br> | By pouring<br> | By pouring<br> | By pouring<br> |



# LOW VOLTAGE JOINTING BOXES

## **PRE-FILLED IP68**

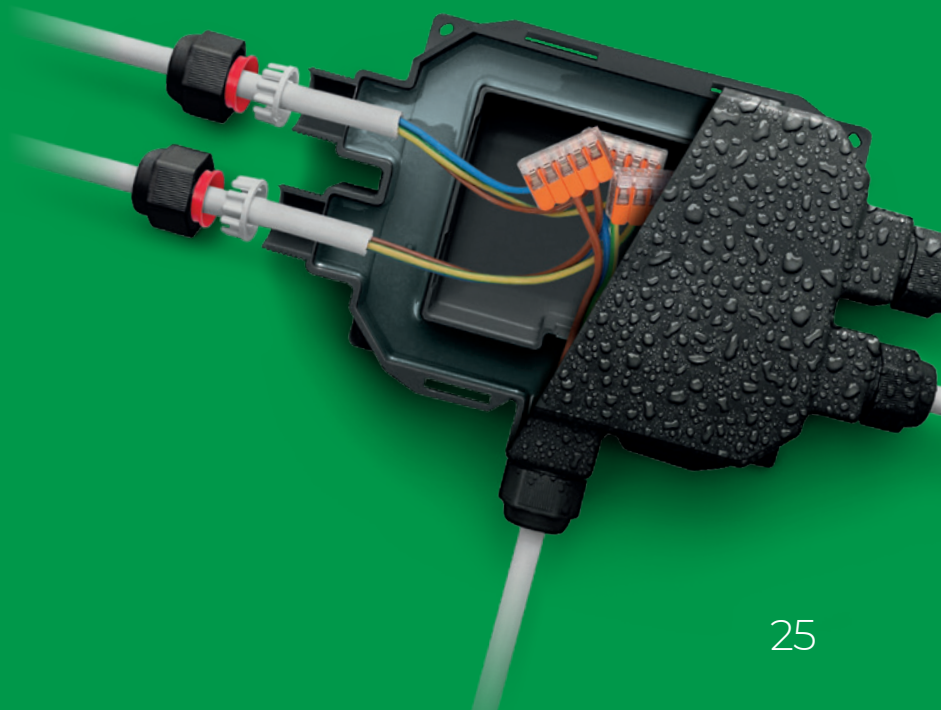
BOB  
BABY BOX  
READY BOX  
FOX BOX

## **KIT IP68**

MAGIC BOX  
POWER KIT  
MAGIC GEL SPRINT BOX 100

## **IP55**

J-BOX



# RAYTECH PRE-FILLED BOXES

|   |   |                      |                      |                     |  |
|---|---|----------------------|----------------------|---------------------|--|
|    |    | <b>BOB 3</b>         | <b>1</b><br>Entrance | <b>2</b><br>Outputs | <br>Connector <b>3x 4 mm<sup>2</sup></b><br>or free connections   |
|   |    | <b>BOB 4</b>         | <b>1</b><br>Entrance | <b>3</b><br>Outputs | <br>Connector <b>3x 4 mm<sup>2</sup></b><br>or free connections   |
|   |   | <b>BABY BOX</b>      | <b>1</b><br>Entrance | <b>2</b><br>Outputs | <br>Connector <b>3x 6 mm<sup>2</sup></b><br>or free connections   |
|   |  | <b>BABY BOX 3</b>    | <b>1</b><br>Entrance | <b>3</b><br>Outputs | <br>Connector <b>5x 6 mm<sup>2</sup></b><br>or free connections |
|  |  | <b>READY BOX 90</b>  | <b>1</b><br>Entrance | <b>2</b><br>Outputs | <br>Connector <b>3x 6 mm<sup>2</sup></b><br>or free connections |
|   |  | <b>READY BOX 120</b> | <b>1</b><br>Entrance | <b>3</b><br>Outputs | <br>Connector <b>5x 6 mm<sup>2</sup></b><br>or free connections |
|  |  | <b>FOX BOX 3</b>     | <b>1</b><br>Entrance | <b>2</b><br>Outputs | Free connections   |
|   |  | <b>FOX BOX</b>       | <b>1</b><br>Entrance | <b>4</b><br>Outputs | Free connections   |



Cables Ø  
mm 8-13



mm  
105 x 80 x h 25



Cables Ø  
mm 8-13



mm  
105 x 65 x h 25



3 nuts  
+ adapters

Cables Ø  
mm 8-18  
Tubes Ø  
mm 16/20



mm  
95 x 80 x h 43



4 nuts  
+ adapters

Cables Ø  
mm 8-18  
Tubes Ø  
mm 16/20



mm  
95 x 110 x h 43



3 nuts  
+ adapters

Cables Ø  
mm 8-18  
Tubes Ø  
mm 16/20/32



mm  
90 x 90 x h 45



4 nuts  
+ adapters

Cables Ø  
mm 8-18  
Tubes Ø  
mm 16/20/32



mm  
120 x 100 x h 45



3 nuts  
+ adapters

Cables Ø  
mm 8-18  
Tubes Ø  
mm 16/20/32



mm  
180 x 135 x h 45



5 nuts  
+ adapters

Cables Ø  
mm 8-18  
Tubes Ø  
mm 16/20/32



mm  
210 x 155 x h 45

**Electrical performance:**

CEI EN 50393

as applicable

Class 2 in accordance with CEI 64-8.

**Gel:** UL 94-HB c

**Working temperature:** 90°C

**Installation temperature:** -40°C / +50°C

**Fully submersible**

**Can be used underground**

**Halogen-free Gel**

**UV resistant**

**IP68**  
OFFICIALLY  
TESTED | **IMQ**

**IP69K**  
OFFICIALLY  
TESTED

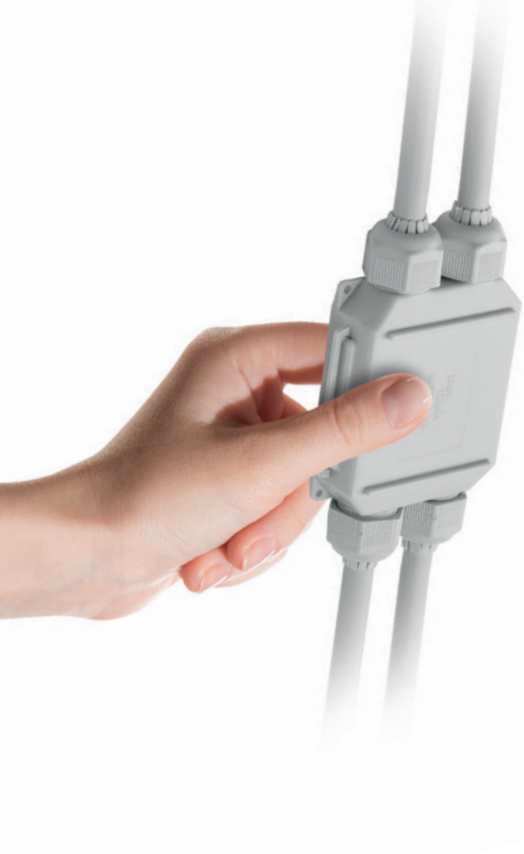
**IP68:**

(6) protected against dust and solid objects over 1 mm.  
(8) Protected from permanent immersion in water.

**IP69K:**

(9K) protected against close-range high pressure, high temperature spray downs.





# BOB

The IP68 / IP69K micro-joints, gel pre-filled, complete with connector, suitable for any type of installation, even the most extreme.

Extremely compact and space-saving, pre-filled with soft, highly conformable gel. With minimal aesthetic impact and visually pleasing. Equipped with integrated cable glands for IP68 and IP69K degree of ingress protection and cable retention.


## ADVANTAGES

- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive.
- ▶ Extremely compact and ready to install.
- ▶ Ideal for connections in lighting systems for gardens, steps and stairways, pedestrian crossings, etc.
- ▶ Pre-threaded entries for the positioning of the clamping nuts.
- ▶ No shelf life.
- ▶ Always re-enterable.



### Electrical performance:

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

🔧 Gel: UL 94-HB 

🌡 Working temperature: 90°C

🌡 Installation temperature: -40°C / +50°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

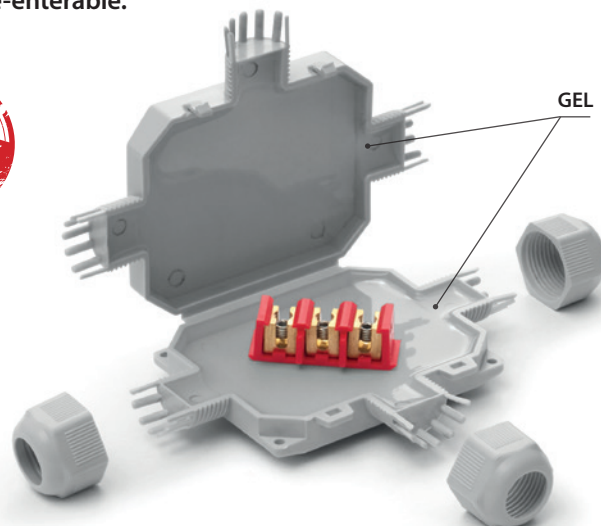
☀ UV resistant

🔥 Self-extinguishing and resistant to abnormal heat and fire:  
Glow Wire Flammability Index at +960°C according to EN60695-2-12

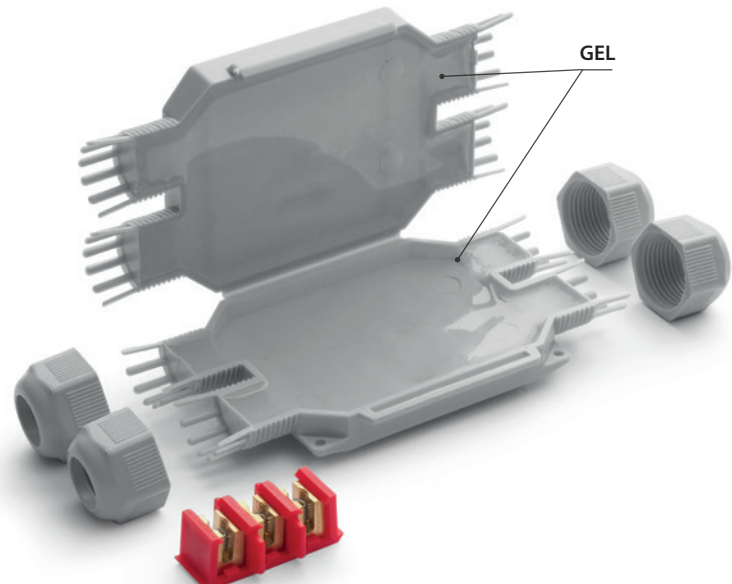
**IP68**  
OFFICIALLY  
TESTED

**IMQ**

**IP69K**  
OFFICIALLY  
TESTED



BOB 3



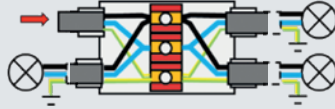
BOB 4

Some installation possibilities for BOB 4

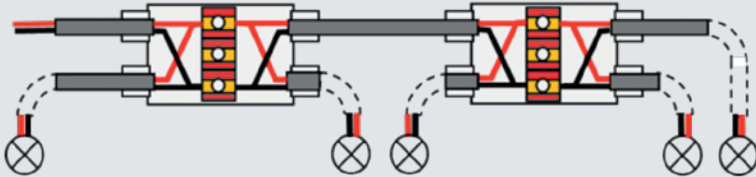
Parallel branch system with 3 three-core cables up to 3 x 4 mm<sup>2</sup>



Parallel branch system with 4 three-core cables up to 3 x 2.5 mm<sup>2</sup>

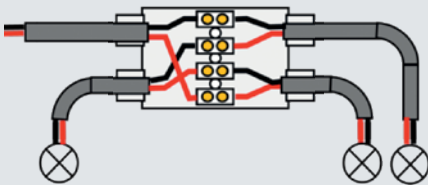


Parallel 5-lamp connection system

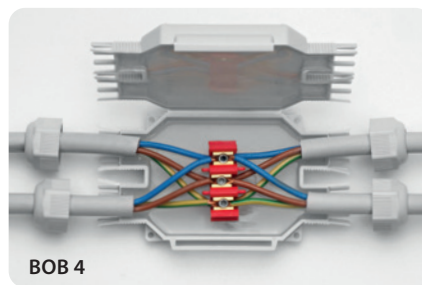
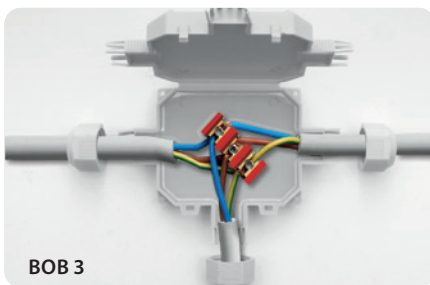
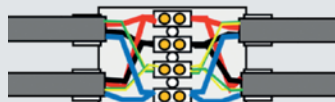


Can be installed with Mammut type connector (not included)

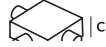
3-LED spotlight in-series system




3-LED RGB spotlight parallel system with four-core cables



For use in traps. The ideal accessory for branch connections from a through cable to light fittings and spotlights. Suitable in applications where there is presence of water and moisture.

| PRODUCT / Item             | Colour | Max cable formation (N° x mm <sup>2</sup> ) |                            | Cables Ø min - max (mm) | Pieces Pack        |  (mm) |
|----------------------------|--------|---|----------------------------|-------------------------|--------------------|--|
|                            |        | Through                                     | Branch                     |                         |                    |  |
| <b>BOB 3</b><br>BOB3       | ●      | <b>1 cable</b><br>3 x 4                     | <b>2 cables</b><br>3 x 4   | 8 - 13                  | 1 piece<br>Blister | 105 x 80 x 25  |
| <b>BOB 3 - N</b><br>BOB3-N | ●      | 3 x 2,5                                     | <b>2 cables</b><br>3 x 2,5 |                         | 1 piece<br>Blister |  |

| PRODUCT / Item             | Colour | Max cable formation (N° x mm <sup>2</sup> ) |                            | Cables Ø min - max (mm) | Pieces Pack        |  (mm) |
|----------------------------|--------|---|----------------------------|-------------------------|--------------------|--|
|                            |        | Through                                     | Branch                     |                         |                    |  |
| <b>BOB 4</b><br>BOB        | ●      | <b>1 cables</b><br>3 x 4                    | <b>2 cables</b><br>3 x 4   | 8 - 13                  | 1 piece<br>Blister | 105 x 65 x 25  |
| <b>BOB 4 - N</b><br>BOB4-N | ●      | 3 x 2,5                                     | <b>3 cables</b><br>3 x 2,5 |                         | 1 piece<br>Blister |  |





**JOINT OR BOX?  
CHOOSE BABY BOX!**



**Electrical performance:**

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

**Gel:** UL 94-HB c

**Installation temperature:**  
-40°C / +50°C

**Working temperature:** 90°C

**Gel operating temperature:**  
-60°C / +200°C

**Fully submersible**

**Can be used underground**

**Halogen-free Gel**

**UV resistant**

**Self-extinguishing and resistant to abnormal heat and fire:**  
Glow Wire Flammability Index at +960°C according to EN60695-2-12

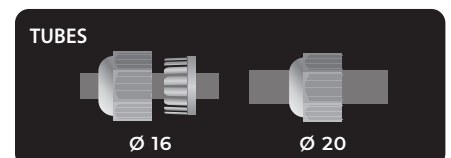
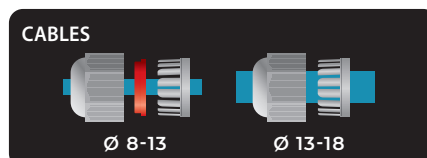
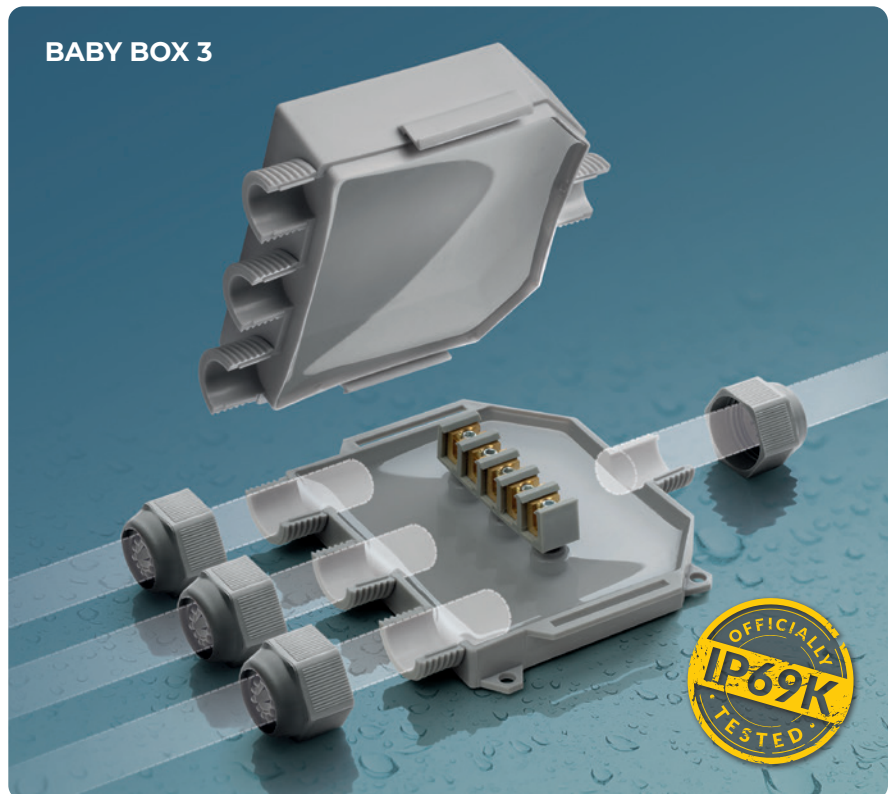
# BABY BOX

Pre-filled boxes (1 to 2) – (1 to 3) with integrated terminal block and clamping nuts.

BABY BOX is the range of ready to use boxes/junction boxes, complete with terminal block and a kit of components that allow its use with cables from 8 to 18 mm in diameter and ducts from 16 to 20 mm in diameter. Nothing to pour and no waiting times as it is already pre-filled with a non-toxic gel, not classified as dangerous and with no shelf life, which insulates and seals the connection thoroughly and gives to the range the maximum of reliability; the accessory is ideal for underground, submerged or aerial installations. BABY BOX, 3-entrances box with three-pole terminal block and BABY BOX 3, 4-entrances box with five-pole terminal block, are available in grey or black, they are very simple to install and equipped with external holes for wall fixing.

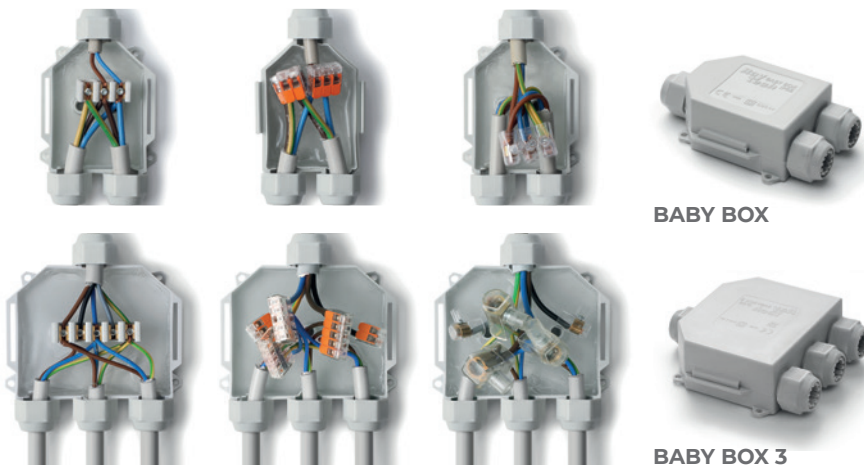
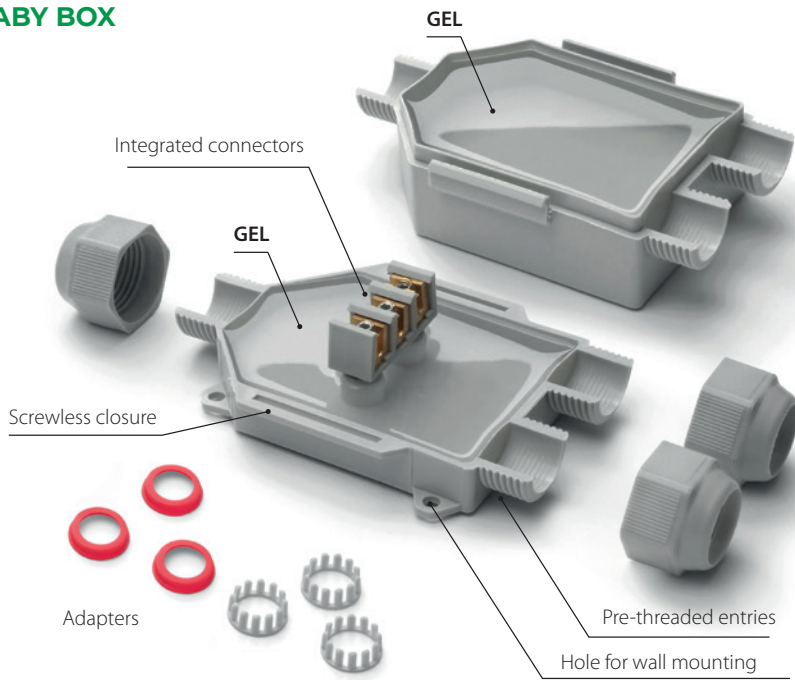
### ADVANTAGES

- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive.
- ▶ Ready to use.
- ▶ Also suitable for wet or flooded environments.
- ▶ Always re-enterable.
- ▶ Wall or external ceiling fixing system.
- ▶ Click and hook closure, does not require screws.
- ▶ No shelf life.



**IP68** OFFICIALLY TESTED | **IMQ** | **IP69K** OFFICIALLY TESTED

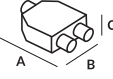
**BABY BOX**

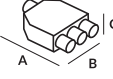


With integrated connectors.

Also suitable for extra-flat lever connectors.

Also suitable for screw terminals.

| PRODUCT / Item                   | Colour | Connectors                | Cables Ø min - max (mm) | Tubes Ø (mm) |  (mm) |
|----------------------------------|--------|---------------------------|-------------------------|--------------|--|
| <b>BABY BOX</b><br>BABYBOX       | ●      | 3                         | 8 - 18                  | 16 / 20      | 90 x 80 x 47   |
| <b>BABY BOX - N</b><br>BABYBOX-N | ●      | 3x Max 12 mm <sup>2</sup> |                         |              |  |

| PRODUCT / Item                      | Colour | Connectors                | Cables Ø min - max (mm) | Tubes Ø (mm) |  (mm) |
|-------------------------------------|--------|---------------------------|-------------------------|--------------|--|
| <b>BABY BOX 3</b><br>BABYBOX3       | ●      | 4                         | 8 - 18                  | 16 / 20      | 95 x 110 x 43  |
| <b>BABY BOX 3 - N</b><br>BABYBOX3-N | ●      | 5x Max 12 mm <sup>2</sup> |                         |              |  |





# READY BOX

3 or 4 entrances junction boxes pre-filled with gel, complete with integrated terminal block and cable glands

Ready Boxes are pre-filled with gel and ready to use; complete with terminal blocks but can also be used with the most common connection systems. Supplied with nuts for the conformation with 3 or 4 outputs, they are suitable for a very wide range of cables or ducts diameters.

## ADVANTAGES

- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive.
- ▶ Ready to use.
- ▶ Also suitable for wet or flooded environments.
- ▶ Always re-enterable.
- ▶ Wall or external ceiling fixing system.
- ▶ Click and hook closure, does not require screws.
- ▶ Pre-threaded entries for cable gland mounting.
- ▶ No shelf life.



**Electrical performance:**  
 • CEI EN 50393 as applicable  
 • Class 2 in accordance with CEI 64-8.

🔹 **Gel:** UL 94-HB 

🔹 **Working temperature:** 90°C

🔹 **Gel operating temperature:**  
 -60°C / +200°C

🔹 **Fully submersible**

🔹 **Can be used underground**

🔹 **Halogen-free Gel**

🔹 **UV resistant**

🔹 **Self-extinguishing and resistant to abnormal heat and fire:**  
 Glow Wire Flammability Index at +960°C according to EN60695-2-12

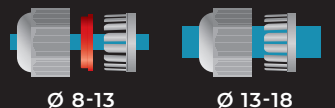


**IP68**  
OFFICIALLY  
TESTED

**IMQ**

**IP69K**  
OFFICIALLY  
TESTED

CABLES



Ø 8-13

Ø 13-18

TUBES

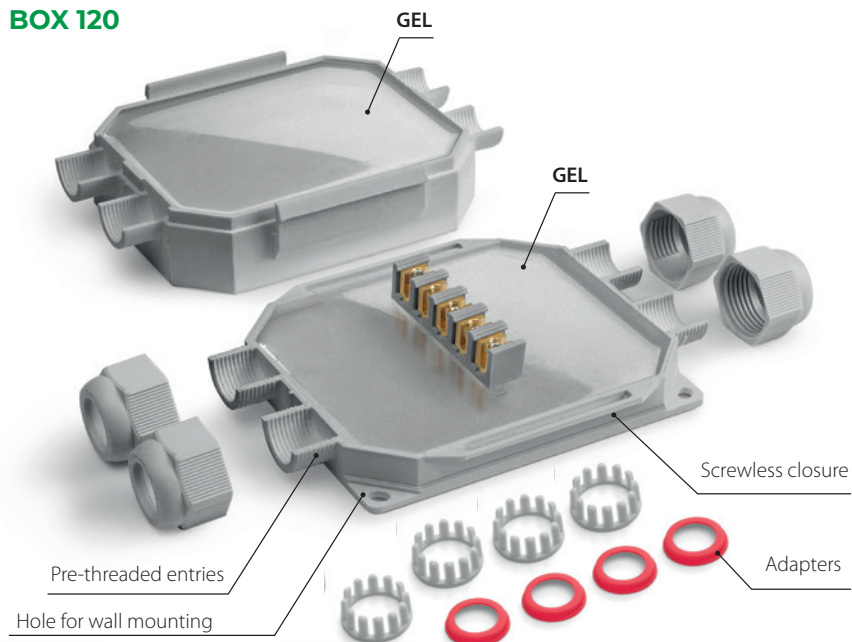


Ø 16

Ø 20

Ø 32

**READY  
BOX 120**

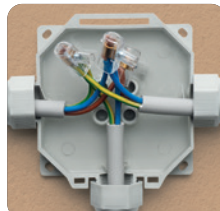
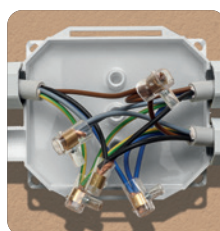
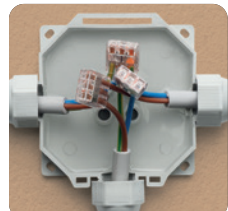
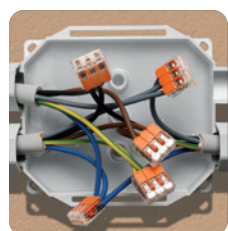
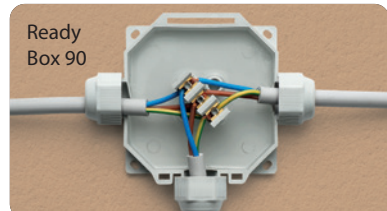
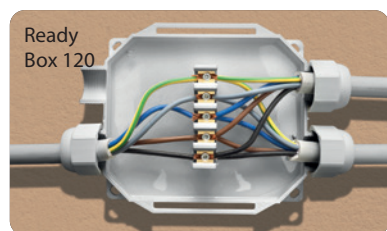


Installation with free cables.



Installation with cable gland duct.


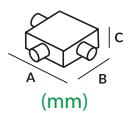
**READY  
BOX 90**


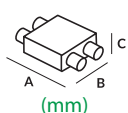


Thanks to its innovative design, unlike a standard box, there is no need to break through the walls of the box to insert the cable.

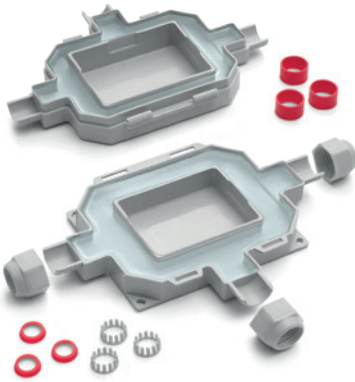
Also suitable for extra-flat lever connectors.

Also suitable for screw terminals.

| PRODUCT / Item                      | Colour |  | Cables Ø min-max (mm) | Tubes Ø (mm) | <br>A B C<br>(mm) |
|-------------------------------------|--------|---|-----------------------|--------------|--|
| Ready Box IP68 90<br>READYBOX90     | ●      | 3   | 8 - 18                | 16 / 20 / 32 | 90 x 90 x 45   |
| Ready Box IP68 90/N<br>READYBOX90-N | ●      |   |                       |              |  |


| PRODUCT / Item                        | Colour |  | Cables Ø min-max (mm) | Tubes Ø (mm) | <br>A B C<br>(mm) |
|---------------------------------------|--------|---|-----------------------|--------------|--|
| Ready Box IP68 120<br>READYBOX120     | ●      | 4   | 8 - 18                | 16 / 20 / 32 | 120 x 100 x 45   |
| Ready Box IP68 120/N<br>READYBOX120-N | ●      |   |                       |              |  |






**Electrical performance:**


- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

 Gel: UL 94-HB c 


 Working temperature: 90°C

 Gel operating temperature:  
-60°C / +200°C

 Fully submersible

 Can be used underground

 Halogen-free Gel

 UV resistant

 Self-extinguishing and resistant to abnormal heat and fire:  
Glow Wire Flammability Index at +960°C according to EN60695-2-12

**IP68**  
OFFICIALLY TESTED

**IMQ**

**IP69K**  
OFFICIALLY TESTED

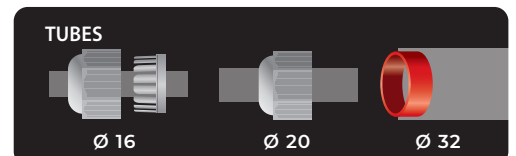
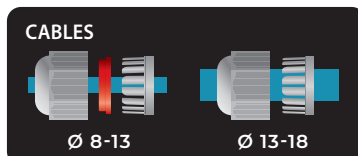
# FOX BOX

3 or 5 entrance jointing enclosure with gel filled perimeter chamber providing lighter weight with maximum capacity.

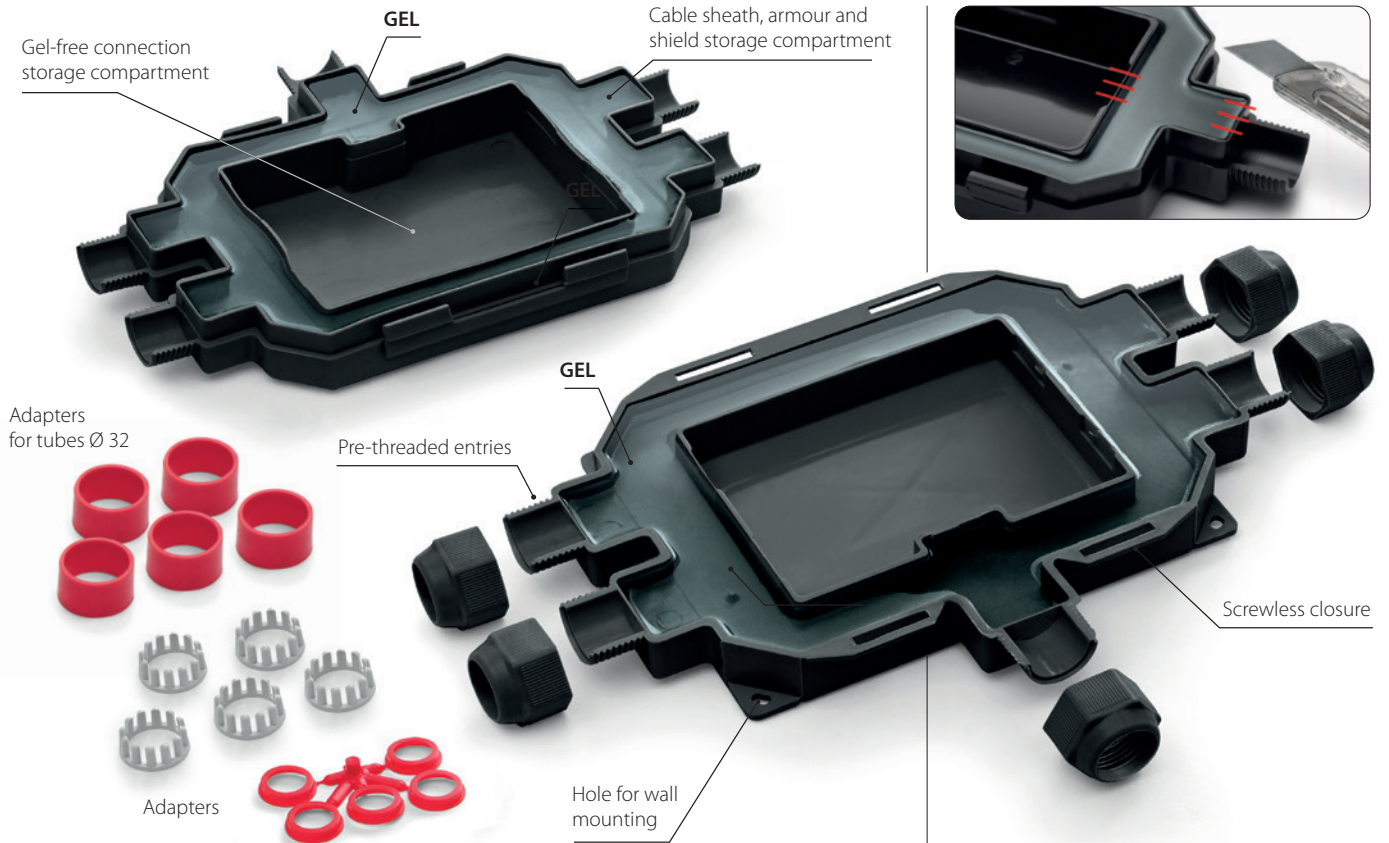
Kit includes accessories to maximise versatility allowing the use of cables from 8 to 18 mm in diameter or with 16, 20 and 32 mm diameter cable conduits. The internal, gel-free compartment allows for dry connections or any future alterations or disconnections. The gel, contained in the perimeter chamber also surrounds, insulates and seals any armour continuity connections or cable shields.

## ADVANTAGES

- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive.
- ▶ Functional, elegant design.
- ▶ Ideal for exposed and safety systems and for video camera installation.
- ▶ Ready for use.
- ▶ Click and hook closure, does not require screws.
- ▶ Ready and installable in all environmental conditions.
- ▶ Also suitable for wet or flooded environments.
- ▶ Always re-enterable.
- ▶ Wall or external ceiling fixing system.
- ▶ No shelf life.

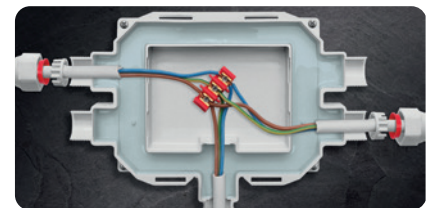
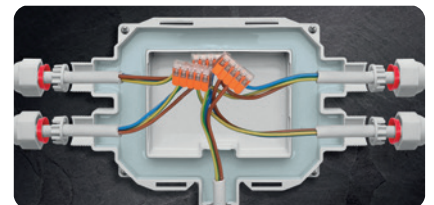


JOINTING BOXES



| PRODUCT / Item                        | Colour | Cables Ø min-max (mm) | Tubes Ø (mm) | Inner capacity (mm) | Outer dimensions (mm) |
|---------------------------------------|--------|-----------------------|--------------|---------------------|-----------------------|
| <b>FOX BOX 3</b><br>FOXBOX3           | ●      |                       |              |                     |                       |
| <b>FOX BOX 3 - N</b><br>FOXBOX3-N     | ●      | 8 - 18                | 16 / 20 / 32 | 79x60x32            | 180 x 135 x 45        |
| <b>FOX BOX 3 - ARM</b><br>FOXBOX3-ARM | ●      |                       |              |                     |                       |

| PRODUCT / Item                     | Colour | Cables Ø min-max (mm) | Tubes Ø (mm) | Inner capacity (mm) | Outer dimensions (mm) |
|------------------------------------|--------|-----------------------|--------------|---------------------|-----------------------|
| <b>FOX BOX</b><br>FOXBOX           | ●      |                       |              |                     |                       |
| <b>FOX BOX - N</b><br>FOXBOX-N     | ●      | 8 - 18                | 16 / 20 / 32 | 116x78x32           | 210 x 155 x 45        |
| <b>FOX BOX - ARM</b><br>FOXBOX-ARM | ●      |                       |              |                     |                       |



The Fox Box – Arm kit includes:

- The yellow/green insulated wires.
- The roll springs to carry out the continuity of the armouring.

Armourings and their continuity are housed in the chamber with the gel, ensuring perfect sealing.

# MAGIC BOX

IP68 Connection kit complete with Magic Fluid insulating gel.

Universal IP68 kit without shelf life, mechanically robust, non-toxic, suitable for installation even in the most extreme conditions, re-enterable, meeting all international standards. Protects from water, moisture, dust and accidental contact caused by small animals.

## ADVANTAGES

- ▶ With pre-drilled walls for a faster installation.
- ▶ Re-enterable even after long periods of operation.
- ▶ Able to absorb external shock without fracturing.
- ▶ For installations even at high depths.
- ▶ Also suitable for vertical filling.
- ▶ No shelf life.
- ▶ The gel is not-classified as hazardous under the CLP Directive.



### Electrical performance:

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

🔧 Gel: UL 94-HB 

🌡 Working temperature: 90°C

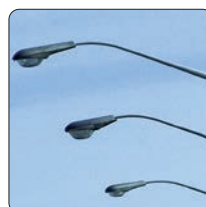
🌡 Gel operating temperature: -60°C / +200°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

🔥 Self-extinguishing and resistant to abnormal heat and fire:  
Glow Wire Flammability Index at +960°C according to EN60695-2-12



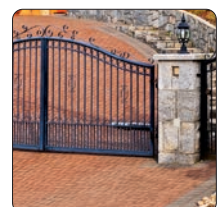
PUBLIC LIGHTING



NAVAL SECTOR



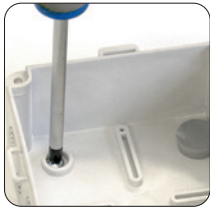
OUTDOOR - GARDENS



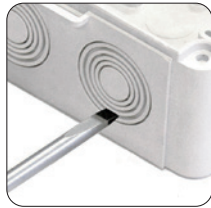
ELECTRIC GATES

IP68 OFFICIALLY TESTED | IMQ

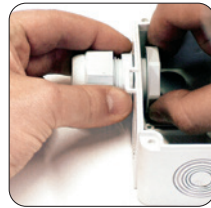
Kit box installation sequence



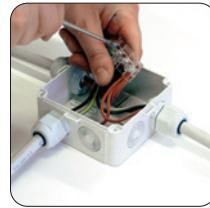
Fix the box and cover the screws with the caps.



Knock out the pre prepared holes.

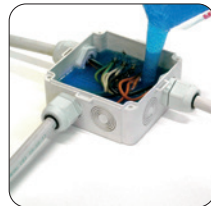


Install the cable glands.




Insert the cables and connect the wires.

Horizontal installation sequence



Vertical installation sequence



| PRODUCT / Item                      | Input cables max. external Ø (mm) | <br>N° and type of cable glands | Box dimensions (mm) |
|-------------------------------------|-----------------------------------|--|---------------------|
| <b>MAGIC BOX 65</b><br>MAGICBOX65   | 22                                | 3 x PG16   | Ø 65 x h 35         |
| <b>MAGIC BOX 80</b><br>MAGICBOX80   | 22                                | 3 x PG16   | Ø 80 x h 40         |
| <b>MAGIC BOX 100</b><br>MAGICBOX100 | 20                                | 3 x M25 x 1.5  | 100 x 100 x h 50    |
| <b>MAGIC BOX 120</b><br>MAGICBOX120 | 20                                | 3 x M25 x 1.5  | 120 x 80 x h 50     |
| <b>MAGIC BOX 150</b><br>MAGICBOX150 | 26                                | 3 x M25 x 1.5  | 150 x 110 x h 70    |
| <b>MAGIC BOX 190</b><br>MAGICBOX190 | 26                                | 3 x M25 x 1.5  | 190 x 140 x h 70    |
| <b>MAGIC BOX 240</b><br>MAGICBOX240 | 26                                | 3 x M25 x 1.5  | 240 x 190 x h 90    |



Complete kit with:

- Cover
- 3 cable glands
- Series of closing plugs
- Insulating gel for complete filling



# POWER KIT IP68

The only re-enterable and reusable IP68 kit. Can easily be used for ceiling mounted or recessed applications!

The most versatile, safe solution to fully protect connections in boxes with an IP68 degree of protection. Thanks to **Magic Power**, the newly developed, fast cross-linking, safe and reliable, extremely sticky self-agglomerating gel with very high dielectric, thermal and elastic characteristics, sealing is guaranteed in all type of installation, including submerged. The Power Kit IP68 solution is the only product of its kind! Not only because the insulation can be used in two different ways, both as a traditional "pour" in the box and as a "cross linked and sticky" product (cross linking first), but also because, thanks to its re-enterability and re-usability, it helps you save time and money!

## ADVANTAGES

- ▶ Magic Power Gel is not-classified as hazardous under the CLP Directive.
- ▶ Complete Kit for a perfect connection IP68.
- ▶ Insulated with Magic Power Gel the innovative self-amalgamating gel.
- ▶ Can also be used in severe environmental conditions.
- ▶ Suitable for very high depths.
- ▶ No waste.
- ▶ No shelf life.

### Electrical performance:

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

🔧 Gel: UL 94-HB c  us

🌡️ Working temperature: 90°C

🌡️ Gel operating temperature: -60°C / +200°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

🔥 Self-extinguishing and resistant to abnormal heat and fire:  
Glow Wire Flammability Index at +960°C according to EN60695-2-12

IP68  
OFFICIALLY TESTED | IMQ



### WHERE CAN YOU USE THE POWER KIT?

In pools, tanks, submerged pumps, outdoor lighting systems, underground, port piers, marinas, sewer systems, and with temporary connections such as with lights, street vendors, etc.

### HOW DO YOU USE THE POWER KIT?

The insulation can be poured into the box (Pour!) or, for special applications, cross linked in the measuring jug and applied around the connection (Stick!). Mix the Magic Power gel in a 1:1 ratio in the supplied measuring jug. The gel will cross link in less than 15 minutes.

### NO WASTE

The cross linked gel which remains on the bottom after mixing can be easily removed from the jug and saved for later use.

Chose the **POUR** or **STICK** method most suited for your needs

**POUR**



You can use the Magic Power gel supplied in the two-component bottle in a 1:1 ratio by simply pouring it after mixing into the box supplied in the kit, to protect and seal internal connections. The gel cross links in just 15 minutes, but the box can be energised immediately.

**RE-ENTER AND RE-USE**



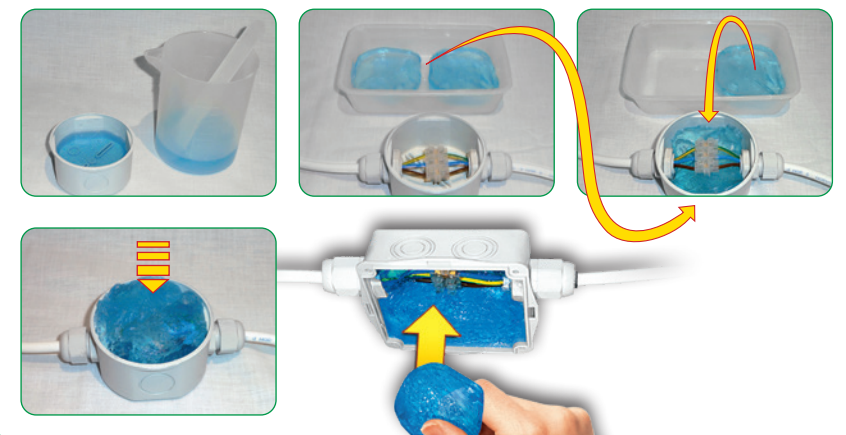
Thanks to Magic Power Gel, the box can be **re-opened, inspected** and **re-insulated** all using the original installed product.

**STICK**



Pour the components in the measuring jug, mix and leave to cross link (about 15 minutes). Remove the insulation and position it in small parts around the connection so that it is fully covered. Insulation saved from previous mixes can of course be utilised.

**IN A HURRY? ADVERSE WEATHER CONDITIONS? PREPARE YOUR INSULATION BEFORE INSTALLING IT!**





### WHAT ARE THE ADVANTAGES TO USING THE POWER KIT?

- The insulation is extremely sticky and self-amalgamating, with no shelf life, it is non-toxic and it adheres to everything while leaving your hands clean and dry.
- The kit does not cause waste: insulation left over in the measuring jug can be saved for later use.
- Re-enterable and reusable, saving time and money.
- The supplied box has pre-marked holes.
- Compatible with Magic Gel.
- A slight exothermic reaction (temperature increase of about 3°C) speeds up cross linking in cold weather conditions.
- Even protects boxes mounted on the ceiling to IP68 if using the "stick" method. Could also use left over product from previous installations.
- Insulation can be pre-prepared: at home, at work or in your car and then applying it once cross linked, saving time when you're in a hurry or in adverse weather conditions.

### SOME LEFT OVER? SAVE IT!



Left over gel that has already cross linked can be easily removed from the measuring jug and saved for later use.



| PRODUCT / Item                    | Box  | Insulating filler  |
|-----------------------------------|--|--|
| <b>POWER KIT 65</b><br>POWER-65   | Ø 65 x h 35 mm<br>+ 2 cable glands PG16 / caps           | Single two-component bottle<br>1 small jug - 1 spatula in wood |
| <b>POWER KIT 80</b><br>POWER-80   | Ø 80 x h 40 mm<br>+ 3 cable glands PG16 / caps           | Single two-component bottle<br>1 small jug - 1 mixing spatula  |
| <b>POWER KIT 100</b><br>POWER-100 | 100 x 100 x h 50 mm<br>+ 3 cable glands M25 x 1,5 / caps | Single two-component bottle<br>1 small jug - 1 mixing spatula  |
| <b>POWER KIT 120</b><br>POWER-120 | 120 x 80 x h 50 mm<br>+ 3 cable glands M25 x 1,5 / caps  | Single two-component bottle<br>1 small jug - 1 mixing spatula  |

# MAGIC GEL SPRINT BOX 100

Kit for IP68 connections with Magic Gel Sprint.

The kit includes a pack of Magic Gel Sprint 450, the gel formulated for an extra-rapid polymerization directly inside the bottle, and a 100 x 100 x h50 mm box: once connected the conductors in the box, the gel is prepared simply by pouring into the large bottle the content of the small one. Then shake and pour. Operation finished!

## ADVANTAGES

- ▶ For **POWER CABLES, TELECOM CABLES** and **ELECTRONIC CIRCUITS**.
- ▶ **Non-toxic, safe and not classified as hazardous** under CLP Directive.
- ▶ Suitable for installation in salt water (sea) and in chlorinated water (pools).
- ▶ Suitable for very high depths.
- ▶ For installations up to 1 kV.
- ▶ No shelf life.
- ▶ Re-enterable.
- ▶ Suitable for high temperatures.



Extra fast curing!



### Electrical performance:

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

Gel: UL 94-HB

Working temperature: 90°C

Gel operating temperature: -60°C / +200°C

Fully submersible

Can be used underground

Halogen-free Gel

Self-extinguishing and resistant to abnormal heat and fire:  
Glow Wire Flammability Index at +960°C according to EN60695-2-12

**IP68** | **IMQ**  
OFFICIALLY TESTED



| PRODUCT / Item                              | Box   | Insulating filler |
|---|---|-------------------|
| MAGIC GEL SPRINT BOX 100<br>MAGICSPRINTBOX1 | 100 x 100 x h 50 mm<br>+ 3 cable glands M25 x 1,5 | Bottle + Catalyst |



**Electrical Performance:**  
CEI 23-48, IEC 60670

**Degree of protection:**  
empty IP55  
filled with Gel Raytech IP68

**Self-extinguishing and resistant to abnormal heat and fire:**  
Glow Wire Flammability Index at +960° C according to EN60695-2-12

# J-BOX

Snap shut closing enclosures with perforated knockouts.

Enclosure with snap shut cover and perforated knockouts for faster mounting of cable glands. Very high mechanical and flame retardant properties. Re-enterable only by means of a tool. The screwless design prevents screws rusting over time due to moisture and always allows for easy re-entry. Screw caps are also supplied for the wall mounting screws along with 3 cable glands and a stopping plug for vertical filling.

## ADVANTAGES

- ▶ Can be insulated with *Magic Power Gel, Magic Gel, Wonder Gel (IP68)*.
- ▶ Re-enterable only with the use of a tool.
- ▶ Snap-shut closing (without screws).
- ▶ Also suitable for vertical filling.
- ▶ Excellent shock-resistance.



Snap-shut closing (without screws)



Pre - drilled walls

| PRODUCT Item                | Max N° of cables that can be jointed | Max Ø predrilling holes (mm) | Max Ø possible drilling (mm) | Max dimension housed cable glands (pass) |        | Dimension (mm)   |
|-----------------------------|--------------------------------------|------------------------------|------------------------------|--|--------|------------------|
|                             |                                      |                              |                              | PG                                       | METRIC |                  |
| <b>J-BOX 65</b><br>JBOX65   | 4                                    | 23                           | 23                           | 16                                       | 20     | Ø 65 x h 35      |
| <b>J-BOX 80</b><br>JBOX80   | 4                                    | 23                           | 23                           | 16                                       | 20     | Ø 80 x h 40      |
| <b>J-BOX100</b><br>JBOX100  | 8                                    | 29                           | 29                           | 21                                       | 25     | 100 x 100 x h 50 |
| <b>J-BOX120</b><br>JBOX120  | 6                                    | 25                           | 29                           | 21                                       | 25     | 120 x 80 x h 50  |
| <b>J-BOX150</b><br>JBOX150  | 10                                   | 29                           | 37                           | 29                                       | 32     | 150 x 110 x h 70 |
| <b>J-BOX190*</b><br>JBOX190 | 10                                   | 37                           | 37                           | 29                                       | 32     | 190 x 140 x h 70 |
| <b>J-BOX240*</b><br>JBOX240 | 12                                   | 37                           | 37                           | 29                                       | 32     | 240 x 190 x h 90 |

\* Supplied with extractable hinge for opening book type.  
Note: All boxes include 3 cable glands Ray Pass 16.

## J-BOX ACCESSORIES

### RAY-PRESS

| METRIC pitch                      |             |                      |               |          |               |
|-----------------------------------|-------------|----------------------|---------------|----------|---------------|
| PRODUCT / Item                    | Metric pict | Assembly hole Ø (mm) | Cable range Ø |          | Pack of (PCS) |
|                                   |             |                      | min (mm)      | max (mm) |               |
| <b>Ray PRESS-16</b><br>RAYPRESS16 | M16 x 1.5   | 16                   | 6             | 10       | 50            |
| <b>Ray PRESS-20</b><br>RAYPRESS20 | M20 x 1.5   | 20                   | 8             | 13       | 50            |
| <b>Ray PRESS-25</b><br>RAYPRESS25 | M25 x 1.5   | 25                   | 12            | 18       | 20            |
| <b>Ray PRESS-32</b><br>RAYPRESS32 | M32 x 1.5   | 32                   | 16            | 20       | 20            |

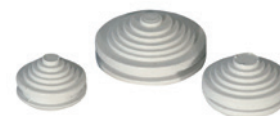


| PG pitch                                  |         |                      |               |          |               |
|---|---------|----------------------|---------------|----------|---------------|
| PRODUCT / Item                            | PG pict | Assembly hole Ø (mm) | Cable range Ø |          | Pack of (PCS) |
|   |         |                      | min (mm)      | max (mm) |               |
| <b>Ray PRESS-PG11</b><br>RAYPRESSPG11     | 11      | 19                   | 6             | 9        | 50            |
| <b>Ray PRESS-PG13.5</b><br>RAYPRESSPG13.5 | 13,5    | 20                   | 9             | 12       | 50            |
| <b>Ray PRESS-PG16</b><br>RAYPRESSPG16     | 16      | 23                   | 11            | 14       | 50            |
| <b>Ray PRESS-PG21</b><br>RAYPRESSPG21     | 21      | 29                   | 14            | 18       | 20            |



### RAY-PASS

| PRODUCT / Item                  | For pipe Ø max external (mm) | Assembly hole Ø (mm) | Pack of (PCS) |
|---------------------------------|------------------------------|----------------------|---------------|
| <b>Ray PASS 16</b><br>RAYPASS16 | 20                           | 23                   | 50            |
| <b>Ray PASS 21</b><br>RAYPASS21 | 23,5                         | 29                   | 50            |
| <b>Ray PASS 29</b><br>RAYPASS29 | 32                           | 38                   | 50            |





**LOW VOLTAGE  
CONNECTORS  
TERMINAL BLOCKS  
GEL COVER  
GEL BOX**

**RAY BLOCK  
SUPER BLOCK  
HAPPY LINE  
GEL BOX LINE  
NANO LINE  
BRAVO**



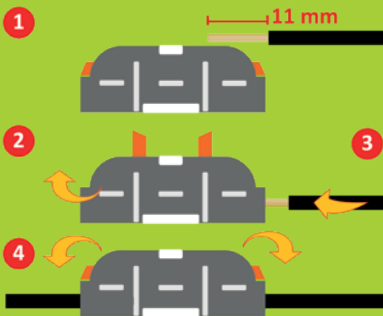
NEW

# LEVER CONNECTORS IN & OUT

CE UK  
RoHS  
Compliant



- MODULAR
- COMPOSABLE
- ULTRAFAST
- SELF-EXTINGUISHING



SECTION: 0.5-4 mm<sup>2</sup>  
VOLTAGE: 600V  
CAPACITY: 32A

RAY  
BLOCK



x 50

COD. ART.  
RAYBLOCK

MINIMUM ORDER QUANTITY  
1 DISPLAY  
OF 12 PACKS

RAY  
BLOCK uno



x 20

COD. ART.  
RAYBLOCKUNO

MINIMUM ORDER QUANTITY  
1 DISPLAY  
OF 20 BLISTERS

# RAY BLOCK B

The new range of lever connectors, quick and safe, time and cost-saving.

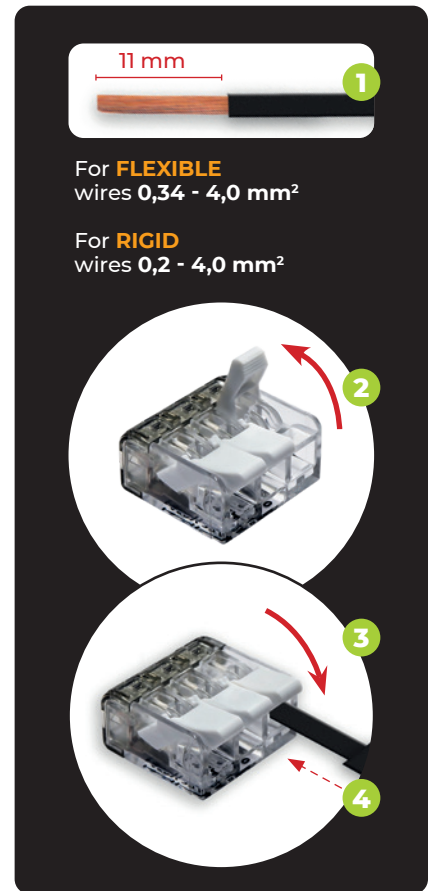
## ADVANTAGES

- ▶ Extra compact, robust, practical, safe and very quick to install.
- ▶ They do not require the use of tools.
- ▶ They allow independent locking and release of individual conductors.
- ▶ Equipped with 2 voltage test points: on front and on back side.
- ▶ With high-quality, acid-resistant stainless steel pressure spring.



CEI/IEC 60998-1  
CEI/IEC 60998-2-2

OPERATING: **Max 105° C**  
VOLTAGE: **450V**  
CAPACITY: **32A**



For **FLEXIBLE**  
wires 0,34 - 4,0 mm<sup>2</sup>

For **RIGID**  
wires 0,2 - 4,0 mm<sup>2</sup>



**x 40** COD. ART.  
RAYBLOCKB2

**MINIMUM ORDER QUANTITY**  
1 DISPLAY  
OF 20 BLISTERS



**x 30** COD. ART.  
RAYBLOCKB3

**MINIMUM ORDER QUANTITY**  
1 DISPLAY  
OF 20 BLISTERS



**x 18** COD. ART.  
RAYBLOCKB5

**MINIMUM ORDER QUANTITY**  
1 DISPLAY  
OF 20 BLISTERS

NEW

**SUPERBLOCK**



# SUPER BLOCK

The new Gel Box with integrated lever connectors: ready, complete, submersible and compact.

The GEL BOX range, designed in 2015, is enriched with a new range of compact and waterproof connecting devices. For increasingly secure and high-performance connections over time.

**ADVANTAGES**

- ▶ For straight or branch connections of 3 or 5 rigid or flexible wires up to 4 mm<sup>2</sup>.
- ▶ Tool-less.
- ▶ Can be powered immediately - Always re-enterable.
- ▶ Pre-filled with conforming viscoelastic gel, not classified as hazardous.
- ▶ Reusable.
- ▶ Without shelf-life.



**Electrical performance:**

- CEI EN 50393 as applicable (testing under water head of the accessory installed in a box).
- Class 2 in accordance with CEI 64-8.
- CEI EN 60998-1 - CEI EN 60998-2

🔧 Gel: UL 94-HB

🌡 Working temperature: 90°C

🌡 Installation temperature: -40°C / +50°C

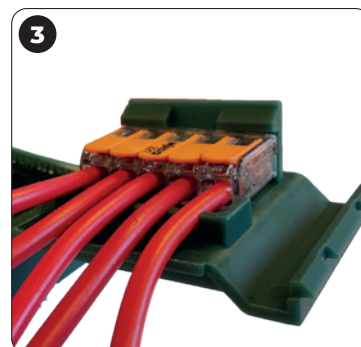
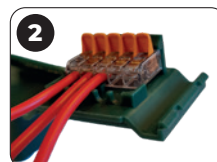
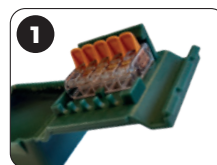
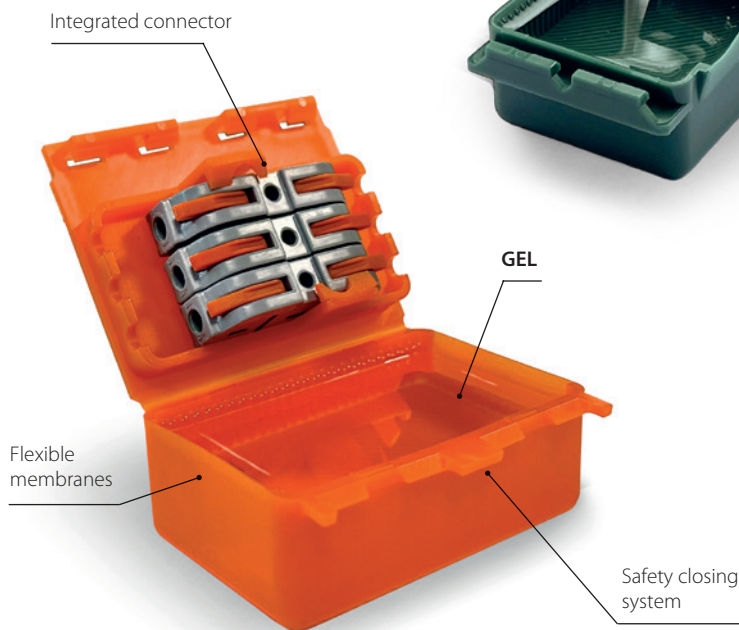
🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

☀ UV resistant

**IP68** | **IMQ**  
OFFICIALLY TESTED





### SUPER BLOCK IN-OUT M

Item  
SUPERBLOCKINOUTM

Up to 3 x 4 mm<sup>2</sup>

Dimensions:  
67 x 50 x 28 mm



### SUPER BLOCK 3W

Item  
SUPERBLOCK3W

Up to 3 x 4 mm<sup>2</sup>

Dimensions:  
57 x 47 x 26 mm



### SUPER BLOCK 3

Item  
SUPERBLOCK3

Up to 3 x 4 mm<sup>2</sup>

Dimensions:  
57 x 47 x 26 mm



### SUPER BLOCK 5W

Item  
SUPERBLOCK5W

Up to 5 x 2.5 mm<sup>2</sup>

Dimensions:  
57 x 47 x 26 mm



### SUPER BLOCK 5

Item  
SUPERBLOCK5

Up to 5 x 4 mm<sup>2</sup>

Dimensions:  
57 x 47 x 26 mm



### SUPER BLOCK IN-OUT W

Item  
SUPERBLOCKINOUTW

Up to 3 x 4 mm<sup>2</sup>

Dimensions:  
67 x 50 x 28 mm



### SUPER BLOCK IN-OUT

Item  
SUPERBLOCKINOUT

Up to 3 x 4 mm<sup>2</sup>

Dimensions:  
67 x 50 x 28 mm





# HAPPY LINE

The revolutionary mini accessories with 3 entrances, pre-filled with gel and suitable for submersible installations (IPX8).

Designed in 3 dimensions to rapidly insulate and seal the most commonly used connectors. The 3 entrances not only guarantee the extreme flexibility in the range of these products by making possible triple configurations but also by the housing accepting a wide variety of connectors.

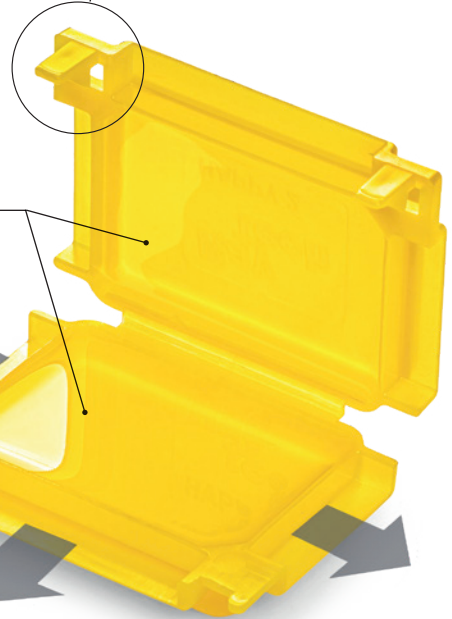
## ADVANTAGES

- ▶ Extremely versatile - Ready to use - Re-enterable.
- ▶ For rigid or flexible insulated wires up to 6 mm<sup>2</sup>.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.
- ▶ Small compact and robust.

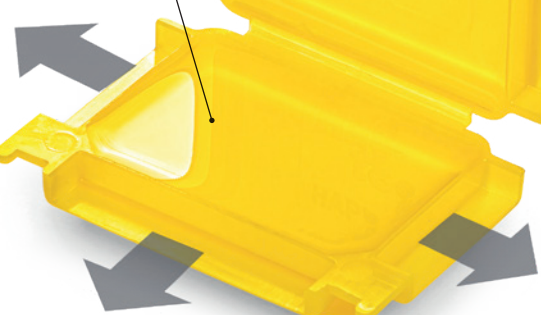
New closure safety



New closure safety



Extra flexible membranes



### Electrical performance:

- CEI EN 50393 as applicable (testing under water head of the accessory installed in a box).
- Class 2 in accordance with CEI 64-8.
- CEI EN 60998-1 - CEI EN 60998-2

🔧 Gel: UL 94-HB US

🌡️ Working temperature: 90°C

🌡️ Installation temperature: -40°C / +50°C

🌊 Fully submersible

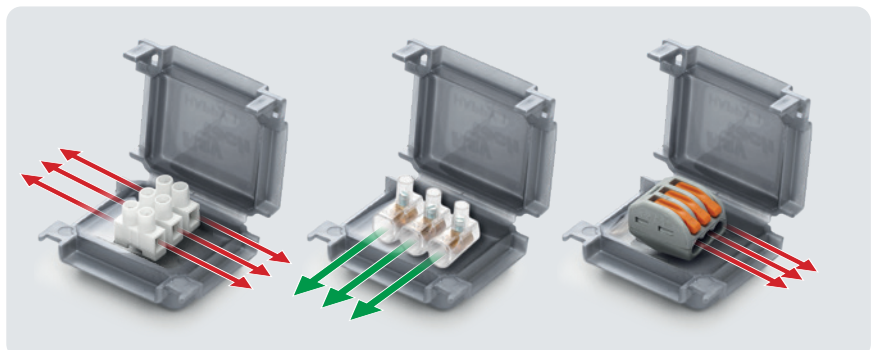
🔑 Can be used underground

🌿 Halogen-free Gel

☀️ UV resistant

**IPX8**  
OFFICIALLY  
TESTED | **IMQ**

## Configuration examples



## HAPPY 00



| PRODUCT    | Item      | Colour | Pack of | Description | Dimension (mm) |
|------------|-----------|--------|---------|-------------|----------------|
| HAPPY 00   | HAPPY00   | ●      | 4 PCS   | Blister     | 40 x 28 x 19   |
| HAPPY 00-T | HAPPY00-T | ○      | 4 PCS   | Blister     |                |
| GEL BOX 00 | GELBOX00  | ○      | 20 PCS  | Blister     |                |

IDEAL FOR (or similar):



## HAPPY 0



| PRODUCT       | Item        | Colour | Pack of | Description | Dimension (mm) |
|---------------|-------------|--------|---------|-------------|----------------|
| HAPPY 0       | HAPPY0      | ●      | 4 PCS   | Blister     | 40 x 29 x 22   |
| HAPPY 0-T     | HAPPY0-T    | ○      | 4 PCS   | Blister     |                |
| HAPPY 0 BOX12 | HAPPY0BOX12 | ○      | 12 PCS  | Box         |                |
| GEL BOX 0     | GELBOX0     | ○      | 20 PCS  | Blister     |                |

IDEAL FOR (or similar):



## HAPPY 1



| PRODUCT       | Item        | Colour | Pack of | Description | Dimension (mm) |
|---------------|-------------|--------|---------|-------------|----------------|
| HAPPY 1       | HAPPY1      | ●      | 2 PCS   | Blister     | 45 x 37 x 24   |
| HAPPY 1-T     | HAPPY1-T    | ○      | 2 PCS   | Blister     |                |
| HAPPY 1 BOX10 | HAPPY1BOX10 | ○      | 10 PCS  | Box         |                |
| GEL BOX 1     | GELBOX1     | ○      | 15 PCS  | Blister     |                |

IDEAL FOR (or similar):

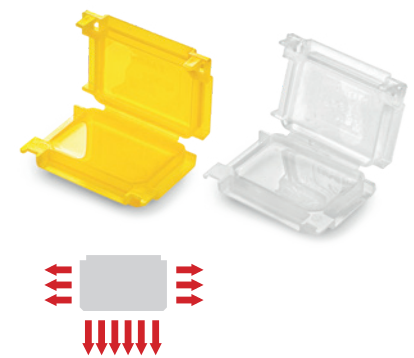
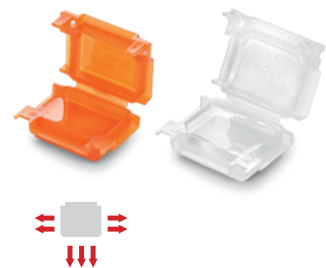


## HAPPY 2



| PRODUCT      | Item       | Colour | Pack of | Description | Dimension (mm) |
|--------------|------------|--------|---------|-------------|----------------|
| HAPPY 2      | HAPPY2     | ●      | 1 PC    | Blister     | 53 x 39 x 24   |
| HAPPY 2-T    | HAPPY2-T   | ○      | 1 PC    | Blister     |                |
| HAPPY 2 BOX7 | HAPPY2BOX7 | ○      | 7 PCS   | Box         |                |
| GEL BOX 2    | GELBOX2    | ○      | 11 PCS  | Blister     |                |

IDEAL FOR (or similar):



Coloured casings are self-extinguishing according to the **UL 94-V2** standard.



# HAPPY JOINT LINE

The revolutionary mini accessories with 3 entrances, pre-filled with gel and suitable for submersible installations (IPX8) complete with connectors.


## ADVANTAGES

- ▶ Extremely versatile - ready to use - re-enterable.
- ▶ Small, compact and robust.
- ▶ No need for tools.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.
- ▶ Can energise immediately.
- ▶ For straight and branch connections.
- ▶ For rigid or flexible insulated wires up to 6 mm<sup>2</sup>.
- ▶ Up to 5 conductors on one phase or up to two conductors on two or three phases.



### Electrical performance:

- CEI EN 50393 as applicable (testing under water head of the accessory installed in a box).
- Class 2 in accordance with CEI 64-8.
- CEI EN 60998-1 - CEI EN 60998-2

🔧 Gel: UL 94-HB  US

🌡 Working temperature: 90°C

🌡 Installation temperature: -40°C / +50°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

☀ UV resistant

IPX8  
OFFICIALLY  
TESTED | IMQ

New closure  
safety

GEL

**ULTRA-FLAT TERMINALS  
FOR WIRES UP TO  
6 mm<sup>2</sup>**



## HAPPY JOINT 3

| PRODUCT / Item                 | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) | Combination             | Pack of           | Dimension (mm) |
|--------------------------------|--|-------------------------|-------------------|----------------|
| HAPPY JOINT 3<br>HAPPYJOINT3   | 3 x 1 - 4  | 2 through /<br>1 branch | 4 PCS/<br>Blister | 41 x 28 x 19   |
| HAPPY JOINT 36<br>HAPPYJOINT36 | 3 x 1 - 6  | 2 through /<br>1 branch | 2 PCS/<br>Blister | 45 x 37 x 24   |



3 x 4 mm<sup>2</sup>



3 x 6 mm<sup>2</sup>



With one connector included for each Happy

## HAPPY JOINT 4

| PRODUCT / Item                 | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) | Combination           | Pack of           | Dimension (mm) |
|--------------------------------|--|-----------------------|-------------------|----------------|
| HAPPY JOINT 4<br>HAPPYJOINT4   | 2+2 x 1 - 4  | 2 through /<br>in/out | 2 PCS/<br>Blister | 45 x 37 x 24   |
| HAPPY JOINT 46<br>HAPPYJOINT46 | 2+2 x 1 - 6  | 2 through /<br>in/out | 2 PCS/<br>Blister | 45 x 37 x 24   |



2+2 x 4 mm<sup>2</sup>



2+2 x 6 mm<sup>2</sup>



With two connectors included for each Happy

## HAPPY JOINT 5

| PRODUCT / Item                 | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) | Combination             | Pack of           | Dimension (mm) |
|--------------------------------|--|-------------------------|-------------------|----------------|
| HAPPY JOINT 5<br>HAPPYJOINT5   | 5 x 1 - 4  | 2 through /<br>3 branch | 2 PCS/<br>Blister | 45 x 37 x 24   |
| Happy Joint 56<br>HAPPYJOINT56 | 5 x 1 - 6  | 2 through /<br>3 branch | 1 PC/<br>Blister  | 53 x 39 x 24   |



5 x 4 mm<sup>2</sup>



5 x 6 mm<sup>2</sup>



With one connector included for each Happy

## HAPPY JOINT 6

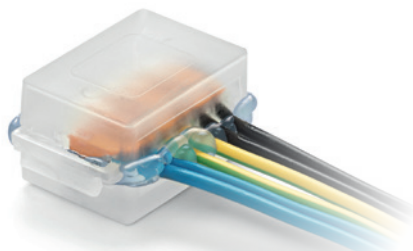
| PRODUCT / Item               | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) | Combination           | Pack of          | Dimension (mm) |
|------------------------------|--|-----------------------|------------------|----------------|
| HAPPY JOINT 6<br>HAPPYJOINT6 | 6 x 1 - 4  | 3 through /<br>in/out | 1 PC/<br>Blister | 53 x 39 x 24   |



6 x 4 mm<sup>2</sup>



With three connectors included for each Happy



**Electrical performance:**

- CEI EN 50393 as applicable (testing under water head of the accessory installed in a box).
- Class 2 in accordance with CEI 64-8.

🔹 Gel: UL 94-HB c  US

🔹 Working temperature: 90°C

🔹 Installation temperature: -40°C / +50°C

🔹 Fully submersible

🔹 Can be used underground

🔹 Halogen-free Gel

🔹 UV resistant

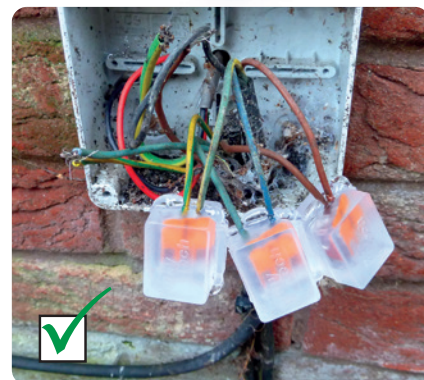
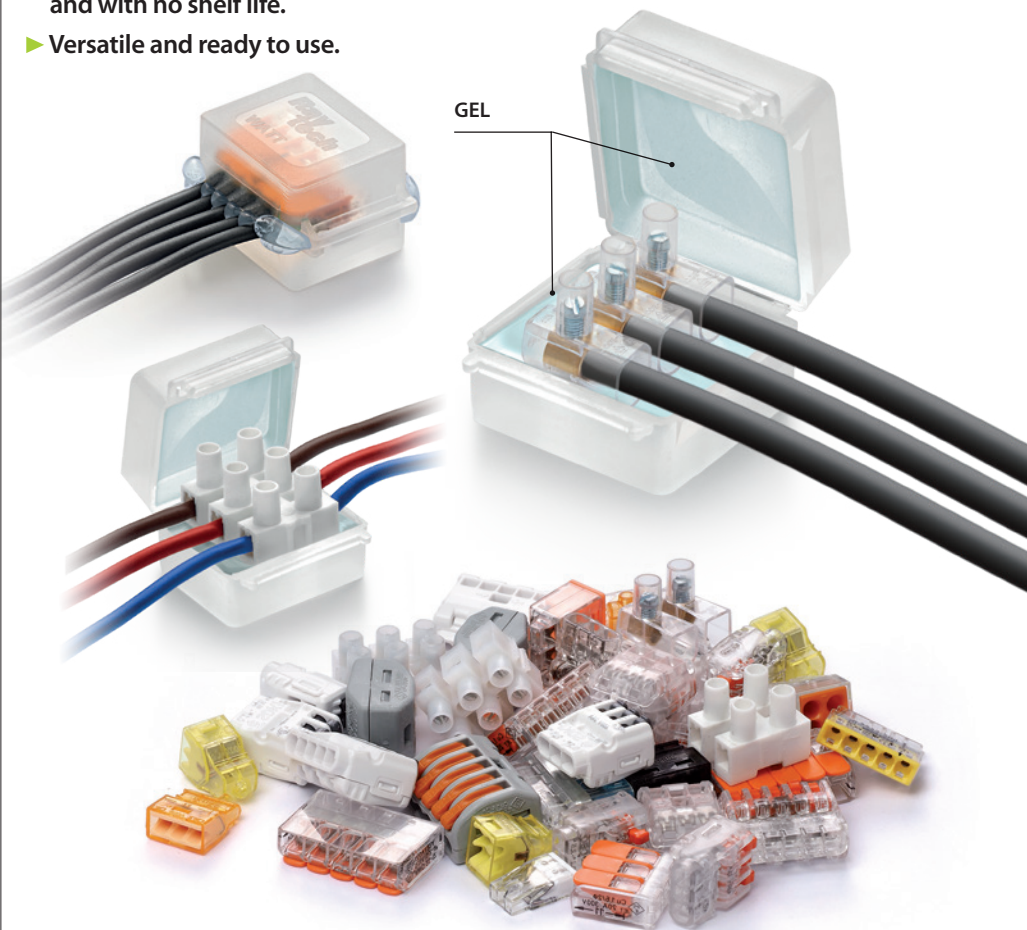
**IPX8**  
OFFICIALLY  
TESTED | **IMQ**

# GEL BOX LINE

Gel pre-filled accessories for sealing, protecting and making safe electrical connections.

**ADVANTAGES**

- ▶ Designed with dimensions suitable for the most commonly used connectors.
- ▶ To put household systems in order.
- ▶ For rigid or flexible insulated wires.
- ▶ For civil and industrial connections.
- ▶ Also for submersible use.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.
- ▶ Versatile and ready to use.



## ISAAC

| PRODUCT      | Item      | Pack of | Pack type | Dimension (mm) |
|--------------|-----------|---------|-----------|----------------|
| ISAAC 4      | ISAAC4    | 4 PCS   | Blister   | 30 x 27 x 23   |
| ISAAC 4 P30  | ISAAC4P30 | 30 PCS  | Box       |                |
| ISAAC 4 MP * | ISAAC4MP  | 50 PCS  | Multipack |                |



IDEAL FOR  
(or similar):



2x 2.5 mm<sup>2</sup>    2x 2.5 mm<sup>2</sup>    3x 2.5 mm<sup>2</sup>    2x 4 mm<sup>2</sup>    3x 4 mm<sup>2</sup>

## PASCAL

| PRODUCT       | Item       | Pack of | Pack type | Dimension (mm) |
|---------------|------------|---------|-----------|----------------|
| PASCAL 6      | PASCAL6    | 2 PCS   | Blister   | 36 x 37 x 26   |
| PASCAL 6 P15  | PASCAL6P15 | 15 PCS  | Box       |                |
| PASCAL 6 MP * | PASCAL6MP  | 25 PCS  | Multipack |                |



IDEAL FOR  
(or similar):



2x 4 mm<sup>2</sup>    3x 2.5 mm<sup>2</sup>    3x 1.5 mm<sup>2</sup>    2x + 2x 2.5 mm<sup>2</sup>    5x 2.5 mm<sup>2</sup>

## WATT

| PRODUCT   | Item    | Pack of | Pack type | Dimension (mm) |
|-----------|---------|---------|-----------|----------------|
| WATT      | WATT    | 2 PCS   | Blister   | 30 x 42 x 26   |
| WATT P15  | WATTP15 | 15 PCS  | Box       |                |
| WATT MP * | WATT-MP | 25 PCS  | Multipack |                |



IDEAL FOR  
(or similar):



3x 2.5 mm<sup>2</sup>    2x + 2x 2.5 mm<sup>2</sup>    5x 2.5 mm<sup>2</sup>    2x + 2x 4 mm<sup>2</sup>    5x 4 mm<sup>2</sup>

## JOULE

| PRODUCT    | Item    | Pack of | Pack type | Dimension (mm) |
|------------|---------|---------|-----------|----------------|
| JOULE      | JOULE   | 1 PC    | Blister   | 33 x 52 x 26   |
| JOULE MP * | JOULEMP | 20 PCS  | Multipack |                |



IDEAL FOR  
(or similar):



2x + 2x + 2x 2.5 mm<sup>2</sup>    2x + 2x + 2x 4 mm<sup>2</sup>

## KELVIN

| PRODUCT     | Item     | Pack of | Pack type | Dimension (mm) |
|-------------|----------|---------|-----------|----------------|
| KELVIN      | KELVIN   | 1 PC    | Blister   | 52 x 53 x 29   |
| KELVIN P9   | KELVINP9 | 9 PCS   | Box       |                |
| KELVIN MP * | KELVINMP | 20 PCS  | Multipack |                |



IDEAL FOR  
(or similar):



3x 6 mm<sup>2</sup>    3x 6 mm<sup>2</sup>



\* Also available in the self-extinguishing version according to the **UL 94-V2** standard in the colours: yellow, orange, blue or black.



# GEL BOX LINE KIT

Complete with connectors.

## PASCAL M2,5



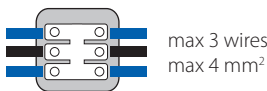
| PRODUCT / Item                   | Pack content  | Pack type | Dimension (mm) |
|----------------------------------|---|-----------|----------------|
| <b>PASCAL M2,5</b><br>PASCALM2.5 | 12 pieces + 36 terminal blocks (2.5 mm <sup>2</sup> ) | Box       | 36 x 37 x 26   |



## KELVIN M4



| PRODUCT / Item               | Pack content                                       | Pack type | Dimension (mm) |
|------------------------------|--|-----------|----------------|
| <b>KELVIN M4</b><br>KELVINM4 | 6 pieces + 24 terminal blocks (4 mm <sup>2</sup> ) | Box       | 52 x 53 x 29   |



## WATT +



| PRODUCT / Item                | Pack content   | Pack type | Dimension (mm) |
|-------------------------------|--|-----------|----------------|
| <b>WATT + 1.5</b><br>WATT-1.5 | 10 pieces + 30 end connectors/<br>terminal blocks (1.5 mm <sup>2</sup> ) | Box       | 30 x 42 x 26   |
| <b>WATT + 2.5</b><br>WATT-2.5 | 10 pieces + 30 end connectors/<br>terminal blocks (2.5 mm <sup>2</sup> ) | Box       |                |



## KELVIN +



| PRODUCT / Item                 | Pack content   | Pack type | Dimension (mm) |
|--------------------------------|--|-----------|----------------|
| <b>KELVIN + 4</b><br>KELVIN-4  | 10 pieces + 30 end connectors/<br>terminal blocks (4 mm <sup>2</sup> ) | Box       | 52 x 53 x 29   |
| <b>KELVIN + 6</b><br>KELVIN-6  | 10 pieces + 30 end connectors/<br>terminal blocks (6 mm <sup>2</sup> ) | Box       |                |
| <b>KELVIN 6+4</b><br>KELVIN6-4 | 6 pieces + 20 end connectors/<br>terminal blocks (4 mm <sup>2</sup> )  | Box       |                |
| <b>KELVIN 6+6</b><br>KELVIN6-6 | 6 pieces + 20 end connectors/<br>terminal blocks (6 mm <sup>2</sup> )  | Box       |                |



# NANO JOINT LINE

Gel pre-filled accessories to seal, protect and make safe electrical connections.  
Inclusive of connectors.

## ADVANTAGES

- ▶ Ready to use, quick, re-enterable!
- ▶ No tools required.
- ▶ Can energise immediately.
- ▶ For straight & branch connections.
- ▶ For rigid or flexible insulated wires from 1 a 4 mm<sup>2</sup>.
- ▶ For 1, 2 and 3 cores connections.
- ▶ Up to 5 conductors on one phase or up to 2 conductors on two or three phase.
- ▶ Small, compact and resistant.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.



CONNECTORS  
INCLUDED IN THE KIT

### Electrical performance:

- CEI EN 50393 as applicable (testing under water head of the accessory installed in a box).
- Class 2 in accordance with CEI 64-8.
- CEI EN 60998-1 - CEI EN 60998-2

💧 Gel: UL 94-HB 

🌡️ Working temperature: 90°C

🌡️ Installation temperature: -40°C / +50°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

☀️ UV resistant

🔥 Self-extinguishing according to UL 94-V2

IPX8  
OFFICIALLY  
TESTED | IMQ

With extra flat connectors included



### NANO 3

| PRODUCT / Item  | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) |                         | Package          | Dimension (mm) |
|-----------------|--|-------------------------|------------------|----------------|
|                 | Combination  |                         |                  |                |
| NANO 3<br>NANO3 | 3 x 1 - 4  | 2 through /<br>1 branch | 4 PCS<br>Blister | 30 x 27 x 23   |



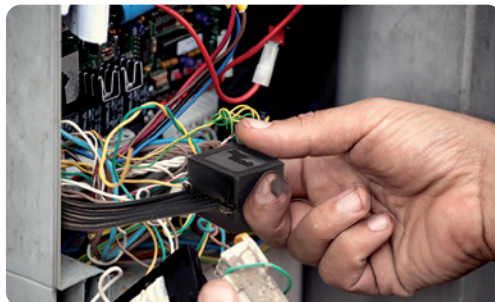
### NANO 5

| PRODUCT / Item  | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) |                         | Package          | Dimension (mm) |
|-----------------|--|-------------------------|------------------|----------------|
|                 | Combination  |                         |                  |                |
| NANO 5<br>NANO5 | 5 x 1 - 4  | 2 through /<br>3 branch | 2 PCS<br>Blister | 30 x 42 x 26   |



### NANO 6

| PRODUCT / Item  | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) |                       | Package         | Dimension (mm) |
|-----------------|--|-----------------------|-----------------|----------------|
|                 | Combination  |                       |                 |                |
| NANO 6<br>NANO6 | 6 x 1 - 4  | 3 through /<br>In/Out | 1 PC<br>Blister | 33 x 52 x 26   |

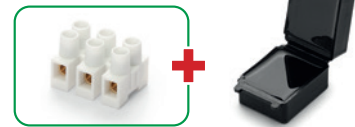


With one connector included



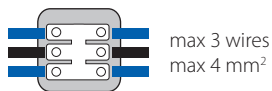
### NANO MAM 2,5

| PRODUCT / Item              | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) | Combination | Package           | Dimension (mm) |
|-----------------------------|--|-------------|-------------------|----------------|
| NANO MAM 2,5<br>NANOMAM-2.5 | 3 x 1 - 2,5  | 3 through   | 2 PCS/<br>Blister | 36 x 37 x 26   |



### NANO MAM 4

| PRODUCT / Item          | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) | Combination | Package          | Dimension (mm) |
|-------------------------|--|-------------|------------------|----------------|
| NANO MAM 4<br>NANOMAM-4 | 3 x 1,5 - 4  | 3 through   | 1 PC/<br>Blister | 52 x 53 x 29   |



### NANO FOR 2,5

| PRODUCT / Item              | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) | Combination               | Package          | Dimension (mm) |
|-----------------------------|--|---------------------------|------------------|----------------|
| NANO FOR 2,5<br>NANOFOR-2.5 | 3 x 1 - 2,5  | 3 connections /<br>In/Out | 1 PC/<br>Blister | 33 x 52 x 26   |



### NANO FOR 4

| PRODUCT / Item          | Formation and wires cross section<br>(Max N° x mm <sup>2</sup> ) | Combination               | Package          | Dimension (mm) |
|-------------------------|--|---------------------------|------------------|----------------|
| NANO FOR 4<br>NANOFOR-4 | 3 x 1 - 4  | 3 connections /<br>In/Out | 1 PC/<br>Blister | 52 x 53 x 29   |



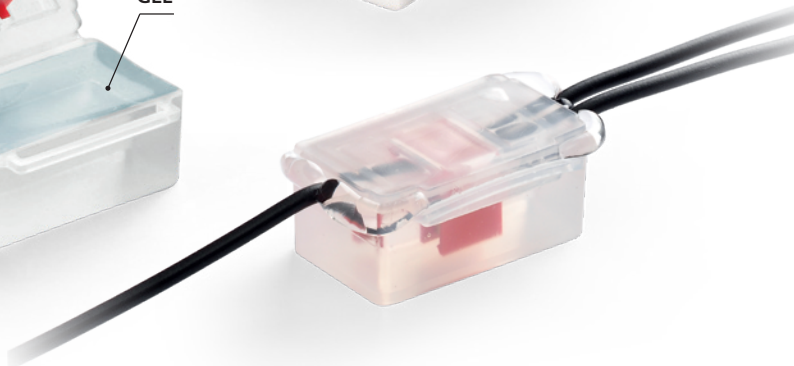


# BRAVO

The first "Gel-Box" with integrated connectors!


## ADVANTAGES

- ▶ Ready to use, quick, re-enterable!
- ▶ For rigid or flexible insulated wires from 1 to 6 mm<sup>2</sup>.
- ▶ It can be powered immediately.
- ▶ For straight & branch connections.
- ▶ For 1 or 3 cores connections.
- ▶ Small, compact and transparent.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.



### Electrical performance:

- CEI EN 50393 as applicable (testing under water head of the accessory installed in a box).
- Class 2 in accordance with CEI 64-8.

🔧 Gel: UL 94-HB  US

🌡️ Working temperature: 90°C

🌡️ Installation temperature: -40°C / +50°C

🌊 Fully submersible

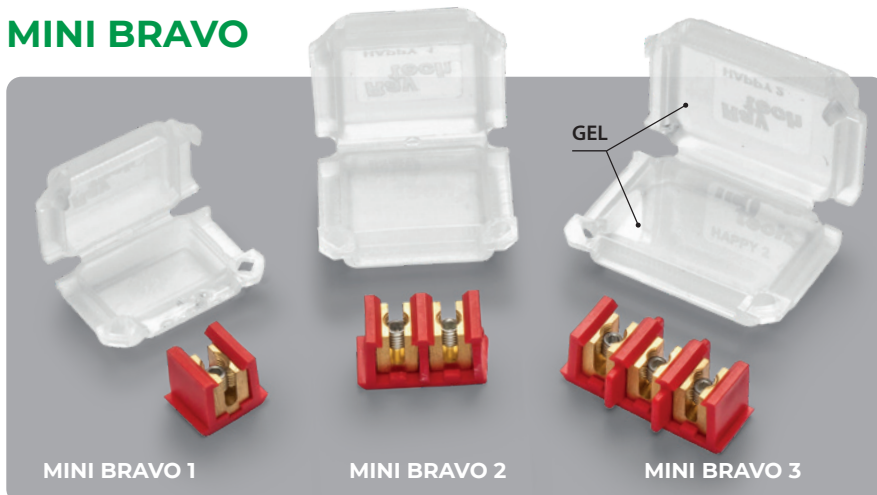
🔧 Can be used underground

🌿 Halogen-free Gel

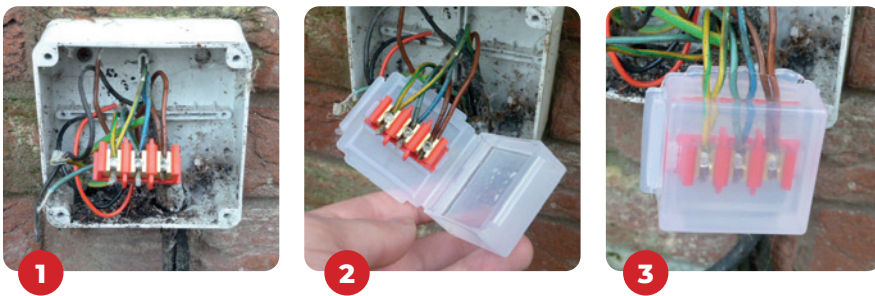
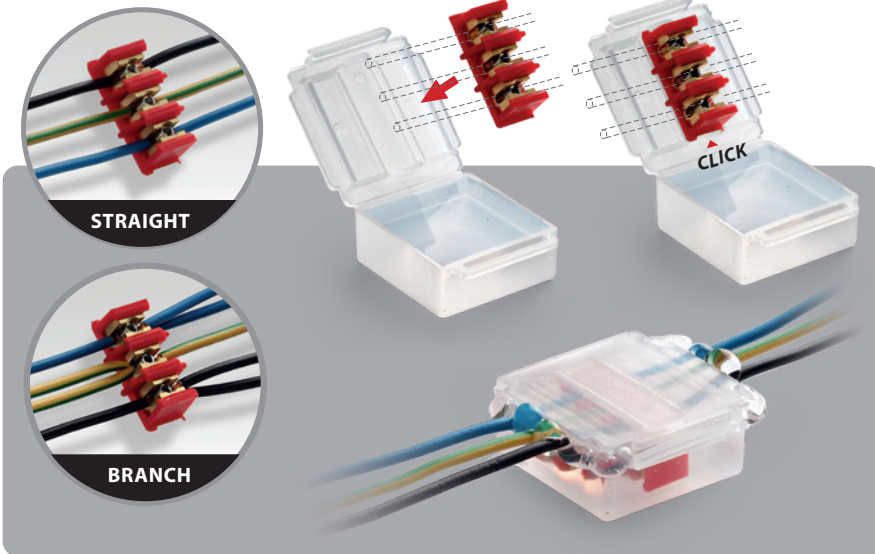
☀️ UV resistant

IPX8  
OFFICIALLY  
TESTED | IMQ

## MINI BRAVO

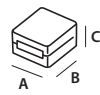


- 1** CONNECT    **2** FIX    **3** CLOSE



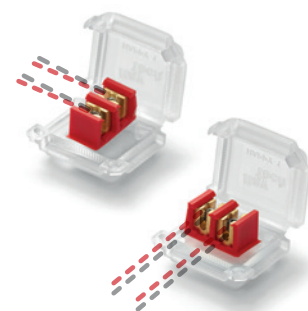
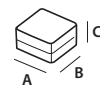
**BRAVO**

| PRODUCT / Item               | Formation and wires cross section |                        | Package          | Dimension (mm) |
|------------------------------|-----------------------------------|------------------------|------------------|----------------|
|                              | Straight or through (N° x mm²)    | Branch (N° x mm²)      |                  |                |
| <b>BRAVO 1-6</b><br>BRAVO1-6 | 1 x 1 - 6                         | 1 x 1 - 6              | 1 PC/<br>Blister | 50 x 29 x 22   |
| <b>BRAVO 3-6</b><br>BRAVO3-6 | 2 x 1 - 6<br>3 x 1 - 6            | 2 x 1 - 6<br>3 x 1 - 6 | 1 PC/<br>Blister | 53 x 49 x 22   |



**MINI BRAVO**

| PRODUCT / Item                    | Formation and wires cross section |                   | Package           | Dimension (mm) |
|-----------------------------------|-----------------------------------|-------------------|-------------------|----------------|
|                                   | Straight or through (N° x mm²)    | Branch (N° x mm²) |                   |                |
| <b>MINI BRAVO 1</b><br>MINIBRAVO1 | 1 x 1 - 4                         | 1 x 1 - 4         | 3 PCS/<br>Blister | 41 x 28 x 19   |
| <b>MINI BRAVO 2</b><br>MINIBRAVO2 | 2 x 1 - 4                         | 2 x 1 - 4         | 1 PC/<br>Blister  | 45 x 37 x 24   |
| <b>MINI BRAVO 3</b><br>MINIBRAVO3 | 3 x 1 - 4                         | 3 x 1 - 4         | 1 PC/<br>Blister  | 53 x 39 x 24   |







## LOW VOLTAGE JOINTS

**PRE-FILLED FOR PHOTOVOLTAIC**  
SOLAR COVER

**PRE-FILLED IP68**

RAY JOLLY  
LITTLE JOINT EASY  
LITTLE JOINT  
MINI RAPID JOINT IP68  
RAPID JOINT IP68  
READY CAST

**PRE-FILLED IPX8 - FLAT**

GEL COVER LINE  
SUPERCLIK / CLIK / CLIK A2A

**PRE-FILLED IPX8 - CYLINDRICAL**

KING JOINT  
RAPID JOINT

**FOR CASTING**

MAGIC POWER JOINT  
MAGIC JOINT  
SEAL UP JOINT  
RAY CAST  
RUBBER JOINT

**HEAT-SHRINK**


JOINTS / TERMINALS

**NEW****RESISTANT**

It prevents the deterioration of connectors, preserving their performance over time, thus avoiding malfunctions and difficult and expensive maintenance.

**Electrical performance:**

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

💧 **Gel:** UL 94-HB 

💧 **Casing mix:** UL 94-V2

🌡️ **Working temperature:** 125°C

🌡️ **Installation temperature:** -40°C / +50°C

🌿 **Halogen-free Gel**

☀️ **Loaded with CARBON BLACK**  
UV resistant

🔥 **No flame propagation:**  
CEI 20-35 IEC 60332-1 HD405-1  
As applicable

🔥 **Self-ignition temperature:**  
> 400° C

⚡ **Operating voltage:** 1500V DC

**IP68**  
OFFICIALLY  
TESTED | **IMQ**

# SOLAR COVER

The extra dark cover with gel filler, for sealing connectors from 4 to 10 mm<sup>2</sup> for solar.

It prevents the deterioration of connectors, preserving their performance over time, thus avoiding malfunctions and difficult and expensive maintenance.

Resistant to UV rays, corrosion and immersion in water, even if salty or chlorinated. Ready, fast and always inspectable.

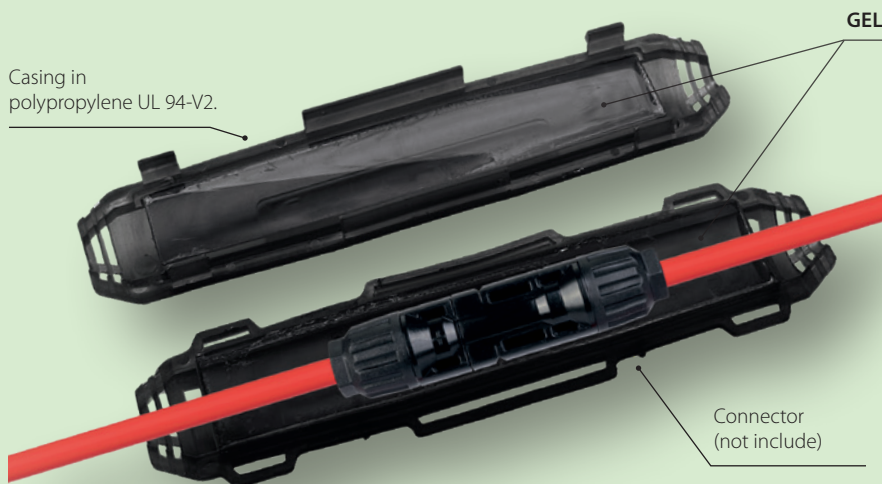
**ADVANTAGES**

- ▶ Made of UL 94-V2 polypropylene.
- ▶ Highly resistant to water, corrosion and frost.
- ▶ Complete with sealing silicone gel filler, non-toxic and safe.
- ▶ It is the ideal accessory to protect cable connections for solar and photovoltaic systems over the seasons and consequently affected by variations in temperature and weather conditions.
- ▶ It allows the reduction of risks from electric arcs and the resulting overheating.





FOR CONNECTORS  
from 4 to 10 mm<sup>2</sup>



| PRODUCT      | Item         | Pieces / Pack | Dimension (mm) |
|--------------|--------------|---------------|----------------|
| SOLARCOVER-4 | SOLARCOVER-4 | 2 pcs / Box   | 165 x 45 x 27  |
| SOLARCOVER-6 | SOLARCOVER-6 | 2 pcs / Box   | 220 x 52 x 32  |



 **SOLARCOVER**

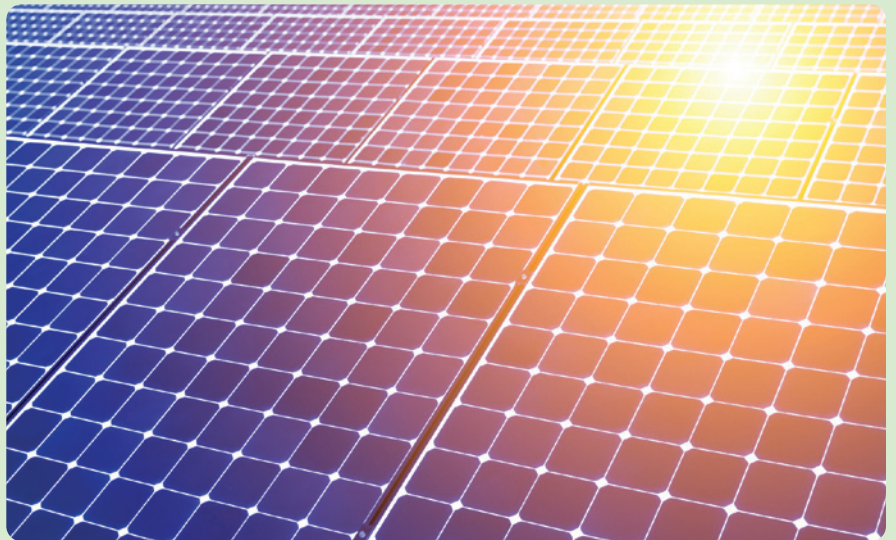
## WHAT IT'S FOR

In the design of systems:

- PHOTOVOLTAIC SOLAR
- SOLAR THERMAL
- AGRIVOLTAIC

it's crucial to keep in mind that connectors play an essential role, as they're electrical devices responsible for transferring the energy produced by the panels.

**SolarCover** is a safety device designed to protect and prevent connectors in solar and photovoltaic systems from deteriorating. It's perfect for preventing accidental opening and the related risks. **SolarCover** is the most reliable accessory to keep your connectors safe all year round, even through the harshest weather. Ready to use, it comes pre-filled with cross-linked silicone gel to shield the connectors and maintain their performance over time.



## WHY IT MATTERS

### 1 HELPS PREVENT CONNECTOR WEAR AND TEAR

Exposure to the elements (sun, rain, wind, snow, fog, and hail) can speed up connector degradation, leading to faulty contacts, insulation issues, and leaks. This decreases reliability, increasing the risk of outages and malfunctions, ultimately impacting the overall efficiency of your system. As a result, you may face more frequent maintenance, higher operating costs, and added safety risks.



Even though some connectors on the market come with IP65/IP67 protection ratings, and rarely IP68, plus a maximum operating temperature of 85°C, over time they can become brittle, crack, or lose the seal in their gaskets and locking nuts, which puts your system's performance at risk.

### 2 PREVENTS ACCIDENTAL OPENINGS

Accidental openings or improper crimping of connectors can create electrical arcs, posing safety hazards and, in some cases, leading to fires in the facilities or areas where the systems are operating.



### 3 PREVENTS DIRECT CONTACT WITH THE CONNECTOR

*SolarCover*, which can only be opened with a tool, provides an extra layer of protection against accidental contact with parts that may reach extremely high temperatures, especially during the hottest months.



IMQ Test Report



GEL MSDS



## 4 ANNUAL MAINTENANCE, WASHING/CLEANING CYCLES

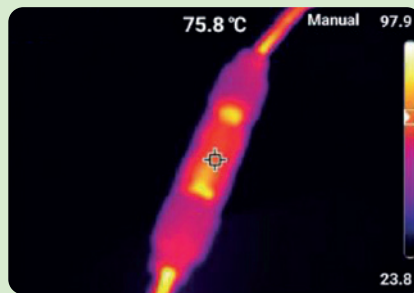
*SolarCover* fully wraps the connector, shielding it during module washing, a recommended routine for keeping your system at peak performance, and mandatory for AGRIVOLTAIC setups, where dirt, oil, debris, or the presence of lichens or fungi is not allowed (EN IEC 62446-2).



## 5 HELPS BOOST SYSTEMS PERFORMANCE

With *SolarCover*, thermal management for connections is straightforward and effective:

- Prevents overheating
- Consistent stability
- Enhanced safety
- Longer system lifespan



### CONNECTOR EXPOSED

Hotspots can form when the connector is exposed, causing it to reach high temperatures.



### CONNECTOR + SOLAR COVER

Under the same conditions, *SolarCover* keeps the temperature significantly lower with improved heat distribution.

## WHY USING IT NOW IS THE SMART CHOICE

**SolarCover** not only shields against water and moisture, but also prevents accidental contact with the connector by workers performing other maintenance, like antenna installation or root and chimney servicing.

**Connectors must be selected in accordance with the Standard CEI EN 62852**

**Connectors for DC applications in photovoltaic systems - Safety requirements and testing**

Please note: "Connectors located in areas accessible to anyone other than trained personnel must be designed so they can only be disconnected using a key or tool, or they must be installed in an enclosure that can only be opened with a key or tool!"



REACH  
Conformity



TDS involucro



It's also recommended to install DC cables in a straightforward, mechanically protected way that keeps the IP protection rating and prevents mechanical damage over time. These safety measures apply to all connection accessories as well.

## INSTALLATION



### PREPARATION

Cut the side membranes.



### CONNECTION

Insert the connector and secure it inside the SolarCover.



### CLOSING

Once the accessory is closed, the gel will be released to ensure a proper seal.



# RAY JOLLY

One-way accessory for cables connected with 450 V connectors.

**Ray Jolly** is ready to use and very quick to install, it is supplied complete with pre-cross-linked silicone sealant gel, to ensure maximum insulation and sealing in the presence of water. Always re-opening and inspectable.

**Ray Jolly** is made of POLYPROPYLENE, a chemically resistant and 100% recyclable material and pre-filled with a highly sealing and insulating VISCOELASTIC GEL compliant with the REACH regulation and free of substances classified as hazardous according to the current CLP legislation.

### ADVANTAGES

- ▶ Resistant to mould and UV rays
- ▶ Complies with EN 50393 as far as applicable
- ▶ No shelf life
- ▶ Halogen-free Gel.

### INSTALLATION



**Electrical performance:**

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

🔹 Gel: UL 94-HB

🌡 Working temperature: 90°C

🌡 Installation temperature: -40°C / +50°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

☀ UV resistant

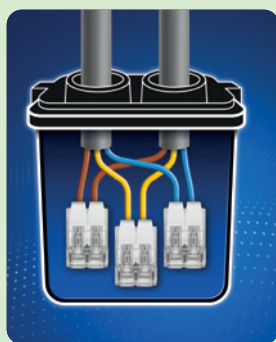
🔥 Self-extinguishing and resistant to abnormal heat and fire:  
UL 94-V2

**IP68** | **IMQ**  
OFFICIALLY TESTED

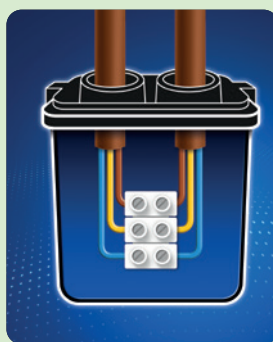




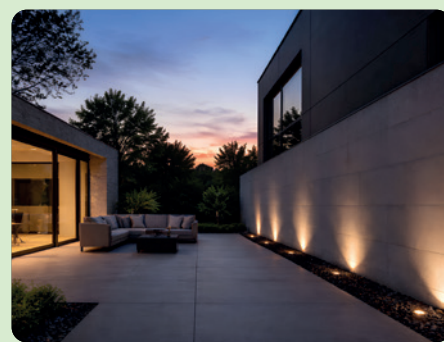
VERSATILE



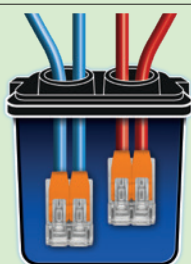
**Ray Jolly L**  
3 x 2 x 2,5 mm<sup>2</sup>  
IP68 □



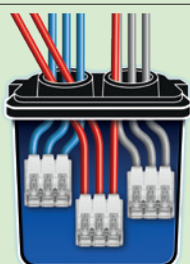
**Ray Jolly M**  
3 x 2,5 mm<sup>2</sup>  
IP68 □



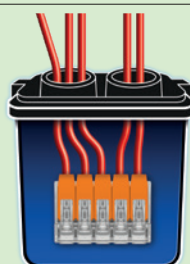
Other configurations



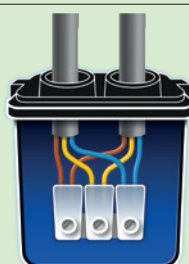
2 x 2 x 4 mm<sup>2</sup>  
2 x 2 x 6 mm<sup>2</sup>  
IPX8








3 x 3 x 2,5 mm<sup>2</sup>  
3 x 4 mm<sup>2</sup>  
IPX8



5 x 4 mm<sup>2</sup>  
IPX8



3 x 2,5 mm<sup>2</sup>  
IP68 □

| PRODUCT Item                          | Colour | Connector   | Description   | Pieces / Pack  |  (mm) |
|---------------------------------------|--------|---|---|----------------|--|
| <b>RAY JOLLY</b><br>RAYJOLLY          | ●      | -   | 3 insulating/sealing accessories  | 3 / Blister    | 46 x 33 x 43   |
| <b>RAY JOLLY MP</b><br>RAYJOLLY-MP    | ●      | -   | 40 insulating/sealing accessories   | 40 / Multipack | 46 x 33 x 43   |
| <b>RAY JOLLY L</b><br>RAYJOLLYL       | ●      |  | 1 insulating/sealing accessory, 3 lever connectors 2x2,5 mm <sup>2</sup> - 450 V    | 1 / Blister    | 46 x 33 x 43   |
| <b>RAY JOLLY L MP</b><br>RAYJOLLYL-MP | ●      |  | 40 insulating/sealing accessory, 120 lever connectors 2x2,5 mm <sup>2</sup> - 450 V | 40 / Multipack | 46 x 33 x 43   |
| <b>RAY JOLLY M</b><br>RAYJOLLYM       | ●      |  | 1 insulating/sealing accessory, 1 screw terminal 3x2,5 mm <sup>2</sup> - 450 V      | 1 / Blister    | 46 x 33 x 43   |
| <b>RAY JOLLY M MP</b><br>RAYJOLLYM-MP | ●      |  | 40 insulating/sealing accessory, 40 screw terminal 3x2,5 mm <sup>2</sup> - 450 V    | 40 / Multipack | 46 x 33 x 43   |

RAY JOLLY



RAY JOLLY L



RAY JOLLY M





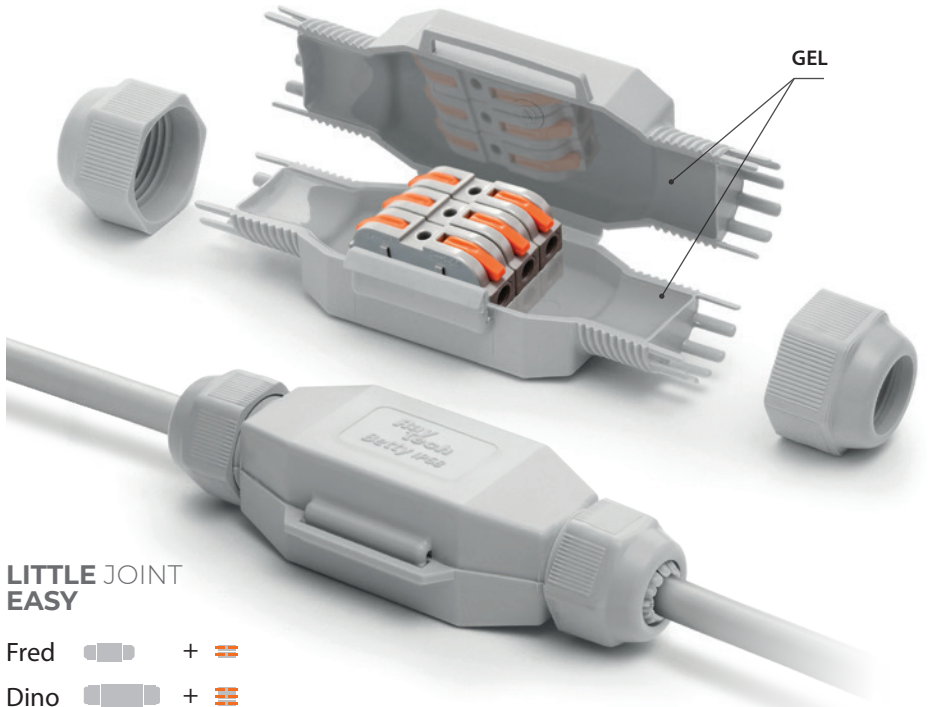
# LITTLE JOINT EASY

The IP68/IP69K mini joints, gel pre-filled, complete with in-out lever connectors.

Thanks to the integrated cable glands, they allow the degree of protection IP68 and IP69K and at the same time the locking of the joint on the cable. Suitable for all types of installation, even the most extreme.

## ADVANTAGES

- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.
- ▶ Extremely compact and ready to install.
- ▶ Ideal for connections in lighting systems for gardens, steps and stairways, pedestrian crossings, etc.
- ▶ Always re-enterable.



### Electrical performance:

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

🔹 Gel: UL 94-HB

🔹 Working temperature: 90°C

🔹 Installation temperature: -40°C / +50°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

☀️ UV resistant

🔥 Self-extinguishing and resistant to abnormal heat and fire:  
Glow Wire Flammability Index at +960°C according to EN60695-2-12

## LITTLE JOINT EASY

Fred +

Dino +

Betty +

## NEW IN-OUT LEVER CONNECTORS

- ▶ Modular, Composable, Ultra-fast, Self-extinguishing.



**FRED EASY**  
2x 4 mm<sup>2</sup>



**DINO EASY**  
3x 4 mm<sup>2</sup>



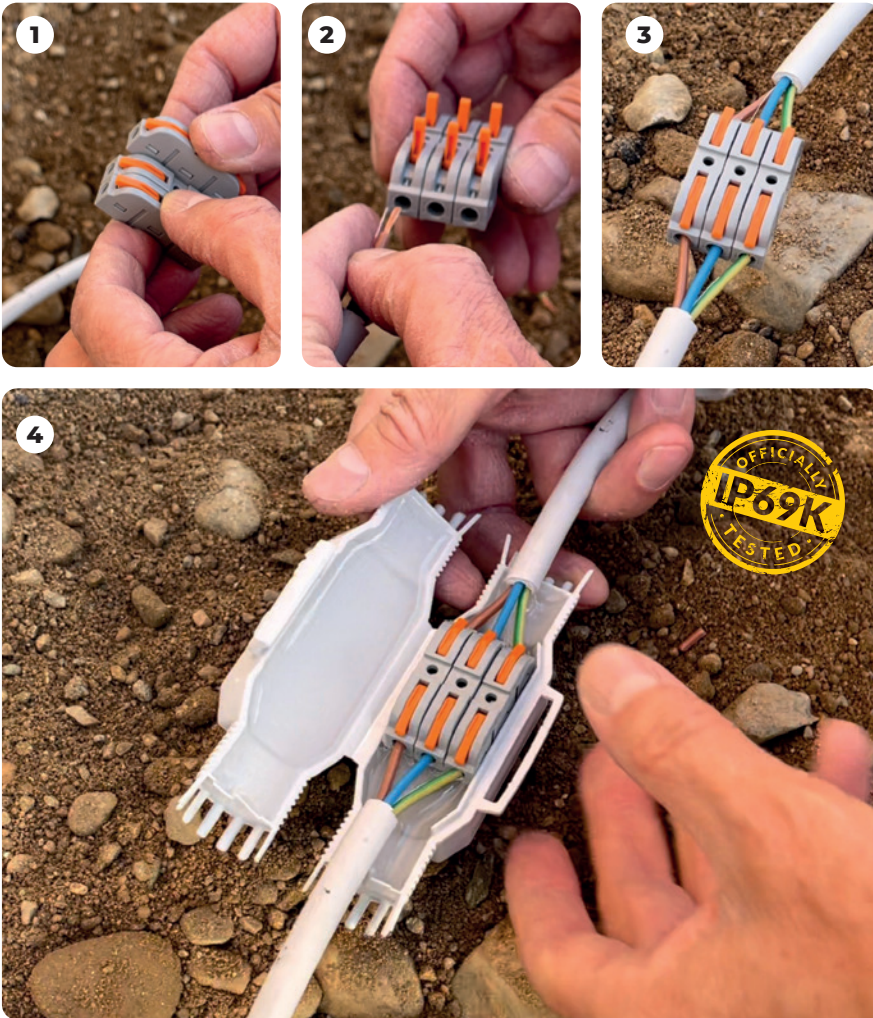
**BETTY EASY**  
5x 4 mm<sup>2</sup>

**IP68**  
OFFICIALLY TESTED

**IMQ**

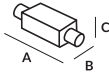



**IP69K**  
OFFICIALLY TESTED

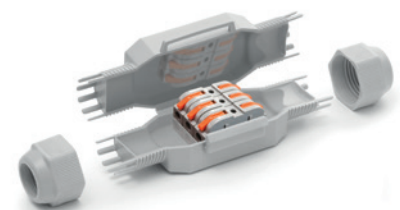
JOINTS



For use in traps. The ideal accessory for connections to light fittings and spotlights. Suitable in applications where there is presence of water and moisture.



| PRODUCT Item             | Colour | Connector   | Cable formation max (N° x mm <sup>2</sup> ) | Cable Ø min - max (mm) | Pieces / Pack |  (mm) |
|--------------------------|--------|---|---|------------------------|---------------|--|
| FRED EASY<br>FRED-EASY   | ●      |  | 2 x 4                                       | 8 - 13                 | 1 / Blister   | 80 x 36 x 23   |
| DINO EASY<br>DINO-EASY   | ●      |  | 3 x 4                                       | 10 - 16                | 1 / Blister   | 125 x 43 x 35  |
| BETTY EASY<br>BETTY-EASY | ●      |  | 5 x 4                                       | 10 - 16                | 1 / Blister   | 145 x 46 x 35  |



| PRODUCT Item         | NEW IN-OUT LEVER CONNECTORS 0,5 - 4 mm <sup>2</sup>  | Pieces / Pack |  (mm) |
|----------------------|--|---------------|--|
| RAYBLOCK<br>RAYBLOCK | Modular, Composable, Ultra-fast, Self-extinguishing<br>Sections: 0,5 - 4 mm <sup>2</sup>   Voltage: 600 V   Capacity: 32 A<br>Operating temperature of the insulating material:<br>up to 105°C | 50 / Box      | 39 x 8 x 15  |





# LITTLE JOINT





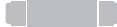
The IP68 / IP69K micro-joints, gel pre-filled, complete with connector, suitable for any type of installation, even the most extreme.

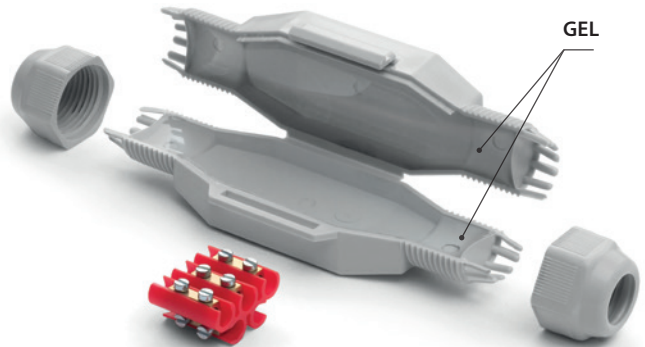
Extremely compact and space-saving, pre-filled with soft, highly conformable gel. With minimal aesthetic impact and visually pleasing. Equipped with integrated cable glands for IP68 and IP69K degree of ingress protection and cable retention.

## ADVANTAGES



- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.
- ▶ Extremely compact and ready to install.
- ▶ Ideal for connections in lighting systems for gardens, steps and stairways, pedestrian crossings, etc.
- ▶ Always re-enterable.

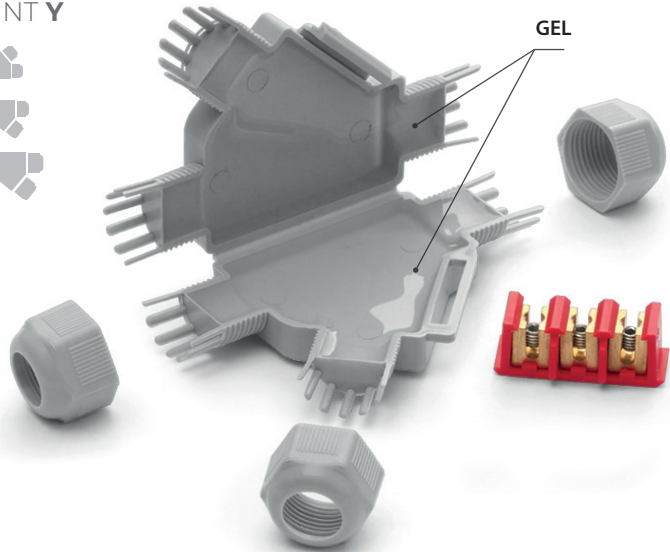
### LITTLE JOINT L

- Barney 
- Fred 
- Dino 
- Betty 
- Tom 



### LITTLE JOINT Y

- Barney Y 
- Fred Y 
- Dino Y 




#### Electrical performance:


- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

 Gel: UL 94-HB 

 Working temperature: 90°C


 Installation temperature: -40°C / +50°C

 Fully submersible

 Can be used underground

 Halogen-free Gel

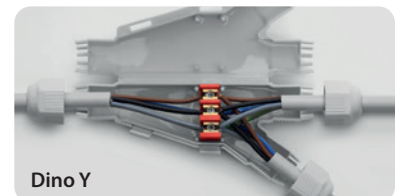
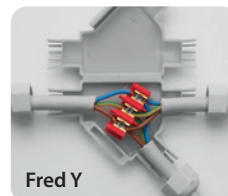
 UV resistant

 Self-extinguishing and resistant to abnormal heat and fire:  
Glow Wire Flammability Index at +960°C according to EN60695-2-12

**IP68**  
OFFICIALLY  
TESTED

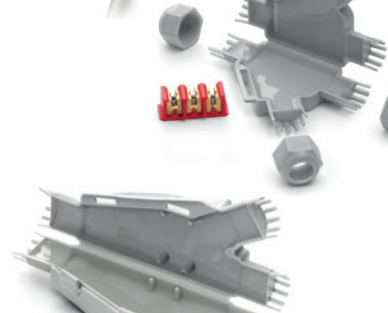
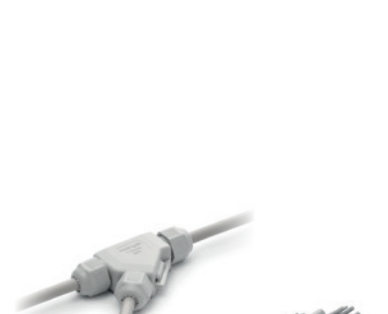
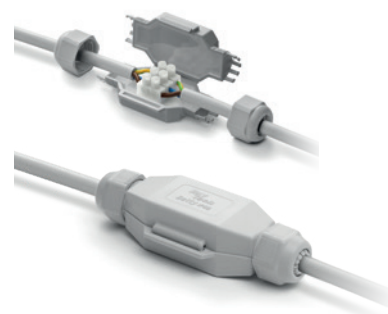
**IMQ**

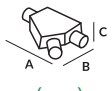



**IP69K**  
OFFICIALLY  
TESTED



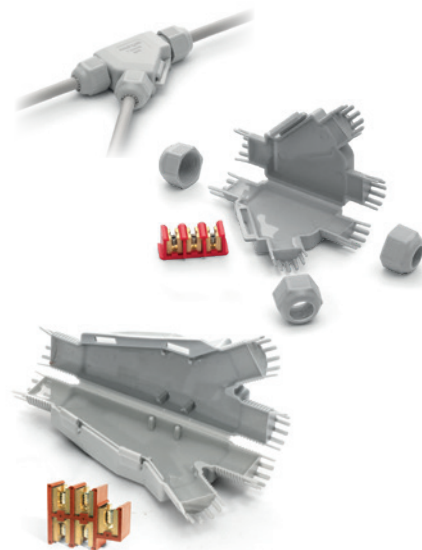
JOINTS

| PRODUCT<br>Item                 | Colour | Connector   | Max cable formation<br>(N° x mm <sup>2</sup> ) |         | Cable Ø<br>min - max<br>(mm) | Pieces / Pack | <br>(mm) |
|---------------------------------|--------|---|--|---------|------------------------------|---------------|---|
|                                 |        |   | Through  | Branch  |                              |               |   |
| <b>BARNEY</b><br>BARNEY         | ●      |   |  |         |                              | 1 / Blister   | 75 x 28 x 19  |
| <b>BARNEY - N</b><br>BARNEY-N   | ●      |    | 2 x 2,5  | 6 - 10  | 1 / Blister                  |               |   |
| <b>BARNEY MP</b><br>BARNEY-MP   | ●      |   |  |         | 10 / Multipack               |               |   |
| <b>FRED</b><br>FRED             | ●      |   |  |         |                              | 1 / Blister   | 80 x 36 x 23  |
| <b>FRED - N</b><br>FRED-N       | ●      |    | 3 x 2,5  | 8 - 13  | 1 / Blister                  |               |   |
| <b>FRED MP</b><br>FRED-MP       | ●      |   |  |         | 10 / Multipack               |               |   |
| <b>FRED/4</b><br>FRED/4         | ●      |   |  |         |                              | 1 / Blister   | 80 x 36 x 23  |
| <b>FRED/4 - N</b><br>FRED/4-N   | ●      |    | 3 x 4  | 8 - 13  | 1 / Blister                  |               |   |
| <b>DINO</b><br>DINO             | ●      |   |  |         |                              | 1 / Blister   | 125 x 43 x 35   |
| <b>DINO - N</b><br>DINO-N       | ●      |    | 4 x 4  | 10 - 16 | 1 / Blister                  |               |   |
| <b>DINO 6</b><br>DINO/6         | ●      |   | 3 x 6  | 10 - 16 | 1 / Blister                  | 125 x 43 x 35 |   |
| <b>BETTY/4</b><br>BETTY/4       | ●      |   |  |         |                              | 1 / Blister   | 145 x 46 x 35   |
| <b>BETTY/4 - N</b><br>BETTY/4-N | ●      |  | 5 x 4  | 10 - 16 | 1 / Blister                  |               |   |
| <b>BETTY/6</b><br>BETTY/6       | ●      |   |  |         |                              | 1 / Blister   | 145 x 46 x 35   |
| <b>BETTY/6 - N</b><br>BETTY/6-N | ●      |  | 5 x 6  | 14 - 19 | 1 / Blister                  |               |   |
| <b>TOM</b><br>TOM               | ●      |   |  |         |                              | 1 / Blister   | 180 x 53 x 42   |
| <b>TOM - N</b><br>TOM-N         | ●      |  | 5 x 16   | 19 - 23 | 1 / Blister                  |               |   |



| PRODUCT<br>Item                   | Colour | Connector   | Max cable formation<br>(N° x mm <sup>2</sup> ) |                      | Cable Ø<br>min - max<br>(mm) | Pieces / Pack | <br>(mm) |
|-----------------------------------|--------|---|--|----------------------|------------------------------|---------------|---|
|                                   |        |   | Through  | Branch               |                              |               |   |
| <b>BARNEY Y</b><br>BARNEY-Y       | ●      |   |  |                      |                              | 1 / Blister   | 85 x 55 x 22  |
| <b>BARNEY Y - N</b><br>BARNEY-Y/N | ●      |  | 1 x 4<br>1 x 2,5                               | 1 x 1,5<br>1 x 2,5   | 6 - 10                       | 1 / Blister   |   |
| <b>FRED Y</b><br>FRED-Y           | ●      |   |  |                      |                              | 1 / Blister   | 110 x 72 x 25   |
| <b>FRED Y - N</b><br>FRED-Y/N     | ●      |  | 3 x 4<br>3 x 2,5                               | 3 x 1,5<br>3 x 2,5   | 8 - 13                       | 1 / Blister   |   |
| <b>DINO Y</b><br>DINOY            | ●      |   |  |                      |                              | 1 / Blister   | 160 x 75 x 37   |
| <b>DINO Y - N</b><br>DINOY-N      | ●      |  | 5 x 6<br>5 x 4 *                               | 5 x 1,5<br>5 x 2,5 * | 14 - 19                      | 1 / Blister   |   |

\* section for rigid cables.





**INDUSTRIAL  
USE**

# MINI RAPID JOINT IP68

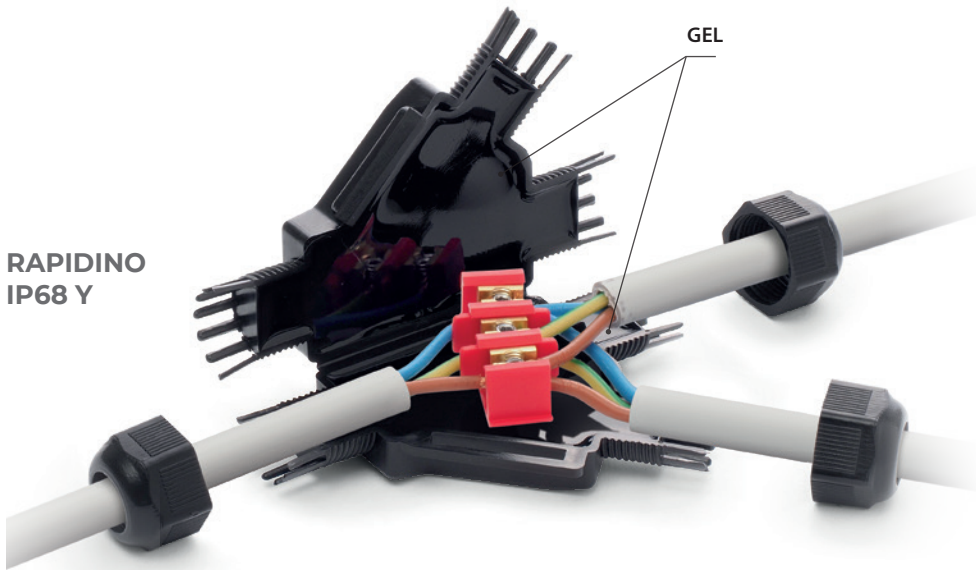
IP68 and IP69K joints for straight and branch connections, extremely compact and pre-filled with gel.

Extremely compact, ideal for lighting systems for gardens, steps and pedestrian crossings. Perfect for use in even small traps thanks to its very small overall dimensions. The cable glands supplied with the kit lock the joint on the cables.

### ADVANTAGES

- ▶ Complete with screw connectors.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.
- ▶ Extremely compact and ready to install.
- ▶ Always re-enterable.
- ▶ Ideal for straight or branch connections in lighting systems for gardens, steps and stairways, pedestrian crossings, etc.

RAPIDINO  
IP68 Y



**Electrical performance:**

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

Gel: UL 94-HB

Working temperature: 90°C

Installation temperature: -40°C / +50°C

Fully submersible

Can be used underground

Halogen-free Gel

UV resistant

Self-extinguishing and resistant to abnormal heat and fire:  
Glow Wire Flammability Index at +960°C according to EN60695-2-12

**IP68**  
OFFICIALLY  
TESTED

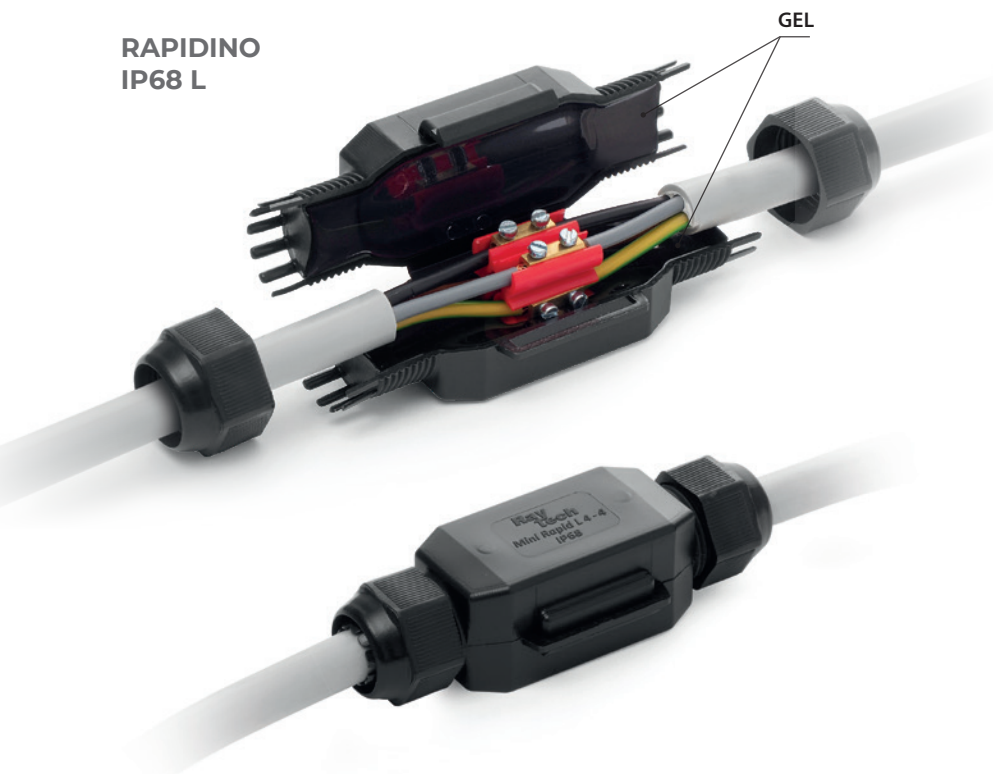
**IMQ**

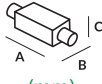






**IP69K**  
OFFICIALLY  
TESTED



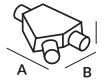




JOINTS

RAPIDINO  
IP68 L



| PRODUCT Item                          | Cable   | Connector   | Max cable formation (N° x mm <sup>2</sup> ) | Cable Ø min - max (mm) | Pieces / Pack | <br>(mm) |
|---------------------------------------|---|---|---|------------------------|---------------|---|
| <b>RAPIDINO IP68 L2</b><br>RAPIDINOL2 |  |  | 2 x 2,5                                     | 6 - 10                 | 3 PCS / Box   | 75 x 28 x 19  |
| <b>RAPIDINO IP68 L3</b><br>RAPIDINOL3 |  |  | 3 x 2,5                                     | 8 - 13                 | 3 PCS / Box   | 80 x 36 x 23  |
| <b>RAPIDINO IP68 L4</b><br>RAPIDINOL4 |  |  | 4 x 4                                       | 10 - 16                | 1 PC / Box    | 125 x 43 x 35   |




| PRODUCT Item                          | Cable   | Connector   | Max cable formation (N° x mm <sup>2</sup> ) |                    | Cable Ø min - max (mm) | Pieces / Pack | <br>(mm) |
|---------------------------------------|---|---|---|--------------------|------------------------|---------------|---|
|                                       |   |   | Through                                     | Branch             |                        |               |   |
| <b>RAPIDINO IP68 Y1</b><br>RAPIDINOY1 |  |  | 1 x 4<br>1 x 2,5                            | 1 x 1,5<br>1 x 2,5 | 6 - 10                 | 2 PCS / Box   | 85 x 55 x 22  |
| <b>RAPIDINO IP68 Y3</b><br>RAPIDINOY3 |  |  | 3 x 4<br>3 x 2,5                            | 3 x 1,5<br>3 x 2,5 | 8 - 13                 | 1 PC / Box    | 110 x 72 x 25   |







**Electrical performance:**

- CEI EN 50393
- Class 2 in accordance with CEI 64-8.

 Gel: UL 94-HB 

 Working temperature: 90°C

 Installation temperature: -40°C / +50°C

 Fully submersible

 Can be used underground

 Halogen-free Gel

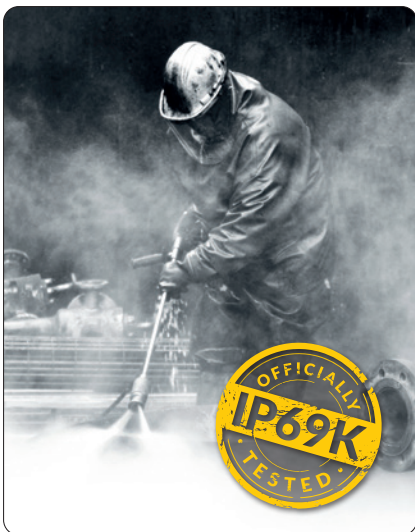
 UV resistant

 **No flame propagation:**  
CEI 20-35 • IEC 60332-1 • HD405-1  
(as applicable)

**IP68**  
OFFICIALLY  
TESTED

**IMQ**

**IP69K**  
OFFICIALLY  
TESTED



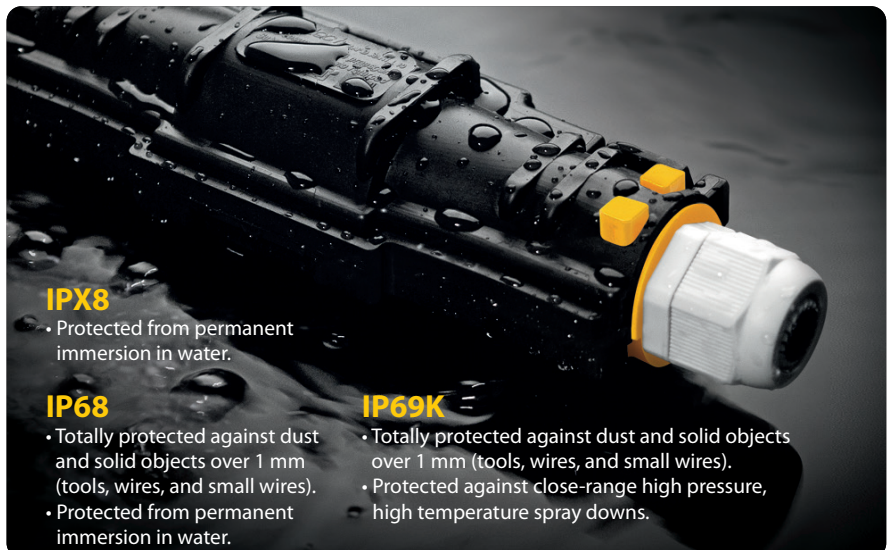
# RAPID JOINT IP68

Radial closing gel pre-filled joint for extruded insulation cables up to 1 kV.

Primary insulation, consisting of a cross-linked polymer gel, and the exceptionally robust insulating plastic casing render Class 2 joints in accordance with the definitions contained in standard CEI 64-8. The joint has been tested in accordance with the main international specifications, with repeated flexing and torsion tests and immersion in water, and has been declared as conforming to the mechanical, electrical and sealing specifications required for plastic cable accessories. The joint and its components have an unlimited shelf life, are chemically inert and therefore completely safe. Conductor connections are re-enterable even after long periods of operation. Made with self-extinguishing material, flame retardant, for cables at 90°C working temperature. The radial closing system facilitates joint application, making them re-enterable only by means of a tool.

**ADVANTAGES**

- ▶ For straight connections (in line).
- ▶ For multi core cables of up to 5 cores.
- ▶ With suitable spacers.
- ▶ For all types of application, including submersible.
- ▶ Wide range of cable formations.
- ▶ Re-enterable only by means of a tool.
- ▶ Suitable for 3 core crossing.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.



**IPX8**

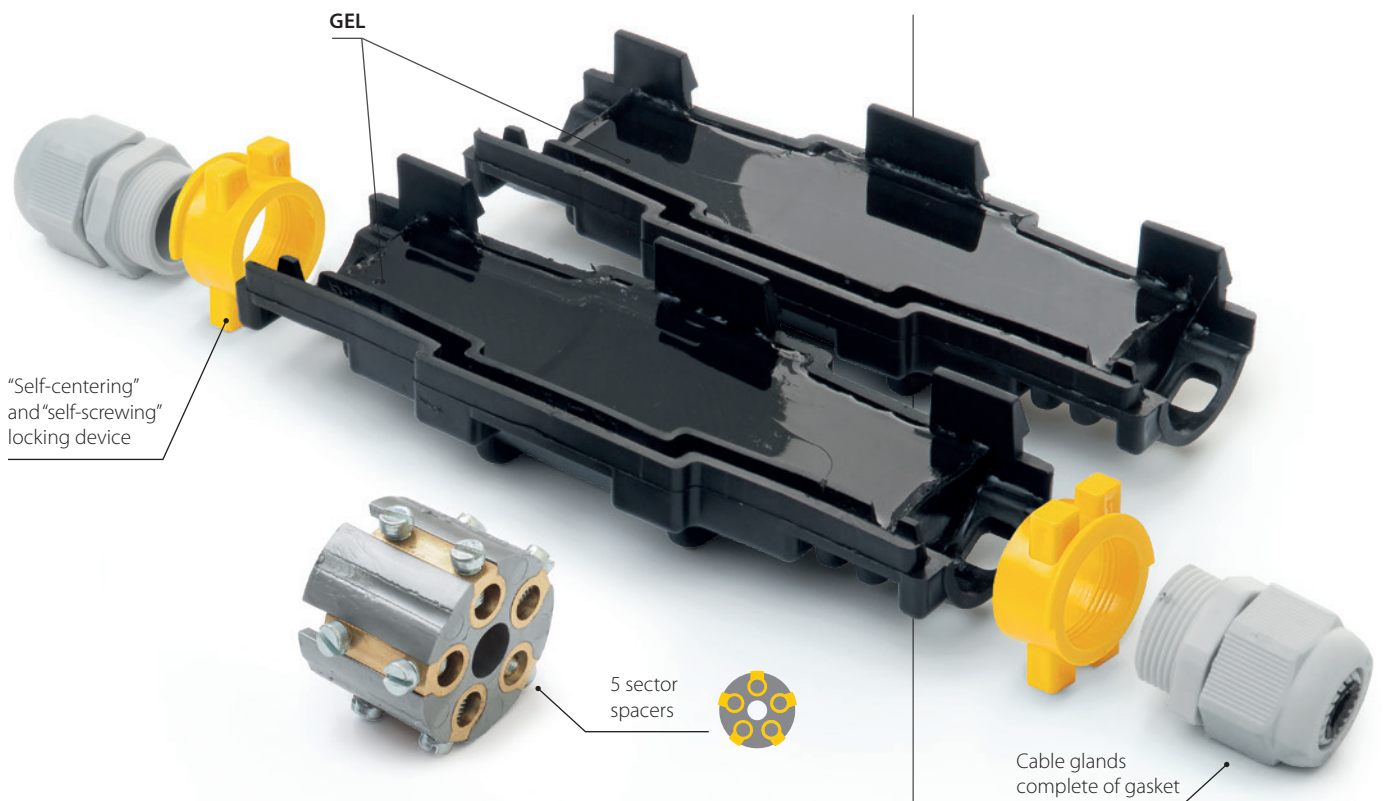
- Protected from permanent immersion in water.

**IP68**

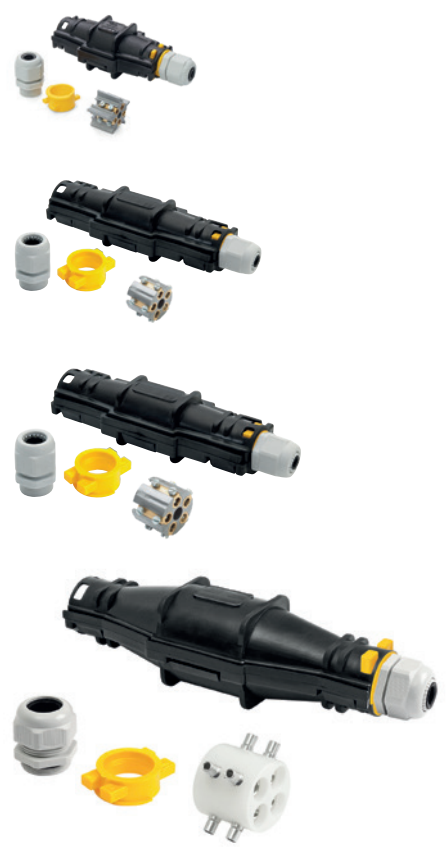
- Totally protected against dust and solid objects over 1 mm (tools, wires, and small wires).
- Protected from permanent immersion in water.

**IP69K**

- Totally protected against dust and solid objects over 1 mm (tools, wires, and small wires).
- Protected against close-range high pressure, high temperature spray downs.



| PRODUCT Item                                    | Formation n° | Configuration IP68         |              |            | Configuration IPX8         |              |            |
|---|--------------|----------------------------|--------------|------------|----------------------------|--------------|------------|
|   |              | Section (mm <sup>2</sup> ) | Cable Ø (mm) | A x B (mm) | Section (mm <sup>2</sup> ) | Cable Ø (mm) | A x B (mm) |
| <b>Rapid Joint L1,5-IP68</b><br>RAPIDJL1,5-IP68 | •            | 4 - 25                     |              |            | 1,5 - 50                   |              |            |
|   | ⊕            | 1,5 - 4                    |              |            | 1,5 - 6                    |              |            |
|   | ⊕            | 1,5 - 2,5                  | 8 - 13       | 155 x 55   | 1,5 - 6                    | 20,5         | 105 x 55   |
|   | ⊗            | 1,5                        |              |            | 1,5 - 6                    |              |            |
| <b>Rapid Joint L6-IP68</b><br>RAPIDJL6-IP68     | •            | 25 - 70                    |              |            | 2,5 - 150                  |              |            |
|   | ⊕            | 2,5 - 6                    |              |            | 2,5 - 10                   |              |            |
|   | ⊕            | 2,5 - 6                    | 12 - 18      | 245 x 60   | 2,5 - 10                   | 24           | 180 x 60   |
|   | ⊗            | 2,5 - 6                    |              |            | 2,5 - 10                   |              |            |
| <b>Rapid Joint L10-IP68</b><br>RAPIDJL10-IP68   | •            | 70 - 95                    |              |            | 120 - 240                  |              |            |
|   | ⊕            | 10                         |              |            | 10 - 25                    |              |            |
|   | ⊕            | 10                         | 16 - 20      | 275 x 65   | 10 - 25                    | 31           | 210 x 65   |
|   | ⊗            | 10                         |              |            | 10 - 25                    |              |            |
| <b>Rapid Joint L25-IP68</b><br>RAPIDJL25-IP68   | •            | 120 - 240                  |              |            | 120 - 240                  |              |            |
|   | ⊕            | 25                         |              |            | 10 - 50                    |              |            |
|   | ⊕            | 16 - 25                    | 21 - 28      | 410 x 100  | 10 - 50                    | 42           | 320 x 100  |
|   | ⊗            | 16 - 25                    |              |            | 10 - 50                    |              |            |



For single core cable: do not install the separator with screw connectors and connect with crimp connector.



# READY CAST

The new pre-filled resin joint for extruded insulation cables up to 1 kV.

Thanks to its innovative pre-engraved and fracture-facilitated cable entry system, Ready Cast adapts itself quickly and extremely easily to any cable diameter, while respecting the minimum and maximum diameters that can be housed in the range. With the quick and safe connection block included in the pack or with commonly used connectors that can always be housed in the practical 4x separator, included in the kit. Ready Cast is equipped with an anti-traction system of the cable since it can be secured to the casing using the supplied cable ties.



READY  
CAST L



READY  
CAST Y



**Electrical performance:**

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

- Resin: UL 94-HB
- Working temperature: 90°C
- Installation temperature: -40°C / +50°C
- Fully submersible
- Can be used underground
- Halogen-free Resin
- UV resistant

**IP68**  
OFFICIALLY  
TESTED



## INNOVATIVE RESIN SOLUTIONS



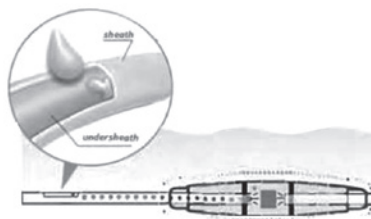
► **EASY!**  
Scissors and nothing more!



► **MULTICONNECTION!**  
Ideal for many types of connection.



► **INTEGRATED SOLUTIONS!**  
HOLE CASING technology - Anti-traction cable system using the supplied cable ties secured to the casing.

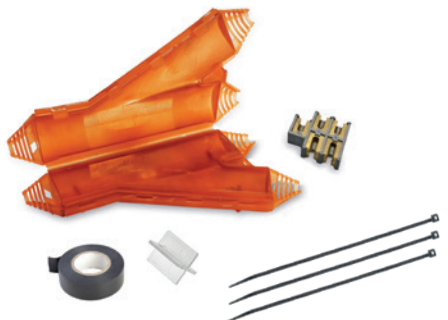


► **RELIABILITY!**  
Range compliant with EN 50393 which consists in a test in air and of prolonged immersion for about 30 days, with repeated temperature changes, after the intentional removal of the cable sheath at the inlet and outlet with consequent infiltration of water between the cores of the cable.

| PRODUCT Item                          | Cable Ø (mm) | Cable formation (N° x mm <sup>2</sup> ) |        |       |       |       | A<br>B<br>(mm) |        |
|---------------------------------------|--------------|---|--------|-------|-------|-------|----------------|--------|
|                                       |              | 1 x                                     | 2 x    | 3 x   | 4 x   | 5 x   |                |        |
| READY CAST L4<br>READYCASTL4          | 8-18         |   | 6-25   | 2,5-4 | 2,5-4 | 2,5-4 | -              | 160x45 |
|                                       |              |   | -      | 2,5-4 | 2,5-4 | -     | -              |        |
| READY CAST L10<br>READYCASTL10        | 8-23         |   | 16-50  | 4-10  | 4-10  | 4-10  | -              | 180x50 |
|                                       |              |   | -      | 2,5-6 | 2,5-6 | 2,5-6 | 2,5-6          |        |
| READY CAST L 16/25<br>READYCASTL16/25 | 8-30         |   | 35-150 | 10-25 | 6-25  | 4-25  | -              | 215x55 |
|                                       |              |   | -      | 6-25  | 6-25  | 6-16  | 6-16           |        |



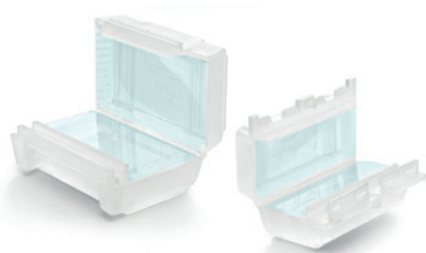
| PRODUCT Item                          | Cable Ø (mm)     | Cable formation (N° x mm <sup>2</sup> ) |                      |                   |                    | A<br>B<br>(mm)       |         |
|---------------------------------------|------------------|---|----------------------|-------------------|--------------------|----------------------|---------|
|                                       |                  | 1 x                                     | 2 x                  | 3 x               | 4 x                |                      |         |
| READY CAST Y6<br>READYCASTY6          | T 8-20<br>B 8-20 |   | T 16-50<br>B 6-35    | T 4-10<br>B 2,5-4 | T 2,5-6<br>B 1,5-4 | T 2,5-6<br>B 1,5-2,5 | 180x100 |
|                                       |                  |   | -                    | T 4-6<br>B 2,5-4  | T 2,5-6<br>B 1,5-4 | T 2,5-6<br>B 1,5-2,5 |         |
| READY CAST Y 16/25<br>READYCASTY16/25 | T 8-30<br>B 8-30 |   | T 70-150<br>B 50-150 | T 10-25<br>B 6-25 | T 6-25<br>B 6-16   | T 6-25<br>B 6-10     | 220x105 |
|                                       |                  |   | -                    | T 10-16<br>B 4    | T 6-16<br>B 2,5-4  | T 6-16<br>B 2,5-4    |         |



**Each kit contains:**

- Enclosure, complete with filler
- Cable ties
- Screw connection system
- 4x separator
- Rayteam black insulating tape

T : Through cable - B : Branch cable

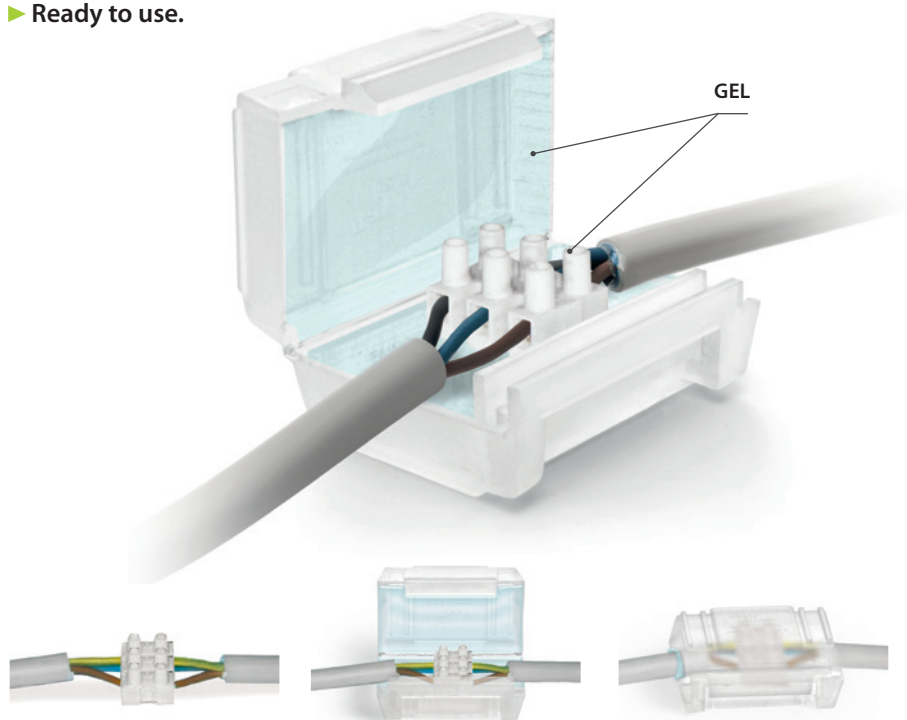


## GEL COVER LINE

Gel pre-filled accessories for straight connections, for the protection, safety and covering of electrical connections using strip connectors or alternatives.


### ADVANTAGES

- ▶ For 3 x 1 to 6 mm<sup>2</sup> cables or 3 insulated wires.
- ▶ For domestic and industrial connections.
- ▶ To put household systems in order.
- ▶ Also for underwater use.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.
- ▶ Ready to use.



### Electrical performance:

- CEI EN 50393 as applicable
- Class 2 in accordance with CEI 64-8.

🔧 Gel: UL 94-HB 

🌡 Working temperature: 90°C

🌡 Installation temperature: -40°C / +50°C

🌊 Fully submersible

🔧 Can be used underground

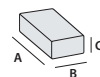
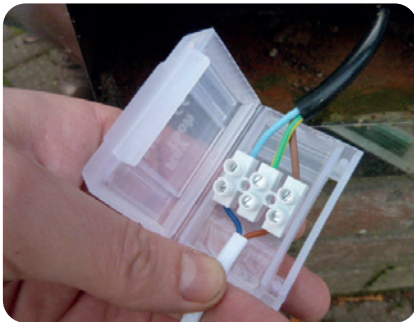
🌿 Halogen-free Gel

☀ UV resistant

**IPX8**  
OFFICIALLY  
TESTED | **IMQ**



JOINTS



| PRODUCT Item                    | Colour | Housed connectors type                       | N° pieces | Package type | Dimension (mm) |
|---------------------------------|--------|--|-----------|--------------|----------------|
| <b>OHM</b><br>OHM               | ○      | 2 from 4 mm <sup>2</sup>                     | 1         | blister      | 61 x 35 x 28   |
| <b>OHM PACK 11</b><br>OHMPACK11 |        |  | 11        | box          |                |
| <b>BAR</b><br>BAR               | ○      | 3 from 4 mm <sup>2</sup> / 6 mm <sup>2</sup> | 1         | blister      | 63 x 41 x 28   |
| <b>BAR PACK 9</b><br>BARPACK9   |        |  | 9         | box          |                |

| PRODUCT Item                                 | Colour | Housed connectors type                       | N° pieces | Package type | Dimension (mm) |
|--|--------|--|-----------|--------------|----------------|
| <b>GEL COVER 4</b><br>GELCOVER4              | ●      | 2 from 4 mm <sup>2</sup>                     | 1         | blister      | 61 x 35 x 28   |
| <b>MAMMUT GEL COVER</b><br>MAMMUTGELCOVER    |        |  | 8         | box          |                |
| <b>GEL COVER 6</b><br>GELCOVER6              | ●      | 3 from 4 mm <sup>2</sup> / 6 mm <sup>2</sup> | 1         | blister      | 63 x 41 x 28   |
| <b>MAMMUT GEL COVER 6</b><br>MAMMUTGELCOVER6 |        |  | 9         | box          |                |

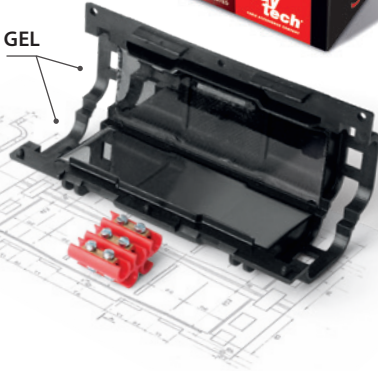
No flame propagation. CEI 20-35 • IEC 60332-1 • HD405-1 (as applicable). **Casing mix:** UL 94-V2



# SUPER CLIK

Range of fast gel pre-filled straight or branch type joints for 0.6/1 kV multi core cables of up to 5 conductors.

The combination of the primary insulation in a cross-linked polymer gel and the highly robust insulating plastic case makes this a Class 2 joint defined by CEI 64-8. The joint has been tested in accordance with the main international specifications, with repeated flexing and torsion tests and immersion in water, it has been declared as conforming to the mechanical, electrical and sealing specifications required for plastic cable accessories. The joint and its components have an unlimited shelf life, they are chemically inert and therefore completely safe; the connections are re-entrable even after long working periods. Made of self-extinguishing components the joint is flame retardant. For cables at 90°C working temperature.



Electrical performance:  
 • CEI EN 50393 as applicable  
 • Class 2 in accordance with CEI 64-8.

- Gel: UL 94-HB c us
- Casing mix: UL 94-V2
- Working temperature: 90°C
- Installation temperature: -40°C / +50°C
- Fully submersible
- Can be used underground
- Halogen-free Gel
- UV resistant
- No flame propagation:  
CEI 20-35 • IEC 60332-1 • HD405-1  
(as applicable)

IPX8 OFFICIALLY TESTED | IMQ



## ADVANTAGES

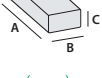
- ▶ Complete with insulated terminal blocks.
- ▶ For straight and branch connections.
- ▶ For all types of application, including submersible.
- ▶ Re-accessible.
- ▶ Flame retardant.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.



SUPER CLIK

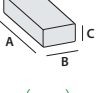
JOINTS

**SUPER CLIK MINI**

| PRODUCT Item                                | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |                           |         | max cables Ø (mm) | <br>(mm) |
|---|--|---------------------------|---------|-------------------|---|
|   | Straight Connections<br>In line                                      | Branch connections<br>T B |         |                   |   |
| <b>SUPER CLIK MINI L</b><br>SUPERCLIKMINI-L | 3 x 0,5 - 1,5  | -                         | -       | 10                | 71 x 38 x 23  |
| <b>SUPER CLIK MINI Y</b><br>SUPERCLIKMINI-Y | -  | 1 x 2,5 - 6               | 1 x 2,5 | 10                | 71 x 38 x 23  |

T : Through cable - B : Branch cable

**SUPER CLIK**

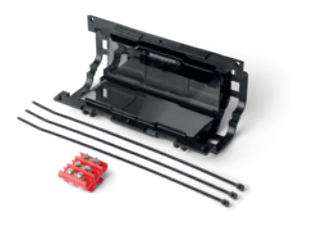
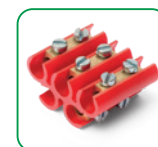
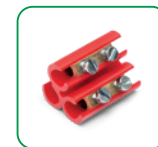
| PRODUCT Item                      | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |                           |               | max cables Ø (mm) | <br>(mm) |
|-----------------------------------|--|---------------------------|---------------|-------------------|---|
|                                   | Straight Connections<br>In line                                      | Branch connections<br>T B |               |                   |   |
| <b>SUPER CLIK 0</b><br>SUPERCLIK0 | 3 x 1,5 - 6  | 3 x 1,5 - 4               | 3 x 1,5 - 2,5 | 14                | 95 x 43 x 28  |

| PRODUCT                           | In line     | T     | B       | (mm) | (mm)          |
|-----------------------------------|-------------|-------|---------|------|---------------|
| <b>SUPER CLIK 1</b><br>SUPERCLIK1 | 2 x 1,5 - 6 | 2 x 4 | 2 x 2,5 | 20,5 | 150 x 56 x 30 |
|                                   | 3 x 1,5 - 6 | 3 x 4 | 3 x 2,5 |      |               |
|                                   | 4 x 1,5 - 6 | 4 x 4 | 4 x 2,5 |      |               |
|                                   | 5 x 1,5 - 6 | 5 x 4 | 5 x 2,5 |      |               |

| PRODUCT                           | In line    | T      | B     | (mm) | (mm)          |
|-----------------------------------|------------|--------|-------|------|---------------|
| <b>SUPER CLIK 2</b><br>SUPERCLIK2 | 2 x 4 - 16 | 2 x 10 | 2 x 6 | 30   | 220 x 85 x 46 |
|                                   | 3 x 4 - 16 | 3 x 10 | 3 x 6 |      |               |
|                                   | 4 x 4 - 16 | 4 x 10 | 4 x 6 |      |               |
|                                   | 5 x 4 - 16 | 5 x 10 | 5 x 6 |      |               |


| PRODUCT                           | In line | T          | B            | (mm) | (mm)          |
|-----------------------------------|---------|------------|--------------|------|---------------|
| <b>SUPER CLIK 3</b><br>SUPERCLIK3 | -       | 2 x 4 - 25 | 2 x 1,5 - 16 | 30   | 220 x 85 x 46 |
|                                   |         | 3 x 4 - 25 | 3 x 1,5 - 16 |      |               |
|                                   |         | 4 x 4 - 25 | 4 x 1,5 - 16 |      |               |

T : Through cable - B : Branch cable



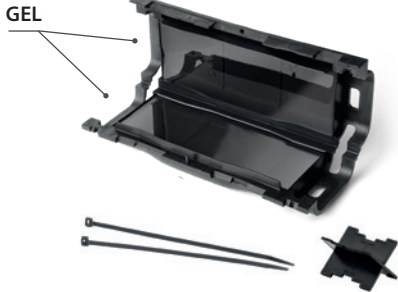
**Electrical performance:**

- CEI EN 50393  
with connectors complying  
with EN 61238-1
- Class 2 in accordance with CEI 64-8.

- Gel: UL 94-HB 
- Casing mix: UL 94-V2
- Working temperature: 90°X
- Installation temperature: -40°C / +50°C
- Fully submersible
- Can be used underground
- Halogen-free Gel
- UV resistant
- No flame propagation:  
CEI 20-35 • IEC 60332-1 • HD405-1  
(as applicable)



**IPX8**  
OFFICIALLY  
TESTED



Sections based on  
extruded 0,6/1 kV cable.

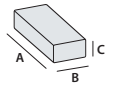
# CLIK FIRE

Straight or branch gel pre-filled joint,  
for multi core cables up to 4 cores.

- Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.



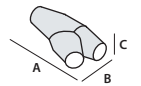
## STRAIGHT OR BRANCH MULTI CORE JOINTS



| PRODUCT / Item                     | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |                      | max cables Ø (mm)   |        | Dimension (mm) |
|------------------------------------|--|----------------------|---------------------|--------|----------------|
|                                    | Through or straight  | 1 or 2 branch cables | Through or straight | Branch |                |
| <b>CLIK 0 Fire *</b><br>214663-003 | 1 x 2,5 - 50   | 1 x 1,5 - 10         | 16                  | 10     | 95 x 43 x 28   |
|                                    | 2 x 2,5 - 6  | 2 x 1,5              |                     |        |                |
| <b>CLIK 1 Fire *</b><br>225449-001 | 1 x 6 - 95   | 1 x 1,5 - 35         | 20,5                | 15     | 150 x 56 x 30  |
|                                    | 2 x 1,5 - 16   | 2 x 1,5 - 6          |                     |        |                |
|                                    | 3 x 1,5 - 10   | 3 x 1,5 - 6          |                     |        |                |
| <b>CLIK 2 Fire</b><br>301096-001   | 1 x 50 - 185   | 1 x 16 - 185         | 30                  | 29     | 220 x 85 x 46  |
|                                    | 2 x 10 - 35  | 2 x 1,5 - 35         |                     |        |                |
|                                    | 3 x 6 - 35   | 3 x 1,5 - 35         |                     |        |                |
|                                    | 4 x 6 - 35   | 4 x 1,5 - 16         |                     |        |                |

\* Available in hangable BLISTER with the following Codes. Art.: CLIK0FIRE-BL and CLIK1FIRE-BL

## BRANCH JOINTS WITH 30° OUTPUT



| PRODUCT / Item                      | Through       | Branch       | Through | Branch | (mm)           |
|-------------------------------------|---------------|--------------|---------|--------|----------------|
| <b>CLIK 2000 Fire</b><br>214663-004 | 1 x 2,5 - 25  | 1 x 1,5 - 16 | 14      | 12,5   | 75 x 40 x 21   |
| <b>CLIK 2001 Fire</b><br>225448-002 | 1 x 6 - 95    | 1 x 1,5 - 70 | 22,5    | 18,5   | 138 x 60 x 37  |
|                                     | 2 x 1,5 - 16  | 2 x 1,5 - 10 |         |        |                |
|                                     | 3 x 2,5 - 16  | 3 x 1,5 - 10 |         |        |                |
| <b>CLIK 2002 Fire</b><br>301096-005 | 1 x 50 - 150  | 1 x 1,5 - 70 | 26      | 18,5   | 194 x 74 x 43  |
|                                     | 2 x 1,5 - 25  | 2 x 1,5 - 10 |         |        |                |
|                                     | 3 x 4 - 25    | 3 x 1,5 - 10 |         |        |                |
|                                     | 4 x 4 - 16    | 4 x 1,5 - 6  |         |        |                |
| <b>CLIK 2003 Fire</b><br>301097-006 | 1 x 150 - 240 | 1 x 50 - 120 | 36      | 26     | 290 x 105 x 51 |
|                                     | 2 x 16 - 50   | 2 x 10 - 25  |         |        |                |
|                                     | 3 x 16 - 50   | 3 x 10 - 25  |         |        |                |
|                                     | 4 x 16 - 50   | 4 x 6 - 16   |         |        |                |

## CLIK FIRE A2A

Main line branch joint for parallel type public lighting systems.

Branch joints from main to main cable, from main to pole rise, from overhead line to pole equipment, from pre-assembled cable to pole equipment, of a type certified by Azienda Elettrica Milanese (A2A, ex AEM). Accessories are complete with mantel-type, pre-insulated Allen screw connectors and, for installations with traps, with the specific protection monitor plate. Joints are non-toxic, with no shelf life and re-enterable.



| PRODUCT Item                       | Approval code | Branch type               | Through cable (n° x mm <sup>2</sup> ) | Branch cable (n° x mm <sup>2</sup> ) |
|------------------------------------|---------------|---------------------------|---------------------------------------|--------------------------------------|
| CLIK 2 Fire Dor/Palo<br>301009-000 | E 27.012      | Main / Pole               | RG7R 2 x 1 x 16                       | FG7OR 2 x 2,5                        |
| CLIK 1 Fire Dor/Dor<br>302009-000  | E 27.013      | Main / Main               | RG7R 4 x 1 x 16                       | RG7R 4 x 1 x 16                      |
| CLIK 1 Fire Aer/Dap<br>302008-000  | E 27.014      | Overhead line / Equipment | UG7R 2 x 1 x 16                       | FG7R 2 x 1 x 4                       |
| CLIK 2 Fire Prec/Dap<br>301008-000 | E 27.015      | Pre-assembled / Equipment | RE4E4X 2 x 1 x 10                     | FG7OR 2 x 2,5                        |



Electrical performance:  
• CEI EN 50393 • CEI 20-33 • IP 0033 (A2A)

- Gel: UL 94-HB c us
- Casing mix: UL 94-V2
- Working temperature: 90°
- Installation temperature: -40°C / +50°C
- Fully submersible
- Can be used underground
- No flame propagation:  
CEI 20-35 • IEC 60332-1 • HD405-1  
(as applicable)
- A2A Certified

**IPX8**  
OFFICIALLY  
TESTED

## CLIK FIRE A2A (FUSE)

Branch joint from main to pole rise, with protection fuse.

Branch joints from main to pole rise complete with disconnectable fuse holder and fuse with signal indicating intervention. Accessories are complete with mantel-type, pre-insulated Allen screw connectors and, for installations with traps, with the specific protection monitor plate. Joints are non-toxic, with no shelf life and re-enterable and flame retardant.



| PRODUCT / Item                          | Fuse inserted | Branch type | Through cable (n° x mm <sup>2</sup> ) | Branch cable (n° x mm <sup>2</sup> ) |
|---|---------------|-------------|---------------------------------------|--------------------------------------|
| CLIK 2 Fire Dor/Palo Fuse<br>301010-000 | 2 A           | Main / Pole | RG7R 4 x 1 x 16                       | FG7OR 2 x 2,5                        |



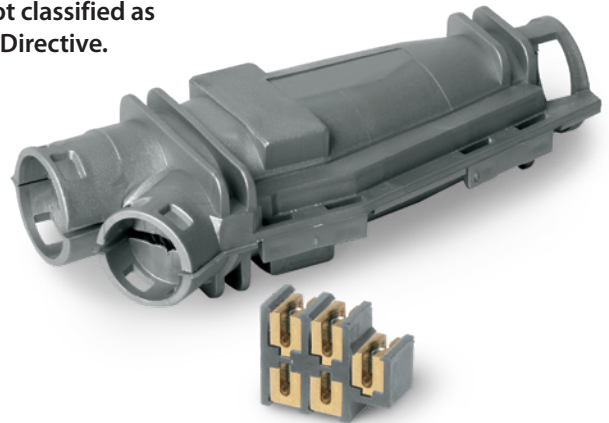
# KING JOINT

Range of fast gel pre-filled straight or branch type joints for 0.6/1 kV multi core cables of up to 5 conductors.

The primary insulation, consisting of a cross-linked polymer gel and extremely strong plastic insulating housing, make the Class 2, in accordance with the definitions contained in CEI Regulation 64-8. The joint, tested in accordance with the most important international specifications with repeated bending and twisting cycles and immersion in water, was found to comply with the mechanical, electrical and sealing requirements necessary for accessories for plastic cables. The joint and its components have no self life, are chemically inert and therefore completely safe; the conductor connections are re-accessible even after long operating periods. Packaged with self-extinguishing material, it is flame retardant. Suitable for cables with a temperature of +90°C.

## ADVANTAGES

- ▶ For multicore cables of up to 5 cores.
- ▶ 5 sector spacers for proper centring of five-core connection.
- ▶ Complete with screw connectors.
- ▶ For straight and branch connections, including armoured cable.
- ▶ For all types of application, including submersible.
- ▶ Non-toxic, safe and not classified as hazardous under CLP Directive.
- ▶ Re-accessible.
- ▶ Flame retardant.



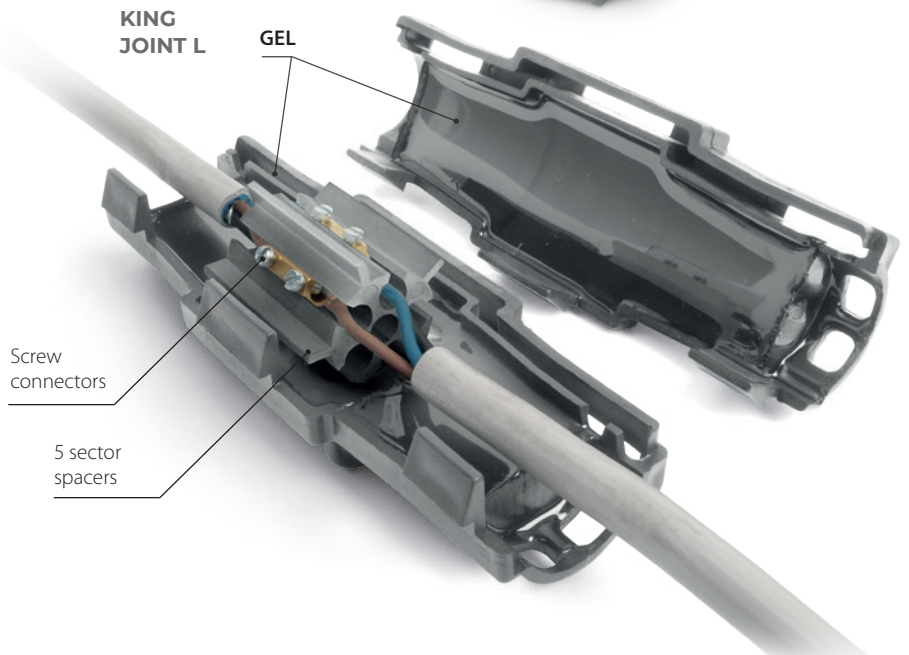
KING JOINT Y

KING JOINT L

### Electrical performance:

- CEI EN 50393
- Class 2 in accordance with CEI 64-8.

- Gel:** UL 94-HB
- Casing mix:** UL 94-V2
- Working temperature:** 90°C
- Installation temperature:** -40°C / +50°C
- Fully submersible**
- Can be used underground**
- Halogen-free Gel**
- No flame propagation:**  
CEI 20-35 • IEC 60332-1 • HD405-1  
(as applicable)  
Low smoke and toxic and corrosive gas emissions.
- **Degree of protection:** IPX8



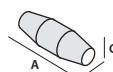
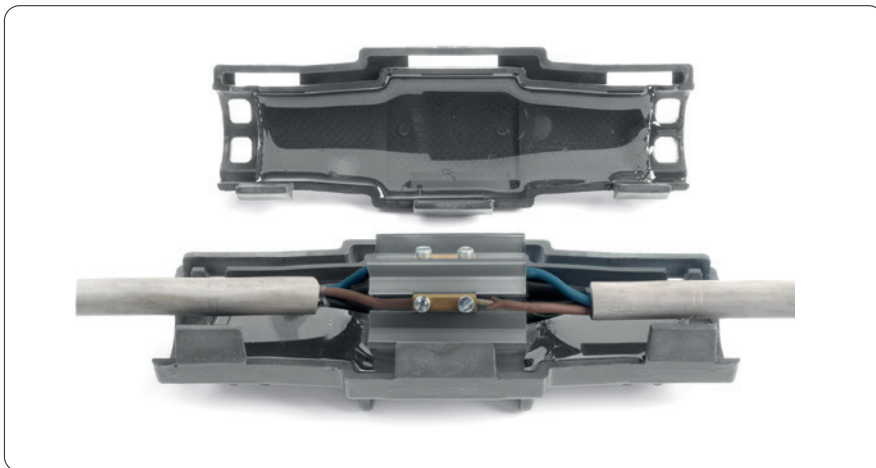
Screw connectors

5 sector spacers

GEL

## KING JOINT L

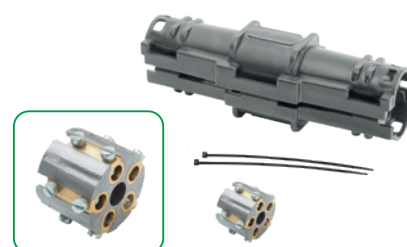
Straight joints, including armoured cable.



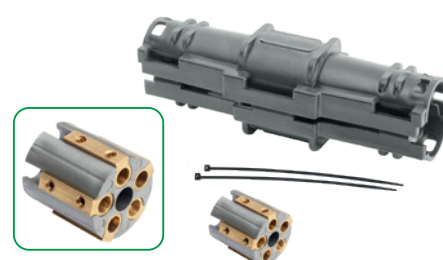
| PRODUCT / Item                           | LINE CONNECTIONS<br>Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) | max cables<br>Ø (mm) | Dimension (mm) |
|--|--|----------------------|----------------|
| <b>KING JOINT 0 blister</b><br>RAYJOINT0 | 2 x 1,5 - 6  | 20,5                 | 105 x 55 x 55  |
|  | 3 x 1,5 - 6  |                      |                |
|  | 4 x 1,5 - 6  |                      |                |
|  | 5 x 1,5 - 6  |                      |                |
| <b>KING JOINT L6 box</b><br>RAYJOINTL6   | 2 x 1,5 - 6  | 20,5                 | 105 x 55 x 55  |
|  | 3 x 1,5 - 6  |                      |                |
|  | 4 x 1,5 - 6  |                      |                |
|  | 5 x 1,5 - 6  |                      |                |



| PRODUCT / Item                            | LINE CONNECTIONS<br>Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) | max cables<br>Ø (mm) | Dimension (mm) |
|---|--|----------------------|----------------|
| <b>KING JOINT L10</b><br>RAYJOINTL10      | 2 x 2,5 - 10   | 24                   | 180 x 60 x 60  |
|   | 3 x 2,5 - 10   |                      |                |
| <b>KING JOINT L10 - ARM</b><br>RAYJL10ARM | 4 x 2,5 - 10   | 24                   | 180 x 60 x 60  |
|   | 5 x 2,5 - 10   |                      |                |



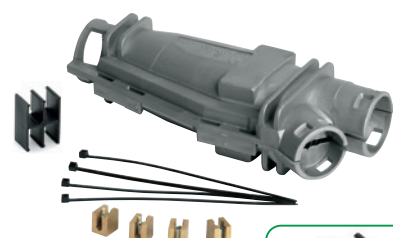
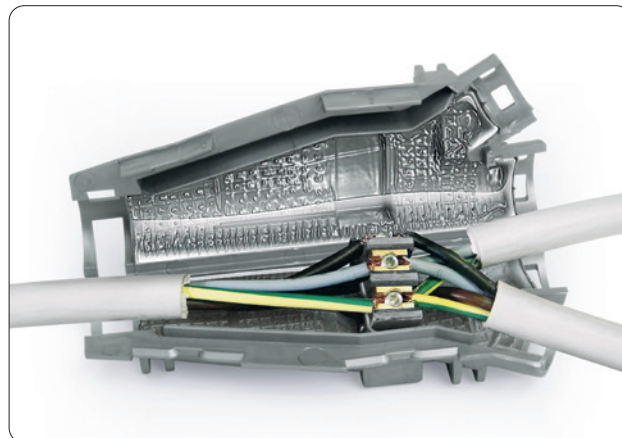
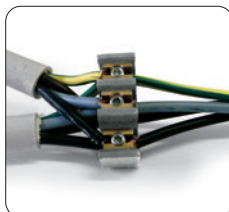
| PRODUCT / Item                            | LINE CONNECTIONS<br>Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) | max cables<br>Ø (mm) | Dimension (mm) |
|---|--|----------------------|----------------|
| <b>KING JOINT L25</b><br>RAYJOINTL25      | 2 x 10 - 25  | 31                   | 210 x 65 x 65  |
|   | 3 x 10 - 25  |                      |                |
| <b>KING JOINT L25 - ARM</b><br>RAYJL25ARM | 4 x 10 - 25  | 31                   | 210 x 65 x 65  |
|   | 5 x 10 - 25  |                      |                |



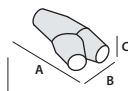
**ARM** type joints complete with continuity device suitable for connection to **armoured wire or steel tape cables**.

## KING JOINT Y

Branch joints, including armoured cable.



| PRODUCT / Item                            | BRANCH CONNECTIONS<br>Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |             | max cables Ø (mm) |      | Dimension (mm) |
|---|--|-------------|-------------------|------|----------------|
|   | T  | B           | T                 | B    |                |
| <b>KING JOINT Y6</b><br>KINGJ-Y6          | 2 x 1,5 - 6  | 2 x 1,5 - 4 | 22,5              | 18,5 | 138 x 60 x 37  |
| <b>KING JOINT Y6 - ARM</b><br>KINGJ-Y6ARM | 3 x 1,5 - 6  | 3 x 1,5 - 4 |                   |      |                |
|   | 4 x 1,5 - 6  | 4 x 1,5 - 4 |                   |      |                |
|   | 5 x 1,5 - 6  | 5 x 1,5 - 4 |                   |      |                |



T: Through cable - B: Branch cable

| PRODUCT / Item                              | BRANCH CONNECTIONS<br>Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |             | max cables Ø (mm) |      | Dimension (mm) |
|---|--|-------------|-------------------|------|----------------|
|   | T  | B           | T                 | B    |                |
| <b>KING JOINT Y16</b><br>KINGJ-Y16          | 2 x 4 - 16   | 2 x 1,5 - 4 | 26                | 18,5 | 194 x 74 x 43  |
| <b>KING JOINT Y16 - ARM</b><br>KINGJ-Y16ARM | 3 x 4 - 16   | 3 x 1,5 - 4 |                   |      |                |
|   | 4 x 4 - 16*  | 4 x 1,5 - 4 |                   |      |                |
|   | 5 x 4 - 16*  | 5 x 1,5 - 4 |                   |      |                |

T: Through cable - B: Branch cable

\* For armoured cables max conductor cross section 10 mm<sup>2</sup>.

| PRODUCT / Item                              | BRANCH CONNECTIONS<br>Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |             | max cables Ø (mm) |    | Dimension (mm) |
|---|--|-------------|-------------------|----|----------------|
|   | T  | B           | T                 | B  |                |
| <b>KING JOINT Y35</b><br>KINGJ-Y35          | 2 x 10 - 35  | 2 x 1,5 - 6 | 36                | 26 | 290 x 105 x 51 |
| <b>KING JOINT Y35 - ARM</b><br>KINGJ-Y35ARM | 3 x 10 - 35  | 3 x 1,5 - 6 |                   |    |                |
|   | 4 x 10 - 35*   | 4 x 1,5 - 6 |                   |    |                |

T: Through cable - B: Branch cable

\* For armoured cables max conductor cross section 10 mm<sup>2</sup>.

ARM type joints complete with continuity device suitable for connection to **armoured wire or steel tape cables**.

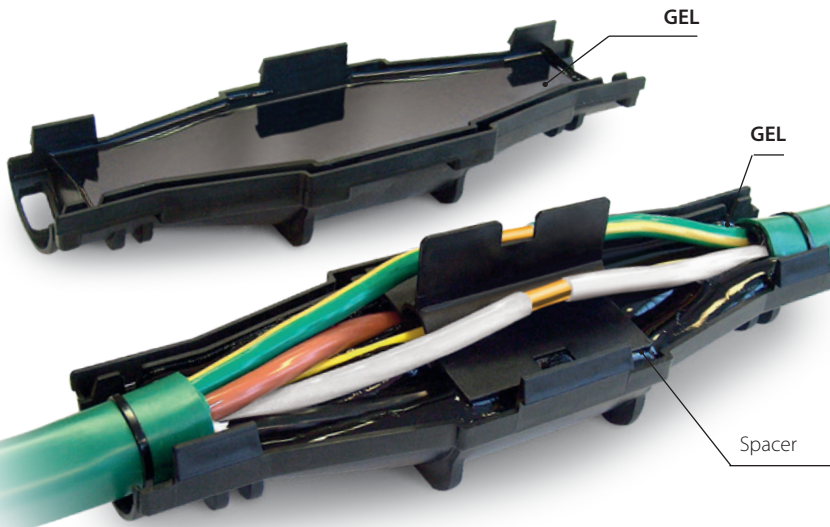
# RAPID JOINT

Radial closing gel pre-filled joint for extruded insulation cables up to 1 kV.

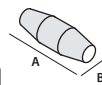
Made with self-extinguishing material, flame retardant, for cables at 90°C working temperature. The radial closing system facilitates joint application, making them re-enterable only by means of a tool.

## ADVANTAGES

- ▶ For straight connections (in line).
- ▶ With suitable spacers.
- ▶ For all types of application, including submersible.
- ▶ Wide range of cable formations.
- ▶ Pre-filled with a gel that is not-classified as hazardous under the CLP Directive and with no shelf life.



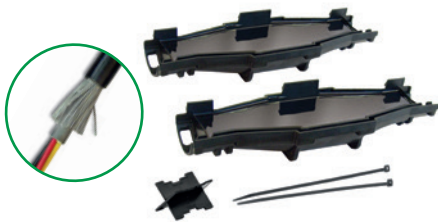
| PRODUCT / Item                       | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |          |          | With fiber-optic separator<br>4x | Dimension (mm) |
|--------------------------------------|--|----------|----------|----------|----------------------------------|----------------|
|                                      | 1x   | 2x       | 3x       | 4x       |                                  |                |
| <b>For COPPER cables</b>             |  |          |          |          |                                  |                |
| <b>RAPID JOINT L6</b><br>301098-037  | 1,5 - 50   | 1,5 - 10 | 1,5 - 10 | 1,5 - 6  | -                                | 105 x 55       |
| <b>RAPID JOINT L10</b><br>301098-004 | 2,5 - 150  | 2,5 - 25 | 2,5 - 16 | 2,5 - 16 | -                                | 180 x 60       |
| <b>RAPID JOINT L25</b><br>301098-006 | 120 - 240  | 6 - 50   | 6 - 35   | 4 - 35   | -                                | 210 x 65       |
| <b>RAPID JOINT L95</b><br>301098-003 | 185 - 400  | 35 - 95  | 25 - 70  | 25 - 70  | 16 - 50                          | 320 x 100      |
| <b>For ALUMINIUM cables</b>          |  |          |          |          |                                  |                |
| <b>RAPID JOINT L25</b><br>301098-006 | 120 - 150  | 16 - 35  | 10 - 25  | 10 - 25  | -                                | 210 x 65       |
| <b>RAPID JOINT L95</b><br>301098-003 | 185 - 400  | 35 - 95  | 25 - 70  | 25 - 70  | 16 - 50                          | 320 x 100      |



### Electrical performance:

- CEI EN 50393 with connectors complying with EN 61238-1
- Class 2 in accordance with CEI 64-8.

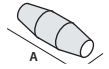
- 💧 **Gel:** UL 94-HB **US**
- 💧 **Casing mix:** UL 94-V2
- 🌡️ **Working temperature:** 90°C
- 🌡️ **Installation temperature:** -40°C / +50°C
- 🌊 **Fully submersible**
- 🔧 **Can be used underground**
- 🌿 **Halogen-free Gel**
- 🔥 **No flame propagation:**  
CEI 20-35 • IEC 60332-1 • HD405-1 (as applicable)
- **Degree of protection:** IPX8



Joint supplied with armor continuity device

## RAPID JOINT S/ARM

For screened or tape or wire armoured cables.

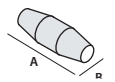


| For <b>copper wire</b><br>SCREENED cables | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |          |          | With fiber-optic separator<br>4x | Dimension (mm) |
|---|--|----------|----------|----------|----------------------------------|----------------|
|   | 1x   | 2x       | 3x       | 4x       |                                  |                |
| <b>RAPID JOINT L 10-S</b><br>301098-035   | 2,5 - 120  | 2,5 - 10 | 2,5 - 10 | 2,5 - 10 | -                                | 180 x 60       |
| <b>RAPID JOINT L 25-S</b><br>301098-036   | 120 - 185  | 16 - 25  | 10 - 25  | 10 - 25  | -                                | 210 x 65       |
| <b>RAPID JOINT L 95-S</b><br>301098-012   | 240 - 400  | 35 - 95  | 25 - 70  | 25 - 70  | 16 - 50                          | 320 x 100      |

| For ARMoured cables                         | 1x       | 2x       | 3x       | 4x      | (mm)      |
|---|----------|----------|----------|---------|-----------|
| <b>RAPID JOINT L 10-ARM</b><br>301098-10ARM | 2,5 - 10 | 2,5 - 10 | 2,5 - 10 | -       | 180 x 60  |
| <b>RAPID JOINT L 25-ARM</b><br>301098-25ARM | 16 - 25  | 10 - 25  | 10 - 25  | -       | 210 x 65  |
| <b>RAPID JOINT L 95-ARM</b><br>301098-016   | 35 - 95  | 25 - 70  | 25 - 70  | 16 - 50 | 320 x 100 |

## RAPID JOINT LS

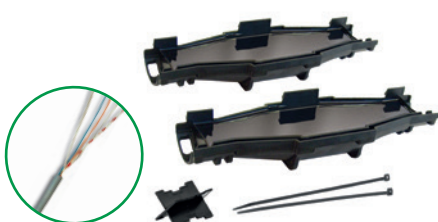
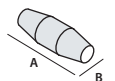
For signalling and control cables.



| PRODUCT<br>Item                      | Conductors<br>(mm <sup>2</sup> ) | Cable formation (n° conduttori) |    |     |     |     |     |     |     |     |      | Dimension<br>(mm) |           |
|--------------------------------------|----------------------------------|---------------------------------|----|-----|-----|-----|-----|-----|-----|-----|------|-------------------|-----------|
|                                      |                                  | 5x                              | 7x | 10x | 12x | 16x | 19x | 24x | 40x | 75x | 100x |                   |           |
| <b>RAPID JOINT-LS1</b><br>301098-018 | 1,5                              | •                               | •  | •   | •   | •   | •   |     |     |     |      |                   | 180 x 60  |
|                                      | 2,5                              | •                               | •  | •   | •   |     |     |     |     |     |      |                   |           |
| <b>RAPID JOINT-LS2</b><br>301098-019 | 1,5                              |                                 |    |     |     | •   | •   | •   | •   |     |      |                   | 210 x 65  |
|                                      | 2,5                              |                                 |    | •   | •   | •   | •   | •   |     |     |      |                   |           |
| <b>RAPID JOINT-LS3</b><br>301098-020 | 1,5                              |                                 |    |     |     |     | •   | •   | •   | •   | •    |                   | 320 x 100 |
|                                      | 2,5                              |                                 |    |     |     |     | •   | •   | •   | •   | •    |                   |           |

## RAPID JOINT T

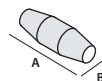
Straight joints for telephone cables.



| UNscreened                            | SCREENED                               | N° pairs for conductor cross sections (n° x mm <sup>2</sup> ) | Dimension (mm) |
|---------------------------------------|--|---|----------------|
| PRODUCT / Item                        | PRODUCT / Item                         |   |                |
| <b>RAPID JOINT-T26</b><br>301098-021  | <b>RAPID JOINT-TS26</b><br>301098-024  | (1 - 26) x (0,5 - 0,6)  | 180 x 60       |
| <b>RAPID JOINT-T61</b><br>301098-022  | <b>RAPID JOINT-TS61</b><br>301098-025  | (30 + 1 - 64 + 1) x (0,5 - 0,6)                               | 210 x 65       |
| <b>RAPID JOINT-T101</b><br>301098-023 | <b>RAPID JOINT-TS101</b><br>301098-026 | (60 + 1 - 100 + 1) x (0,5 - 0,6)                              | 320 x 100      |

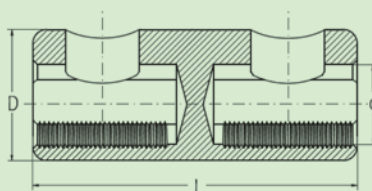
## RAPID JOINT SYSTEM FAST RP

Straight joint + Shear bolt connectors.



| PRODUCT / Item                            | Cable formation from 2x a 4x<br>(n° x mm <sup>2</sup> ) | Dimension<br>(mm) |
|---|---|-------------------|
| <b>RAPID JOINT L 10 RP</b><br>RAPIDJL10RP | 1,5 - 10  | 180 x 60          |
| <b>RAPID JOINT L 25 RP</b><br>RAPIDJL25RP | 10 - 25   | 210 x 65          |
| <b>RAPID JOINT L 95 RP</b><br>RAPIDJL95RP | 35 - 95   | 320 x 100         |

### Shear bolt connectors



| PRODUCT / Item                         | Aluminium<br>cross sections*<br>(mm <sup>2</sup> ) | Copper<br>cross sections<br>(mm <sup>2</sup> ) | Breakaway<br>torque<br>(Nm) | Dimension |           |      |
|--|--|--|-----------------------------|-----------|-----------|------|
|  |  |  |                             | L         | D<br>(mm) | d    |
| <b>RAY-TTF 1,5/16</b><br>RAY-TTF1,5/16 | 10 - 16  | 1,5 - 16                                       | 4                           | 30        | 12        | 6,1  |
| <b>RAY-TTF 10/35</b><br>RAY-TTF10/35   | 10 - 35  | 10 - 35  | 10                          | 36        | 16        | 9,0  |
| <b>RAY-TTF 25/50</b><br>RAY-TTF25/50   | 25 - 50  | 25 - 50  | 12                          | 36        | 18        | 10,0 |
| <b>RAY-TTF 35/150</b><br>RAY-TTF35/150 | 35 - 150   | 35 - 150                                       | 30                          | 70        | 28        | 17,0 |

\* For round conductors.



**Electrical performance:**

- CEI EN 50393  
with connectors complying  
with EN 61238-1
- Class 2 in accordance with CEI 64-8.

🔹 Gel: UL 94-HB

🌡 Working temperature: 90°C

🌡 Installation temperature: -15°C / +55°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

**IP68**  
OFFICIALLY  
TESTED

# MAGIC POWER JOINT

Straight or branch joint with Magic Power Gel, for extruded insulation cables up to 1 kV.

Joints for extruded cables F(R)G7OR 0.6/1 kV. Easy installation, composed of two anti-fracture plastic shells, to be filled with non-toxic quick cross linking two-component insulation such as Magic Power Gel. Suitable for installation in traps, channels or directly underground or under water. Non-toxic, safe, light and re-enterable. Thanks to the softness of the insulation, they are able to absorb external shock without cracking or fracturing. The extreme stickiness of the insulation together with its softness allow it to transmit water pressure for installation even at high depths.

**ADVANTAGES**

- ▶ Re-enterable and inspectable joint.
- ▶ Insulated with Magic Power Gel, the innovative self-amalgamating gel.
- ▶ For installations even in harsh conditions and high depths!
- ▶ Extremely adherent and tight sealing.
- ▶ The gel is not-classified as hazardous under the CLP Directive and it has no shelf life.

RE-ENTERABLE



REMOVABLE



INSPECTIONABLE



REUSABLE

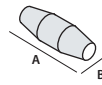


In 15 minutes, the gel is cross-linked and **Magic Power Joint** is ready!



## MAGIC POWER JOINT L

Straight joint for 0.6/1 kV extruded cables.



| PRODUCT / Item                                | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |           |            | max cable Ø (mm) | Dimension (mm) |
|---|--|-----------|-----------|------------|------------------|----------------|
|   | 1x   | 2x        | 3x        | 4x         |                  |                |
| <b>MAGIC P JOINT L10</b><br>MPOWERJOINT-L10   | 2,5 - 50   | 1,5 - 10  | 1,5 - 10  | 1,5 - 10 * | 8 - 27           | 180 x 50       |
| <b>MAGIC P JOINT L25</b><br>MPOWERJOINT-L25   | 16 - 150   | 4 - 25    | 4 - 25    | 2,5 - 25   | 8 - 32           | 215 x 55       |
| <b>MAGIC P JOINT L35</b><br>MPOWERJOINT-L35   | 16 - 185   | 16 - 35   | 16 - 35   | 16 - 35    | 12 - 33          | 232 x 70       |
| <b>MAGIC P JOINT L50</b><br>MPOWERJOINT-L50   | 50 - 300   | 16 - 50   | 16 - 50   | 16 - 50    | 14 - 34          | 266 x 72       |
| <b>MAGIC P JOINT L95</b><br>MPOWERJOINT-L95   | 120 - 400  | 25 - 95   | 25 - 95   | 25 - 95    | 15 - 42          | 330 x 95       |
| <b>MAGIC P JOINT L120</b><br>MPOWERJOINT-L120 | 240 - 500  | 70 - 120  | 70 - 120  | 50 - 120   | 25 - 50          | 365 x 95       |
| <b>MAGIC P JOINT L240</b><br>MPOWERJOINT-L240 | 400 - 1000   | 120 - 300 | 120 - 240 | 120 - 240  | 30 - 75          | 510 x 120      |
| <b>MAGIC P JOINT L300</b><br>MPOWERJOINT-L300 | 630 - 2000   | 240 - 400 | 240 - 300 | 240 - 300  | 41 - 78          | 760 x 180      |

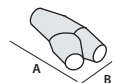
| For ALUMINIUM cables                          | 1x         | 2x        | 3x        | 4x        | (mm)    | (mm)      |
|---|------------|-----------|-----------|-----------|---------|-----------|
| <b>MAGIC P JOINT L50</b><br>MPOWERJOINT-L50   | 16 - 150   | 16 - 25   | 16 - 25   | 16 - 25   | 14 - 34 | 266 x 72  |
| <b>MAGIC P JOINT L120</b><br>MPOWERJOINT-L120 | 185 - 400  | 25 - 95   | 25 - 95   | 25 - 95   | 25 - 50 | 365 x 95  |
| <b>MAGIC P JOINT L240</b><br>MPOWERJOINT-L240 | 400 - 630  | 95 - 185  | 95 - 185  | 95 - 185  | 30 - 75 | 510 x 120 |
| <b>MAGIC P JOINT L300</b><br>MPOWERJOINT-L300 | 630 - 2000 | 185 - 300 | 185 - 300 | 185 - 300 | 41 - 78 | 760 x 180 |

\* Magic Power Joint L10 suggested for cable diameters smaller than 16 mm.



## MAGIC POWER JOINT Y

Branch joint for 0.6/1 kV extruded cables.



| PRODUCT / Item                                 | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |          |          |          |          |          |          | max cables Ø (mm) |        | Dimension (mm) |
|--|--|-----------|----------|----------|----------|----------|----------|----------|-------------------|--------|----------------|
|  | 1x   |           | 2x       |          | 3x       |          | 4x       |          | T                 | B      |                |
|  | T  | B         | T        | B        | T        | B        | T        | B        |                   |        |                |
| <b>MAGIC P JOINT Y6</b><br>MPOWERJOINT-Y6      | 4 - 50   | 4 - 50    | 4 - 10   | 4 - 10   | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 8 - 27            | 8 - 27 | 180 x 90       |
| <b>MAGIC P JOINT Y25</b><br>MPOWERJOINT-Y25    | 50 - 150   | 50 - 150  | 10 - 25  | 10 - 25  | 6 - 25   | 6 - 16   | 6 - 25   | 6 - 10   | 8 - 32            | 8 - 32 | 220 x 105      |
| <b>MAGIC P JOINT Y95</b><br>MPOWERJOINT-Y95    | 120 - 400  | 95 - 240  | 25 - 95  | 16 - 50  | 25 - 95  | 16 - 50  | 25 - 95  | 10 - 50  | 15 - 42           | 8 - 32 | 315 x 115      |
| <b>MAGIC P JOINT Y240*</b><br>MPOWERJOINT-Y240 | 240 - 630  | 240 - 630 | 95 - 240 | 50 - 240 | 95 - 240 | 50 - 240 | 95 - 240 | 50 - 240 | 65 max            |        | 600 x 285      |

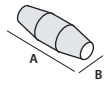
\* also for aluminium cables. T: Through - B: Branch





## MAGIC POWER JOINT L-S

Straight joint for 0.6/1 kV screened extruded cables.



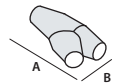
| PRODUCT / Item                                  | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |           |           | max cable Ø (mm) | Dimension (mm) |
|---|--|-----------|-----------|-----------|------------------|----------------|
|   | 1x   | 2x        | 3x        | 4x        |                  |                |
| <b>MAGIC P JOINT L10-S</b><br>MPOWERJOINT-L10S  | 2,5 - 50   | 1,5 - 10  | 1,5 - 6   | 1,5 - 6   | 8 - 27           | 180 x 50       |
| <b>MAGIC P JOINT L25-S</b><br>MPOWERJOINT-L25S  | 16 - 120   | 4 - 25    | 4 - 16    | 2,5 - 16  | 8 - 32           | 215 x 55       |
| <b>MAGIC P JOINT L35-S</b><br>MPOWERJOINT-L35S  | 16 - 185   | 16 - 35   | 16 - 25   | 16 - 25   | 12 - 33          | 232 x 70       |
| <b>MAGIC P JOINT L50-S</b><br>MPOWERJOINT-L50S  | 50 - 240   | 16 - 50   | 16 - 50   | 16 - 50   | 14 - 34          | 266 x 72       |
| <b>MAGIC P JOINT L120-S</b><br>MPOWERJOINTL120S | 240 - 500  | 70 - 120  | 70 - 120  | 50 - 95   | 25 - 50          | 365 x 95       |
| <b>MAGIC P JOINT L240-S</b><br>MPOWERJOINTL240S | 400 - 1000   | 120 - 300 | 120 - 185 | 120 - 185 | 30 - 75          | 510 x 120      |
| <b>MAGIC P JOINT L300-S</b><br>MPOWERJOINTL300S | 630 - 2000   | 240 - 400 | 240 - 300 | 240 - 300 | 41 - 78          | 760 x 180      |

| For ALUMINIUM cables                            | 1x         | 2x        | 3x        | 4x        | (mm)    | (mm)      |
|---|------------|-----------|-----------|-----------|---------|-----------|
| <b>MAGIC P JOINT L50-S</b><br>MPOWERJOINT-L50S  | 16 - 150   | 16 - 25   | 16 - 25   | 16 - 25   | 14 - 34 | 266 x 72  |
| <b>MAGIC P JOINT L120-S</b><br>MPOWERJOINTL120S | 185 - 400  | 25 - 95   | 25 - 95   | 25 - 95   | 25 - 50 | 365 x 95  |
| <b>MAGIC P JOINT L240-S</b><br>MPOWERJOINTL240S | 400 - 630  | 95 - 185  | 95 - 185  | 95 - 185  | 30 - 75 | 510 x 120 |
| <b>MAGIC P JOINT L300-S</b><br>MPOWERJOINTL300S | 630 - 2000 | 185 - 300 | 185 - 300 | 185 - 300 | 41 - 78 | 760 x 180 |



## MAGIC POWER JOINT Y-S

Branch joint for 0.6/1 kV screened extruded cables.

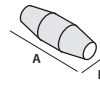


| PRODUCT                      | Item             | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |          |          |          |          |          |          | max cables Ø (mm) |        | Dimension (mm) |
|------------------------------|------------------|--|-----------|----------|----------|----------|----------|----------|----------|-------------------|--------|----------------|
|                              |                  | 1x   |           | 2x       |          | 3x       |          | 4x       |          | T                 | B      |                |
| <b>MAGIC P JOINT Y6-S</b>    | MPOWERJOINT-Y6S  | 4 - 35   | 4 - 35    | 4 - 10   | 4 - 10   | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 8 - 27            | 8 - 27 | 180 x 90       |
| <b>MAGIC P JOINT Y25-S</b>   | MPOWERJOINT-Y25S | 35 - 120   | 35 - 120  | 10 - 25  | 10 - 25  | 6 - 16   | 6 - 16   | 6 - 16   | 6 - 10   | 8 - 32            | 8 - 32 | 220 x 105      |
| <b>MAGIC P JOINT Y95-S</b>   | MPOWERJOINT-Y95S | 95 - 300   | 70 - 150  | 25 - 95  | 16 - 50  | 16 - 70  | 16 - 35  | 16 - 50  | 10 - 35  | 15 - 42           | 8 - 32 | 315 x 115      |
| <b>MAGIC P JOINT Y240-S*</b> | MPOWERJOINTY240S | 240 - 630  | 150 - 630 | 95 - 240 | 50 - 240 | 70 - 240 | 35 - 240 | 50 - 240 | 35 - 240 | 65 max            |        | 600 x 285      |

\* also for aluminium cables. T : Through - B : Branch

## MAGIC POWER JOINT L-ARM

Straight joint for 0,6/1 kV extruded cables with tape, wire or plate armouring.



| PRODUCT / Item                                   | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |           | max cables Ø (mm) | Dimension (mm) |
|--|--|-----------|-----------|-------------------|----------------|
|  | 2x   | 3x        | 4x        |                   |                |
| <b>MAGIC P JOINT L10-ARM</b><br>MPJOINTL10-ARM   | 1,5 - 10   | 1,5 - 6   | 1,5 - 6   | 8 - 27            | 180 x 50       |
| <b>MAGIC P JOINT L25-ARM</b><br>MPJOINTL25-ARM   | 4 - 25   | 4 - 16    | 2,5 - 16  | 8 - 32            | 215 x 55       |
| <b>MAGIC P JOINT L35-ARM</b><br>MPJOINTL35-ARM   | 16 - 35  | 16 - 25   | 16 - 25   | 12 - 33           | 232 x 70       |
| <b>MAGIC P JOINT L50-ARM</b><br>MPJOINTL50-ARM   | 16 - 50  | 16 - 50   | 16 - 50   | 14 - 34           | 266 x 72       |
| <b>MAGIC P JOINT L120-ARM</b><br>MPJOINTL120-ARM | 70 - 120   | 70 - 120  | 50 - 95   | 25 - 50           | 365 x 95       |
| <b>MAGIC P JOINT L240-ARM</b><br>MPJOINTL240-ARM | 120 - 300  | 120 - 185 | 120 - 185 | 30 - 75           | 510 x 120      |
| <b>MAGIC P JOINT L300-ARM</b><br>MPJOINTL300-ARM | 240 - 400  | 240 - 300 | 240 - 300 | 41 - 78           | 760 x 180      |



| For ALUMINIUM cables                             | 2x        | 3x        | 4x        | (mm)    | (mm)      |
|--|-----------|-----------|-----------|---------|-----------|
| <b>MAGIC P JOINT L50-ARM</b><br>MPJOINTL50-ARM   | 16 - 25   | 16 - 25   | 16 - 25   | 14 - 34 | 266 x 72  |
| <b>MAGIC P JOINT L120-ARM</b><br>MPJOINTL120-ARM | 25 - 95   | 25 - 95   | 25 - 95   | 25 - 50 | 365 x 95  |
| <b>MAGIC P JOINT L240-ARM</b><br>MPJOINTL240-ARM | 95 - 185  | 95 - 185  | 95 - 185  | 30 - 75 | 510 x 120 |
| <b>MAGIC P JOINT L300-ARM</b><br>MPJOINTL300-ARM | 185 - 300 | 185 - 300 | 185 - 300 | 41 - 78 | 760 x 180 |

## MAGIC POWER JOINT Y-ARM

Branch joint for 0,6/1 kV extruded cables with tape, wire or plate armouring.



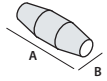
| PRODUCT                          | Item             | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |          |          |          |          | max cables Ø (mm) |        | Dimension (mm) |
|----------------------------------|------------------|--|----------|----------|----------|----------|----------|-------------------|--------|----------------|
|                                  |                  | 2x   |          | 3x       |          | 4x       |          | T                 | B      |                |
|                                  |                  | T  | B        | T        | B        | T        | B        |                   |        |                |
| <b>MAGIC P JOINT Y6-ARM-F</b>    | MPJOINTY6-ARM-F  | 4 - 10   | 4 - 10   | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 8 - 27            | 8 - 27 | 180 x 90       |
| <b>MAGIC P JOINT Y25-ARM-F</b>   | MPJOINTY25-ARM-F | 10 - 25  | 10 - 25  | 6 - 16   | 6 - 16   | 6 - 16   | 6 - 10   | 8 - 32            | 8 - 32 | 220 x 105      |
| <b>MAGIC P JOINT Y95-ARM-F</b>   | MPJOINTY95-ARM-F | 25 - 70  | 16 - 50  | 25 - 70  | 16 - 35  | 25 - 50  | 10 - 35  | 15 - 42           | 8 - 32 | 315 x 115      |
| <b>MAGIC P JOINT Y240-ARM-F*</b> | MPJOINTY240ARM-F | 70 - 240   | 50 - 240 | 70 - 240 | 35 - 240 | 50 - 240 | 35 - 240 | 65 max            |        | 600 x 285      |

| PRODUCT                        | Item           | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |          |          |          |          | max cables Ø (mm) |        | Dimension (mm) |
|--------------------------------|----------------|--|----------|----------|----------|----------|----------|-------------------|--------|----------------|
|                                |                | 2x   |          | 3x       |          | 4x       |          | T                 | B      |                |
|                                |                | T  | B        | T        | B        | T        | B        |                   |        |                |
| <b>MAGIC P JOINT Y6-ARM</b>    | MPJOINTY6-ARM  | 4 - 10   | 4 - 10   | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 8 - 27            | 8 - 27 | 180 x 90       |
| <b>MAGIC P JOINT Y25-ARM</b>   | MPJOINTY25-ARM | 10 - 25  | 10 - 25  | 6 - 16   | 6 - 16   | 6 - 16   | 6 - 10   | 8 - 32            | 8 - 32 | 220 x 105      |
| <b>MAGIC P JOINT Y95-ARM</b>   | MPJOINTY95-ARM | 25 - 70  | 16 - 50  | 25 - 70  | 16 - 35  | 25 - 50  | 10 - 35  | 15 - 42           | 8 - 32 | 315 x 115      |
| <b>MAGIC P JOINT Y240-ARM*</b> | MPJOINTY240ARM | 70 - 240   | 50 - 240 | 70 - 240 | 35 - 240 | 50 - 240 | 35 - 240 | 65 max            |        | 600 x 285      |

\* also for aluminium cables. T: Through - B: Branch

## MAGIC POWER JOINT-SL

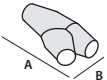
Straight joint for signaling and control multi core extruded 0,6/1 kV cables



| PRODUCT            | Item            | Conductor (mm <sup>2</sup> ) | Cable formation (n° conductors) |    |     |     |     |     |     |     |     |      |      |      | max cables Ø (mm) | Dimension (mm) |         |           |
|--------------------|-----------------|------------------------------|---------------------------------|----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------------------|----------------|---------|-----------|
|                    |                 |                              | 5x                              | 7x | 10x | 12x | 16x | 19x | 24x | 40x | 75x | 100x | 250x | 500x |                   |                |         |           |
| MAGIC P JOINT SL11 | MPOWERJOINTSL11 | 1,5<br>2,5                   | •                               | •  | •   | •   | •   |     |     |     |     |      |      |      |                   |                | 8 - 27  | 180 x 50  |
| MAGIC P JOINT SL12 | MPOWERJOINTSL12 | 1,5<br>2,5                   |                                 |    | •   | •   | •   | •   | •   |     |     |      |      |      |                   |                | 8 - 32  | 215 x 55  |
| MAGIC P JOINT SL13 | MPOWERJOINTSL13 | 1,5<br>2,5                   |                                 |    |     |     | •   | •   | •   | •   |     |      |      |      |                   |                | 14 - 34 | 266 x 72  |
| MAGIC P JOINT SL14 | MPOWERJOINTSL14 | 1,5<br>2,5                   |                                 |    |     |     |     |     |     | •   | •   | •    |      |      |                   |                | 15 - 42 | 330 x 75  |
| MAGIC P JOINT SL15 | MPOWERJOINTSL15 | 1,5<br>2,5                   |                                 |    |     |     |     |     |     | •   | •   | •    |      |      |                   |                | 25 - 50 | 365 x 95  |
| MAGIC P JOINT SL16 | MPOWERJOINTSL16 | 1,5<br>2,5                   |                                 |    |     |     |     |     |     |     | •   | •    | •    |      |                   |                | 30 - 75 | 510 x 120 |
| MAGIC P JOINT SL17 | MPOWERJOINTSL17 | 1,5<br>2,5                   |                                 |    |     |     |     |     |     |     |     | •    | •    | •    |                   |                | 41 - 78 | 760 x 180 |

## MAGIC POWER JOINT-SY

Branch joint for signaling and control multi core extruded 0,6/1 kV cables.

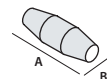


| PRODUCT           | Item           | Conductor (mm <sup>2</sup> ) | Cable formation (n° conductors) |    |     |     |     |     |     |     |     |      |      |      | max cables Ø (mm) |   | Dimension (mm) |        |           |
|-------------------|----------------|------------------------------|---------------------------------|----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------------------|---|----------------|--------|-----------|
|                   |                |                              | 5x                              | 7x | 10x | 12x | 16x | 19x | 24x | 40x | 75x | 100x | 250x | 500x | T                 | B |                |        |           |
| MAGIC P JOINT SY1 | MPOWERJOINTSY1 | 1,5<br>2,5                   | •                               | •  | •   | •   | •   | •   |     |     |     |      |      |      |                   |   | 8 - 27         | 8 - 27 | 180 x 90  |
| MAGIC P JOINT SY2 | MPOWERJOINTSY2 | 1,5<br>2,5                   |                                 |    | •   | •   | •   | •   | •   |     |     |      |      |      |                   |   | 8 - 32         | 8 - 32 | 220 x 105 |
| MAGIC P JOINT SY3 | MPOWERJOINTSY3 | 1,5<br>2,5                   |                                 |    |     |     | •   | •   | •   | •   |     |      |      |      |                   |   | 15 - 42        | 8 - 32 | 315 x 115 |
| MAGIC P JOINT SY4 | MPOWERJOINTSY4 | 1,5<br>2,5                   |                                 |    |     |     |     |     |     |     | •   | •    | •    | •    | •                 |   | 65 max         |        | 600 x 285 |

T: Through - B: Branch

## MAGIC POWER JOINT-T e TS

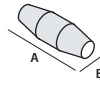
Straight joint for Telecom cables.



| UNSCREENED          |                   | SCREENED             |                    | N° pairs per conductor cross sections (n° x mm <sup>2</sup> ) | max cables Ø (mm) | Dimension (mm) |
|---------------------|-------------------|----------------------|--------------------|---|-------------------|----------------|
| PRODUCT             | Item              | PRODUCT              | Item               |   |                   |                |
| MAGIC P JOINT T16   | MPOWERJOINT-T16   | MAGIC P JOINT TS16   | MPOWERJOINT-TS16   | 1 - 16 x 0,5 - 0,6  | 8 - 27            | 180 x 50       |
| MAGIC P JOINT T25   | MPOWERJOINT-T25   | MAGIC P JOINT TS25   | MPOWERJOINT-TS25   | 16 - 25 x 0,5 - 0,6   | 8 - 32            | 215 x 55       |
| MAGIC P JOINT T35   | MPOWERJOINT-T35   | MAGIC P JOINT TS35   | MPOWERJOINT-TS35   | 25 - 35 x 0,5 - 0,6   | 12 - 33           | 266 x 72       |
| MAGIC P JOINT T40   | MPOWERJOINT-T40   | MAGIC P JOINT TS40   | MPOWERJOINT-TS40   | 35 - 40 x 0,5 - 0,6   | 15 - 42           | 330 x 75       |
| MAGIC P JOINT T64   | MPOWERJOINT-T64   | MAGIC P JOINT TS64   | MPOWERJOINT-TS64   | 40 - 64 x 0,5 - 0,6   | 25 - 50           | 365 x 95       |
| MAGIC P JOINT T500  | MPOWERJOINT-T500  | MAGIC P JOINT TS500  | MPOWERJOINT-TS500  | 60 - 500 x 0,5 - 0,6  | 30 - 75           | 510 x 120      |
| MAGIC P JOINT T1000 | MPOWERJOINT-T1000 | MAGIC P JOINT TS1000 | MPOWERJOINT-TS1000 | 450 - 1000 x 0,5 - 0,6  | 41 - 78           | 760 x 180      |

## MAGIC POWER JOINT SYSTEM PLUS L

Straight joint + Five-core spacer + Screw connectors.

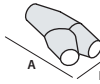


| PRODUCT / Item                              | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |         |         |         | max cables Ø (mm) | Dimension (mm) |
|---|--|---------|---------|---------|-------------------|----------------|
|   | 2x   | 3x      | 4x      | 5x      |                   |                |
| <b>MAGIC P JOINT SP L6</b><br>MPOWERJSPL6   | 1,5 - 6  | 1,5 - 6 | 1,5 - 6 | 1,5 - 6 | 8 - 27            | 180 x 50       |
| <b>MAGIC P JOINT SP L16</b><br>MPOWERJSPL16 | 4 - 16   | 4 - 16  | 4 - 16  | 4 - 16  | 8 - 32            | 215 x 55       |
| <b>MAGIC P JOINT SP L25</b><br>MPOWERJSPL25 | 4 - 25   | 4 - 25  | 4 - 25  | 4 - 25  | 8 - 32            | 215 x 65       |



## MAGIC POWER JOINT SYSTEM PLUS Y

Y Branch joint + Five-core spacer + Screw connectors.



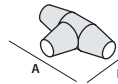
| PRODUCT / Item                              | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |       |       |       |       |       |       |       | max cables Ø (mm)                  | Dimension (mm) |
|---|--|-------|-------|-------|-------|-------|-------|-------|------------------------------------|----------------|
|   | 2x   |       | 3x    |       | 4x    |       | 5x    |       |                                    |                |
|   | T  | B     | T     | B     | T     | B     | T     | B     |                                    |                |
| <b>MAGIC P JOINT SP Y6</b><br>MPOWERJSPY6   | 1,5-6  | 1,5-4 | 1,5-6 | 1,5-4 | 1,5-6 | 1,5-4 | 1,5-6 | 1,5-4 | <b>T</b> 8 - 27<br><b>B</b> 8 - 27 | 180 x 90       |
| <b>MAGIC P JOINT SP Y16</b><br>MPOWERJSPY16 | 4-16   | 1,5-4 | 4-16  | 1,5-4 | 4-16  | 1,5-4 | 4-16  | 1,5-4 | <b>T</b> 8 - 32<br><b>B</b> 8 - 32 | 220 x 105      |

T : Through - B : Branch



## MAGIC POWER JOINT SYSTEM PLUS T

T Branch joint + Four-core spacer + Screw connectors.



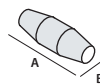
| PRODUCT / Item                              | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |        |          |        |          | max cables Ø (mm)                    | Dimension (mm) |
|---|--|----------|--------|----------|--------|----------|--------------------------------------|----------------|
|   | 2x   |          | 3x     |          | 4x     |          |                                      |                |
|   | T  | B        | T      | B        | T      | B        |                                      |                |
| <b>MAGIC P JOINT SP T35</b><br>MPOWERJSPT35 | 6 - 35   | 1,5 - 10 | 6 - 35 | 1,5 - 10 | 6 - 35 | 1,5 - 10 | <b>P</b> 22 - 42<br><b>D</b> 22 - 42 | 305 x 155      |

T : Through - B : Branch



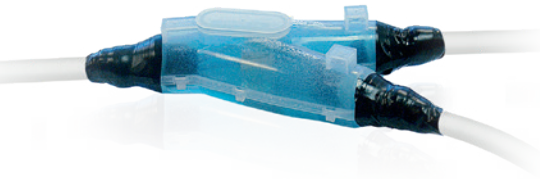
## MAGIC POWER JOINT SYSTEM FAST RP

Straight joint + Shear bolt connectors.



| PRODUCT / Item   | Cable formation from 2x to 4x (n° x mm <sup>2</sup> ) |            | max cables Ø (mm) | Dimension (mm) |
|--|---|------------|-------------------|----------------|
| <b>MAGIC P JOINT L 35- RP/16</b><br>MPOWERJL35RP16     | Cu 1,5 - 16   | Al 10 - 16 | 12 - 33           | 232 x 70       |
| <b>MAGIC P JOINT L 35- RP/35</b><br>MPOWERJL35RP35     | 10 - 35   |            | 12 - 33           | 232 x 70       |
| <b>MAGIC P JOINT L 50- RP/50</b><br>MPOWERJL50RP50     | 25 - 50   |            | 14 - 34           | 266 x 72       |
| <b>MAGIC P JOINT L 120- RP/120</b><br>MPOWERJL120RP120 | 35 - 120  |            | 25 - 50           | 365 x 95       |
| <b>MAGIC P JOINT L 240- RP/150</b><br>MPOWERJL240RP150 | 35 - 150  |            | 30 - 75           | 510 x 120      |





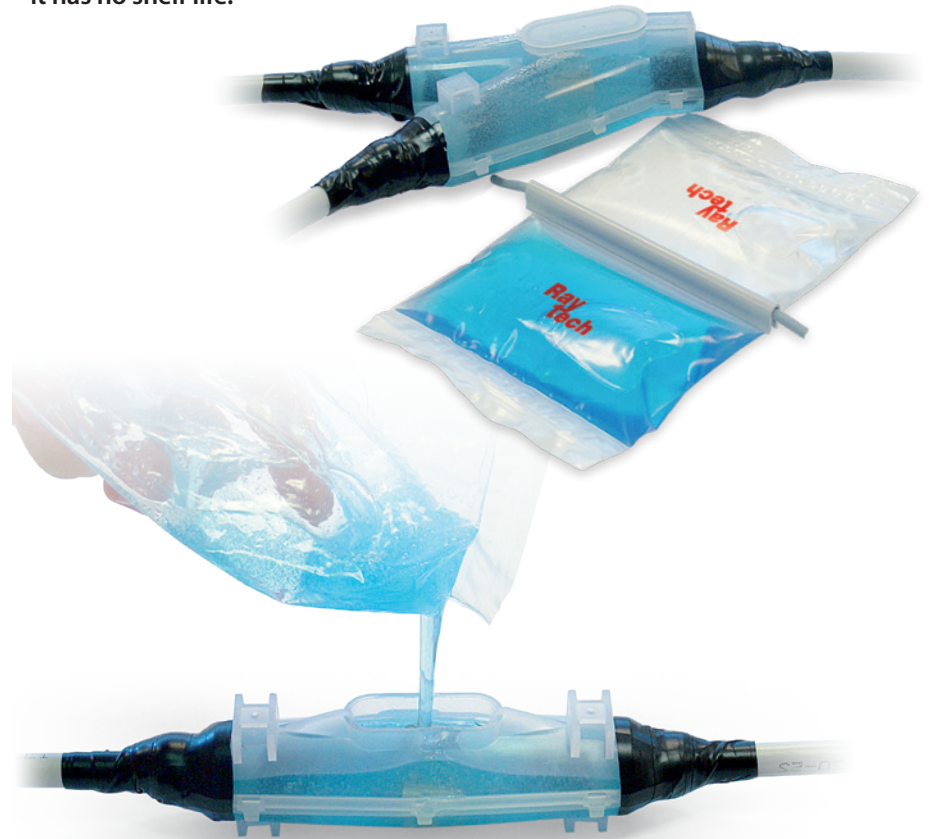
# MAGIC JOINT

Straight or branch joint with Magic Gel filling gel for extruded insulation cables up to 1 kV.

Joints for extruded cables F(R)G7OR 0.6/1 kV. Easy installation, composed of two anti-fracture plastic shells, to be filled with non-toxic quick cross linking two-component insulation with no shelf life, Magic Gel type. Suitable for installation in traps, channels or directly underground or under water. Non-toxic, safe, light and re-enterable. Thanks to the softness of the insulation, they are able to absorb external shock without cracking or fracturing. The extreme stickiness of the insulation, together with its softness allow it to transmit water pressure for installation even at high depths. Thanks to the materials used, joints are completely non-toxic, safe, re-enterable even after long periods of operation.

## ADVANTAGES

- ▶ Quick cross linking gel, (only 10 minutes at 23°C) .
- ▶ Extremely adherent and tight sealing.
- ▶ The gel is not-classified as hazardous under the CLP Directive and it has no shelf life.



### Electrical performance:

- CEI EN 50393 with connectors complying with EN 61238-1
- Class 2 in accordance with CEI 64-8.

🔹 Gel: UL 94-HB c  us

🌡 Working temperature: 90°C

🌡 Installation temperature: -15°C / +55°C

🌊 Fully submersible

🔧 Can be used underground

🌿 Halogen-free Gel

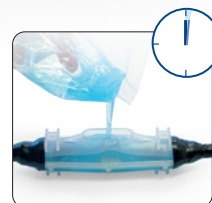
IP68



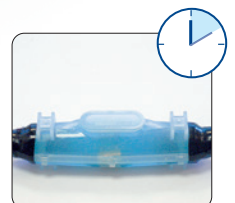
Slip off the separator.



Mix for 20 seconds maximum



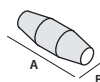
Pour within a minute.



After 10 minutes, Magic joint is ready.

## MAGIC JOINT

Straight joint for 0.6/1 kV extruded cables.



| PRODUCT / Item                       | Cable formation and conductor cross sections (n° x mm²) |           |           |            | max cables Ø (mm) | Dimension (mm) |
|--------------------------------------|---|-----------|-----------|------------|-------------------|----------------|
|                                      | 1x  | 2x        | 3x        | 4x         |                   |                |
| <b>MAGIC JOINT 4</b><br>100004-002   | 1,5 - 25  | 1,5 - 4   | 1,5 - 4   | 1,5 - 4    | 10 - 18           | 160 x 45       |
| <b>MAGIC JOINT 10</b><br>100001-MAG  | 2,5 - 50  | 1,5 - 10  | 1,5 - 10  | 1,5 - 10 * | 8 - 27            | 180 x 50       |
| <b>MAGIC JOINT 25</b><br>100002-MAG  | 16 - 150  | 4 - 25    | 4 - 25    | 2,5 - 25   | 8 - 32            | 215 x 55       |
| <b>MAGIC JOINT 35</b><br>100035-002  | 16 - 185  | 16 - 35   | 16 - 35   | 16 - 35    | 12 - 33           | 232 x 70       |
| <b>MAGIC JOINT 50</b><br>100005-MAG  | 50 - 300  | 16 - 50   | 16 - 50   | 16 - 50    | 14 - 34           | 266 x 72       |
| <b>MAGIC JOINT 95</b><br>100003-MAG  | 120 - 400   | 25 - 95   | 25 - 95   | 25 - 95    | 15 - 42           | 330 x 75       |
| <b>MAGIC JOINT 120</b><br>100007-MAG | 240 - 500   | 70 - 120  | 70 - 120  | 50 - 120   | 25 - 50           | 365 x 95       |
| <b>MAGIC JOINT 240</b><br>100004-MAG | 400 - 1000  | 120 - 300 | 120 - 240 | 120 - 240  | 30 - 75           | 510 x 120      |
| <b>MAGIC JOINT 300</b><br>100009-000 | 630 - 2000  | 240 - 400 | 240 - 300 | 240 - 300  | 41 - 78           | 760 x 180      |

| For ALUMINIUM cables                 | 1x         | 2x        | 3x        | 4x        | (mm)    | (mm)      |
|--------------------------------------|------------|-----------|-----------|-----------|---------|-----------|
| <b>MAGIC JOINT 50</b><br>100005-MAG  | 16 - 150   | 16 - 25   | 16 - 25   | 16 - 25   | 14 - 34 | 266 x 72  |
| <b>MAGIC JOINT 120</b><br>100007-MAG | 185 - 400  | 25 - 95   | 25 - 95   | 25 - 95   | 25 - 50 | 365 x 95  |
| <b>MAGIC JOINT 240</b><br>100004-MAG | 400 - 630  | 95 - 185  | 95 - 185  | 95 - 185  | 30 - 75 | 510 x 120 |
| <b>MAGIC JOINT 300</b><br>100009-000 | 630 - 2000 | 185 - 300 | 185 - 300 | 185 - 300 | 41 - 78 | 760 x 180 |

\* Magic Joint 10 suggested for cable diameters smaller than 16 mm.



## MAGIC JOINT Y

Branch joint for 0.6/1 kV extruded cables.

| PRODUCT                                | Cable formation and conductor cross sections (n° x mm²) |           |          |          |          |          |          |          | max cables Ø (mm) |        | Dimension (mm) |
|--|---|-----------|----------|----------|----------|----------|----------|----------|-------------------|--------|----------------|
|  | 1x  |           | 2x       |          | 3x       |          | 4x       |          | T                 | B      |                |
|  | T   | B         | T        | B        | T        | B        | T        | B        |                   |        |                |
| <b>MAGIC JOINT Y6</b><br>100006-MAG    | 4 - 50  | 4 - 50    | 4 - 10   | 4 - 10   | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 2,5 - 6  | 8 - 27            | 8 - 27 | 180 x 90       |
| <b>MAGIC JOINT Y25</b><br>100025-MAG   | 50 - 150  | 50 - 150  | 10 - 25  | 10 - 25  | 6 - 25   | 6 - 16   | 6 - 25   | 6 - 10   | 8 - 32            | 8 - 32 | 220 x 105      |
| <b>MAGIC JOINT Y95</b><br>100095-MAG   | 120 - 400   | 95 - 240  | 25 - 95  | 16 - 50  | 25 - 95  | 16 - 50  | 25 - 95  | 10 - 50  | 15 - 42           | 8 - 32 | 315 x 115      |
| <b>MAGIC JOINT Y240*</b><br>100240-MAG | 240 - 630   | 240 - 630 | 95 - 240 | 50 - 240 | 95 - 240 | 50 - 240 | 95 - 240 | 50 - 240 | 65 max            |        | 600 x 285      |

\* also for aluminium cables. T: Through - B: Branch




# SEAL UP JOINT

## NEW

### Electrical performance:

- CEI EN 50393  
with connectors complying with EN 61238-1
- Class 2 in accordance with CEI 64-8.

 Working temperature: 90°C

 Installation temperature: -15°C / +55°C

## IP68

### Technical characteristics of shells:

#### Material:

PP – POLYPROPYLENE

#### Dielectric strength:

52 kV/mm

#### Volume resistivity:

10<sup>16</sup> Ω cm

#### Thermal conductivity:

0,2 W/mK

#### Operating Temperature:

Up to 120°C

## SEAL UP RESIN

### Technical characteristics of the filler resin:

#### Dielectric strength:

20 kV/mm

#### Curing time:

15/20 min. at 23/25°C

#### Volume resistivity:

2.10<sup>15</sup> Ω cm

#### Cone penetration:

120 1/10 mm (ASTM D217/C)

#### Thermal conductivity:

0,2 W/mK

#### Operating Temperature:

-60/+200°C

#### Overload temperature for short periods of time:

Up to 250°C

#### Water absorption after 30 days of immersion:

<< 0,05%

# SEAL UP JOINT

IP68 joint range, for splicing or branching 0.6/1 kV cables, with two-component solid-plastic resin sealant. Ideal for underground and submerged use.

**Seal Up Joint** is a range consisting of polypropylene shells/casings, a material characterized by excellent chemical resistance, resistant to many polar organic solvents and aqueous solutions containing inorganic salts, acids, strong alkalis, bases, alcohols, aldehydes, ketones, esters, weak acids and alkaline solutions, alcohol and some oils;

- ▶ Low permeability to gases such as carbon dioxide, hydrocarbons and chlorohydrocarbons at low boiling point.
- ▶ Long durability and resistant to abrasion and wear.
- ▶ High load/resistance to dynamic loads.
- ▶ Weather resistant.
- ▶ Good electrical insulator.
- ▶ Good thermal resistance.
- ▶ 100% recyclable.



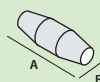
The joints are supplied complete with two-component solid-plastic resin sealant **Seal Up Resin**: a removable, tough resin with high mechanical resistance developed to prevent the penetration of moisture in both electrical and electronic fields.

- ▶ REACH compliant and free of substances classified as hazardous according to the current CLP regulation.
- ▶ Resistant to mold and UV rays.
- ▶ No shelf life.
- ▶ Isocyanate-free resin.



## SEAL UP JOINT L

Straight joint for 0.6/1 kV extruded cables.



| PRODUCT / Item                  | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |           |            | max cables Ø (mm) | Dimension (mm) |
|---------------------------------|--|-----------|-----------|------------|-------------------|----------------|
|                                 | 1x   | 2x        | 3x        | 4x         |                   |                |
| SEALUPJ L10<br>SEALUPJL10       | 2,5 - 50   | 1,5 - 10  | 1,5 - 10  | 1,5 - 10 * | 8 - 27            | 180 x 50       |
| SEALUPJ L16/25<br>SEALUPJL16/25 | 16 - 150   | 4 - 25    | 4 - 25    | 2,5 - 25   | 8 - 32            | 215 x 55       |
| SEALUPJ L35<br>SEALUPJL35       | 16 - 185   | 16 - 35   | 16 - 35   | 16 - 35    | 12 - 33           | 232 x 70       |
| SEALUPJ L50<br>SEALUPJL50       | 50 - 300   | 16 - 50   | 16 - 50   | 16 - 50    | 14 - 34           | 266 x 72       |
| SEALUPJ L95<br>SEALUPJL95       | 120 - 400  | 25 - 95   | 25 - 95   | 25 - 95    | 15 - 42           | 330 x 75       |
| SEALUPJ L120<br>SEALUPJL120     | 240 - 500  | 70 - 120  | 70 - 120  | 50 - 120   | 25 - 50           | 365 x 95       |
| SEALUPJ L240<br>SEALUPJL240     | 400 - 1000   | 120 - 300 | 120 - 240 | 120 - 240  | 30 - 75           | 510 x 120      |

| For ALUMINIUM cables         | 1x        | 2x       | 3x       | 4x       | (mm)    | (mm)      |
|------------------------------|-----------|----------|----------|----------|---------|-----------|
| SEALUPJ L50<br>SEALUPJL50    | 16 - 150  | 16 - 25  | 16 - 25  | 16 - 25  | 14 - 34 | 266 x 72  |
| SEALUPJ L120<br>SEALUPJL120  | 185 - 400 | 25 - 95  | 25 - 95  | 25 - 95  | 25 - 50 | 365 x 95  |
| SEALUPJ L 240<br>SEALUPJL240 | 400 - 630 | 95 - 185 | 95 - 185 | 95 - 185 | 30 - 75 | 510 x 120 |

\* Seal Up Joint L10 suggested for cable diameters smaller than 16 mm.

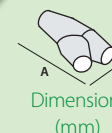


## SEAL UP JOINT D

Branch joint for 0.6/1 kV extruded cables.

| PRODUCT / Item                    | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |         |         |         |         |         |         | max cables Ø (mm) |        | Dimension (mm) |
|-----------------------------------|--|----------|---------|---------|---------|---------|---------|---------|-------------------|--------|----------------|
|                                   | 1x   |          | 2x      |         | 3x      |         | 4x      |         | T                 | B      |                |
| SEALUPJ D6<br>SEALUPJD6           | T  | B        | T       | B       | T       | B       | T       | B       | T                 | B      | 180 x 90       |
| SEALUPJ D16/D25<br>SEALUPJD16-D25 | 4 - 50   | 4 - 50   | 4 - 10  | 4 - 10  | 2,5 - 6 | 2,5 - 6 | 2,5 - 6 | 2,5 - 6 | 8 - 27            | 8 - 27 | 220 x 105      |
| SEALUPJ D95<br>SEALUPJD95         | 50 - 150   | 50 - 150 | 10 - 25 | 10 - 25 | 6 - 25  | 6 - 16  | 6 - 25  | 6 - 10  | 8 - 32            | 8 - 32 | 315 x 115      |
|                                   | 120 - 400  | 95 - 240 | 25 - 95 | 16 - 50 | 25 - 95 | 16 - 50 | 25 - 95 | 10 - 50 | 15 - 42           | 8 - 32 |                |

T: Through - B: Branch



## SEAL UP RESIN

| PRODUCT / Item                        | Colour | Package type                  | Total quantity |
|---------------------------------------|--------|-------------------------------|----------------|
| SEAL UP RESIN 170<br>SEALUPRESIN170   | ●      | Two-component single dose bag | 170 gr         |
| SEAL UP RESIN 210<br>SEALUPRESIN210   | ●      | Two-component single dose bag | 210 gr         |
| SEAL UP RESIN 420<br>SEALUPRESIN420   | ●      | Two-component single dose bag | 420 gr         |
| SEAL UP RESIN 10K<br>SEALUPRESIN10K   | ●      | 5 liter tanks A+B             | 10 lt          |
| SEAL UP RESIN 200K<br>SEALUPRESIN200K | ●      | 200 liter drums A+B           | 400 lt         |




Electrical performance:

- CEI EN 50393 with connectors complying with EN 61238-1
- Class 2 in accordance with CEI 64-8.

 Working temperature: 90°C

 Installation temperature: 0°C / +45°C

 Can be used underground



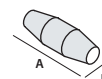
# RAY CAST

Straight or branch joint with two-component epoxy resin insulation for 0.6/1 kV cables.

Straight or branch joints for 0.6/1 kV extruded cables: easily installed, composed of two anti-fracture plastic shells, to be filled with two-component epoxy resin such as Rayresin. For installation in trays, channels or directly underground.

## RAYCAST L

Straight joint.



| PRODUCT / Item                      | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |           |            | max cables Ø (mm) | Dimension (mm) |
|-------------------------------------|--|-----------|-----------|------------|-------------------|----------------|
|                                     | 1x   | 2x        | 3x        | 4x         |                   |                |
| <b>RAYCAST L10</b><br>100001-000    | 2,5 - 50   | 1,5 - 10  | 1,5 - 10  | 1,5 - 10 * | 8 - 27            | 180 x 50       |
| <b>RAYCAST L16/25</b><br>100002-000 | 16 - 150   | 4 - 25    | 4 - 25    | 2,5 - 25   | 8 - 32            | 215 x 55       |
| <b>RAYCAST L35</b><br>100035-001    | 16 - 185   | 16 - 35   | 16 - 35   | 16 - 35    | 12 - 33           | 232 x 70       |
| <b>RAYCAST L50</b><br>100500-000    | 50 - 300   | 16 - 50   | 16 - 50   | 16 - 50    | 14 - 34           | 266 x 72       |
| <b>RAYCAST L95</b><br>100095-000    | 120 - 400  | 25 - 95   | 25 - 95   | 25 - 95    | 15 - 42           | 330 x 75       |
| <b>RAYCAST L120</b><br>100120-000   | 240 - 500  | 70 - 120  | 70 - 120  | 50 - 120   | 25 - 50           | 365 x 95       |
| <b>RAYCAST L240</b><br>100240-000   | 400 - 1000   | 120 - 300 | 120 - 240 | 120 - 240  | 30 - 75           | 510 x 120      |

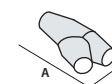
| PRODUCT / Item                    | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |          |          | Dimension (mm) |           |
|-----------------------------------|--|----------|----------|----------|----------------|-----------|
|                                   | 1x   | 2x       | 3x       | 4x       | (mm)           | (mm)      |
| <b>RAYCAST L50</b><br>100500-000  | 16 - 150   | 16 - 25  | 16 - 25  | 16 - 25  | 14 - 34        | 266 x 72  |
| <b>RAYCAST L120</b><br>100120-000 | 185 - 400  | 25 - 95  | 25 - 95  | 25 - 95  | 25 - 50        | 365 x 95  |
| <b>RAYCAST L240</b><br>100240-000 | 400 - 630  | 95 - 185 | 95 - 185 | 95 - 185 | 30 - 75        | 510 x 120 |

\* Raycast L10 is suggested for cable diameters not exceeding 16 mm.



## RAYCAST D

Branch joint.

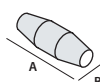


| PRODUCT / Item                       | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |                          |                          |                          |                         |                         |    |  | max cables Ø (mm) |   | Dimension (mm) |
|--------------------------------------|--|--------------------------|--------------------------|--------------------------|-------------------------|-------------------------|----|--|-------------------|---|----------------|
|                                      | 1x   |                          | 2x                       |                          | 3x                      |                         | 4x |  | T                 | B |                |
| <b>RAYCAST D6</b><br>100006-000      | T: 4 - 50<br>B: 4 - 50   | T: 4 - 10<br>B: 4 - 10   | T: 2,5 - 6<br>B: 2,5 - 6 | T: 2,5 - 6<br>B: 2,5 - 6 | T: 8 - 27<br>B: 8 - 27  | T: 8 - 27<br>B: 8 - 27  |    |  | 180 x 90          |   |                |
| <b>RAYCAST D16/D25</b><br>100016-000 | T: 50 - 150<br>B: 50 - 150   | T: 10 - 25<br>B: 10 - 25 | T: 6 - 25<br>B: 6 - 16   | T: 6 - 25<br>B: 6 - 10   | T: 8 - 32<br>B: 8 - 32  | T: 8 - 32<br>B: 8 - 32  |    |  | 220 x 105         |   |                |
| <b>RAYCAST D95</b><br>100095-001     | T: 120 - 400<br>B: 95 - 240  | T: 25 - 95<br>B: 16 - 50 | T: 25 - 95<br>B: 16 - 50 | T: 25 - 95<br>B: 10 - 50 | T: 15 - 42<br>B: 8 - 32 | T: 15 - 42<br>B: 8 - 32 |    |  | 315 x 115         |   |                |

T: Through - B: Branch

## RAYCAST L-S

Screened joint.

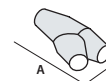


| PRODUCT / Item                      | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |           |           | max cables Ø (mm) | Dimension (mm) |
|-------------------------------------|--|-----------|-----------|-----------|-------------------|----------------|
|                                     | 1x   | 2x        | 3x        | 4x        |                   |                |
| <b>RAYCAST L10-S</b><br>100001-00S  | 2,5 - 50   | 1,5 - 10  | 1,5 - 6   | 1,5 - 6   | 8 - 27            | 180 x 50       |
| <b>RAYCAST L25-S</b><br>100025-00S  | 16 - 120   | 4 - 25    | 4 - 16    | 2,5 - 16  | 8 - 32            | 215 x 55       |
| <b>RAYCAST L35-S</b><br>100035-00S  | 16 - 185   | 16 - 35   | 16 - 25   | 16 - 25   | 12 - 33           | 232 x 70       |
| <b>RAYCAST L50-S</b><br>100050-00S  | 50 - 240   | 16 - 50   | 16 - 50   | 16 - 50   | 14 - 34           | 266 x 72       |
| <b>RAYCAST L120-S</b><br>100120-00S | 240 - 500  | 70 - 120  | 70 - 120  | 50 - 95   | 25 - 50           | 365 x 95       |
| <b>RAYCAST L240-S</b><br>100240-05S | 400 - 1000   | 120 - 300 | 120 - 185 | 120 - 185 | 30 - 75           | 510 x 120      |

| PRODUCT / Item                      | 1x                                 | 2x       | 3x       | 4x       | (mm)    | (mm)      |
|-------------------------------------|------------------------------------|----------|----------|----------|---------|-----------|
|                                     | <b>RAYCAST L50-S</b><br>100050-00S | 16 - 150 | 16 - 25  | 16 - 25  | 16 - 25 | 14 - 34   |
| <b>RAYCAST L120-S</b><br>100120-00S | 185 - 400                          | 25 - 95  | 25 - 95  | 25 - 95  | 25 - 50 | 365 x 95  |
| <b>RAYCAST L240-S</b><br>100240-05S | 400 - 630                          | 95 - 185 | 95 - 185 | 95 - 185 | 30 - 75 | 510 x 120 |

## RAYCAST D-S

Screened joint.



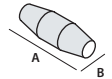
| PRODUCT / Item                     | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |         |         |         |         |         |         | max cables Ø (mm) |        | Dimension (mm) |
|------------------------------------|--|----------|---------|---------|---------|---------|---------|---------|-------------------|--------|----------------|
|                                    | 1x   |          | 2x      |         | 3x      |         | 4x      |         | T                 | B      |                |
|                                    | T  | B        | T       | B       | T       | B       | T       | B       | T                 | B      |                |
| <b>RAYCAST D6-S</b><br>100006-00S  | 4 - 35   | 4 - 35   | 4 - 10  | 4 - 10  | 2,5 - 6 | 1,5 - 6 | 2,5 - 6 | 2,5 - 6 | 8 - 27            | 8 - 27 | 180 x 90       |
| <b>RAYCAST D25-S</b><br>100017-00S | 35 - 120   | 35 - 120 | 10 - 25 | 10 - 25 | 6 - 16  | 6 - 16  | 6 - 16  | 6 - 10  | 8 - 32            | 8 - 32 | 220 x 105      |
| <b>RAYCAST D95-S</b><br>100950-00S | 95 - 300   | 70 - 150 | 25 - 95 | 16 - 50 | 16 - 70 | 16 - 35 | 16 - 50 | 10 - 35 | 15 - 42           | 8 - 32 | 315 x 115      |

T: Through - B: Branch



## RAYCAST L-ARM

Joint for tape, wire or plate armoured cables.

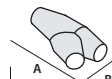


| PRODUCT / Item                         | Cable formation and conductor cross sections (n° x mm²) |           |           | max cables<br>Ø (mm) | Dimension<br>(mm) |
|--|---|-----------|-----------|----------------------|-------------------|
|  | 2x  | 3x        | 4x        |                      |                   |
| For <b>COPPER</b> cables               |   |           |           |                      |                   |
| <b>RAYCAST L10-ARM</b><br>100001-001   | 1,5 - 10  | 1,5 - 6   | 1,5 - 6   | 8 - 27               | 180 x 50          |
| <b>RAYCAST L25-ARM</b><br>100002-002   | 4 - 25  | 4 - 16    | 2,5 - 16  | 8 - 32               | 215 x 55          |
| <b>RAYCAST L35-ARM</b><br>100035-ARM   | 16 - 35   | 16 - 25   | 16 - 25   | 12 - 33              | 232 x 70          |
| <b>RAYCAST L50-ARM</b><br>100003-001   | 16 - 50   | 16 - 50   | 16 - 50   | 14 - 34              | 266 x 72          |
| <b>RAYCAST L120-ARM</b><br>100120-002  | 70 - 120  | 70 - 120  | 50 - 95   | 25 - 50              | 365 x 95          |
| <b>RAYCAST L240-ARM</b><br>100240-LARM | 120 - 300   | 120 - 185 | 120 - 185 | 30 - 75              | 510 x 120         |
| For <b>ALUMINIUM</b> cables            |   |           |           |                      |                   |
| <b>RAYCAST L50-ARM</b><br>100003-001   | 16 - 25   | 16 - 25   | 16 - 25   | (mm)<br>14 - 34      | (mm)<br>266 x 72  |
| <b>RAYCAST L120-ARM</b><br>100120-002  | 25 - 95   | 25 - 95   | 25 - 95   | (mm)<br>25 - 50      | (mm)<br>365 x 95  |
| <b>RAYCAST L240-ARM</b><br>100240-LARM | 95 - 185  | 95 - 185  | 95 - 185  | (mm)<br>30 - 75      | (mm)<br>510 x 120 |



## RAYCAST D-ARM

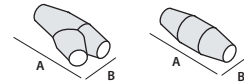
Joint for tape, wire or plate armoured cables.



| PRODUCT / Item                         | Cable formation and conductor cross sections (n° x mm²) |         |         |         |         |         | max cables Ø<br>(mm) |        | (mm)      |  |
|--|---|---------|---------|---------|---------|---------|----------------------|--------|-----------|--|
|  | 2x  |         | 3x      |         | 4x      |         | T                    | B      |           |  |
|  | T   | B       | T       | B       | T       | B       | T                    | B      | (mm)      |  |
| For <b>COPPER</b> cables               |   |         |         |         |         |         |                      |        |           |  |
| <b>RAYCAST D6-ARM-F</b><br>100006-002  | 4 - 10  | 4 - 10  | 2,5 - 6 | 2,5 - 6 | 2,5 - 6 | 2,5 - 6 | 8 - 27               | 8 - 27 | 180 x 90  |  |
| <b>RAYCAST D16-ARM-F</b><br>100016-002 | 10 - 25   | 10 - 25 | 6 - 16  | 6 - 16  | 6 - 16  | 6 - 10  | 8 - 32               | 8 - 32 | 220 x 105 |  |
| <b>RAYCAST D95-ARM-F</b><br>100095-003 | 25 - 70   | 16 - 50 | 25 - 70 | 16 - 35 | 25 - 50 | 10 - 35 | 15 - 42              | 8 - 32 | 315 x 115 |  |
| For <b>TAPE OR PLATE</b> armoured      |   |         |         |         |         |         |                      |        |           |  |
| <b>RAYCAST D6-ARM</b><br>100006-001    | 4 - 10  | 4 - 10  | 2,5 - 6 | 2,5 - 6 | 2,5 - 6 | 2,5 - 6 | 8 - 27               | 8 - 27 | 180 x 90  |  |
| <b>RAYCAST D16-ARM</b><br>100016-001   | 10 - 25   | 10 - 25 | 6 - 16  | 6 - 16  | 6 - 16  | 6 - 10  | 8 - 32               | 8 - 32 | 220 x 105 |  |
| <b>RAYCAST D95-ARM</b><br>100095-004   | 25 - 70   | 16 - 50 | 25 - 70 | 16 - 35 | 25 - 50 | 10 - 35 | 15 - 42              | 8 - 32 | 315 x 115 |  |

T: Through - B: Branch

JOINTS



## RAYCAST LPS / DPS

Joint for very deep submersible pumps.

For **COPPER** cables

| PRODUCT        | Item       | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |           |           | max cables<br>Ø (mm) | Dimension<br>(mm) |
|----------------|------------|--|-----------|-----------|-----------|----------------------|-------------------|
|                |            | 1x   | 2x        | 3x        | 4x        |                      |                   |
| RAYCAST LPS10  | 100010-LPS | 2,5 - 50   | 1,5 - 10  | 1,5 - 10  | 1,5 - 10  | 8 - 27               | 180 x 50          |
| RAYCAST LPS25  | 100025-LPS | 16 - 150   | 4 - 25    | 4 - 25    | 2,5 - 25  | 8 - 32               | 215 x 55          |
| RAYCAST LPS95  | 100095-LPS | 120 - 400  | 25 - 95   | 25 - 95   | 25 - 95   | 15 - 42              | 330 x 75          |
| RAYCAST LPS240 | 100240-LPS | 400 - 1000   | 120 - 300 | 120 - 240 | 120 - 240 | 30 - 75              | 510 x 120         |

For **COPPER** cables

| PRODUCT       | Item       | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |         |         |         |         |         |         | Ø max cables<br>(mm) |        | Dimension<br>(mm) |
|---------------|------------|--|----------|---------|---------|---------|---------|---------|---------|----------------------|--------|-------------------|
|               |            | 1x   |          | 2x      |         | 3x      |         | 4x      |         | T                    | B      |                   |
| RAYCAST DPS6  | 100006-DPS | 4 - 50   | 4 - 50   | 4 - 10  | 4 - 10  | 2,5 - 6 | 2,5 - 6 | 2,5 - 6 | 2,5 - 6 | 8 - 27               | 8 - 27 | 180 x 90          |
| RAYCAST DPS25 | 100025-DPS | 50 - 150   | 50 - 150 | 10 - 25 | 10 - 25 | 6 - 25  | 6 - 16  | 6 - 16  | 6 - 10  | 8 - 32               | 8 - 32 | 220 x 105         |
| RAYCAST DPS95 | 100095-DPS | 120 - 400  | 95 - 240 | 25 - 95 | 16 - 50 | 25 - 95 | 16 - 50 | 25 - 95 | 10 - 50 | 15 - 42              | 8 - 32 | 315 x 115         |

T: Through - B: Branch

## RAYCAST SL /SD

Joint for signalling and control.

| PRODUCT      | Item       | Conductor<br>(mm <sup>2</sup> ) | Cable formation (n° conductors) |    |     |     |     |     |     |     |     |      |      |  | max cables<br>Ø (mm) | Dimension<br>(mm) |
|--------------|------------|---------------------------------|---------------------------------|----|-----|-----|-----|-----|-----|-----|-----|------|------|--|----------------------|-------------------|
|              |            |                                 | 5x                              | 7x | 10x | 12x | 16x | 19x | 24x | 40x | 75x | 100x | 250x |  |                      |                   |
| RAYCAST SL11 | 100011-OSL | 1,5<br>2,5                      | •                               | •  | •   | •   | •   |     |     |     |     |      |      |  | 8 - 27               | 180 x 50          |
| RAYCAST SL12 | 100012-OSL | 1,5<br>2,5                      |                                 |    | •   | •   | •   | •   | •   |     |     |      |      |  | 8 - 32               | 215 x 55          |
| RAYCAST SL13 | 100013-OSL | 1,5<br>2,5                      |                                 |    |     |     | •   | •   | •   | •   |     |      |      |  | 14 - 34              | 266 x 72          |
| RAYCAST SL14 | 100014-OSL | 1,5<br>2,5                      |                                 |    |     |     |     |     | •   | •   | •   |      |      |  | 15 - 42              | 330 x 75          |
| RAYCAST SL15 | 100015-OSL | 1,5<br>2,5                      |                                 |    |     |     |     |     |     | •   | •   | •    |      |  | 25 - 50              | 365 x 95          |
| RAYCAST SL16 | 100016-OSL | 1,5<br>2,5                      |                                 |    |     |     |     |     |     |     | •   | •    | •    |  | 30 - 75              | 510 x 120         |

| PRODUCT     | Item       | Conductor<br>(mm <sup>2</sup> ) | Cable formation (n° conductors) |    |     |     |     |     |     | max cables Ø (mm) |     | Dimension<br>(mm) |        |           |
|-------------|------------|---------------------------------|---------------------------------|----|-----|-----|-----|-----|-----|-------------------|-----|-------------------|--------|-----------|
|             |            |                                 | 5x                              | 7x | 10x | 12x | 16x | 19x | 24x | 40x               | 75x |                   | T      | B         |
| RAYCAST SD1 | 100001-OSD | 1,5<br>2,5                      | •                               | •  | •   | •   | •   | •   |     |                   |     | 8 - 27            | 8 - 27 | 180 x 90  |
| RAYCAST SD2 | 100002-OSD | 1,5<br>2,5                      |                                 |    | •   | •   | •   | •   | •   |                   |     | 8 - 32            | 8 - 32 | 220 x 105 |
| RAYCAST SD3 | 100003-OSD | 1,5<br>2,5                      |                                 |    |     |     |     | •   | •   | •                 | •   | 15 - 42           | 8 - 32 | 315 x 115 |

T: Through - B: Branch

## RAYCAST TL AND TSL

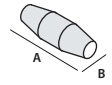
Straight joint for telephone cable.

| UNSCREENED    |            | SCREENED       |            | N° pairs per conductor<br>cross sections (n° x mm <sup>2</sup> ) | max cables<br>Ø (mm) | Dimension<br>(mm) |
|---------------|------------|----------------|------------|--|----------------------|-------------------|
| PRODUCT       | Item       | PRODUCT        | Item       |  |                      |                   |
| RAYCAST TL16  | 100016-OTL | RAYCAST TSL16  | 100016-TSL | 1 - 16 x 0,5 - 0,6   | 8 - 27               | 180 x 50          |
| RAYCAST TL25  | 100025-OTL | RAYCAST TSL25  | 100025-TSL | 16 - 25 x 0,5 - 0,6  | 8 - 32               | 215 x 55          |
| RAYCAST TL35  | 100035-OTL | RAYCAST TSL35  | 100035-TSL | 25 - 35 x 0,5 - 0,6  | 12 - 33              | 266 x 72          |
| RAYCAST TL40  | 100040-OTL | RAYCAST TSL40  | 100040-TSL | 35 - 40 x 0,5 - 0,6  | 15 - 42              | 330 x 75          |
| RAYCAST TL64  | 100064-OTL | RAYCAST TSL64  | 100064-TSL | 40 - 64 x 0,5 - 0,6  | 25 - 50              | 365 x 95          |
| RAYCAST TL500 | 100500-OTL | RAYCAST TSL500 | 100500-TSL | 60 - 500 x 0,5 - 0,6   | 30 - 75              | 510 x 120         |

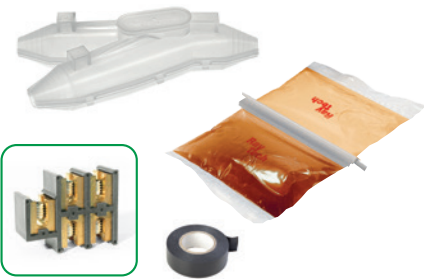


## RAYCAST SYSTEM PLUS L

Straight joint + Five-core spacer + Screw connectors.

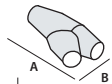


| PRODUCT / Item                | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |         |         |         | max cables<br>Ø (mm) | Dimension<br>(mm) |
|-------------------------------|--|---------|---------|---------|----------------------|-------------------|
|                               | 2x   | 3x      | 4x      | 5x      |                      |                   |
| RAYCAST SP L6<br>RAYCASTSPL6  | 1,5 - 6  | 1,5 - 6 | 1,5 - 6 | 1,5 - 6 | 8 - 27               | 180 x 50          |
| RAYCASTSP L16<br>RAYCASTSPL16 | 4 - 16   | 4 - 16  | 4 - 16  | 4 - 16  | 8 - 32               | 215 x 55          |
| RAYCASTSP L25<br>RAYCASTSPL25 | 4 - 25   | 4 - 25  | 4 - 25  | 4 - 25  | 8 - 32               | 215 x 65          |



## RAYCAST SYSTEM PLUS Y

Y Branch joint + Five-core spacer + Screw connectors.



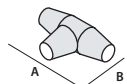
| PRODUCT / Item                 | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |       |       |       |       |       |       |       | max cables<br>Ø (mm) | Dimension<br>(mm) |
|--------------------------------|--|-------|-------|-------|-------|-------|-------|-------|----------------------|-------------------|
|                                | 2x   |       | 3x    |       | 4x    |       | 5x    |       |                      |                   |
|                                | T  | B     | T     | B     | T     | B     | T     | B     |                      |                   |
| RAYCAST SP D6<br>RAYCASTSPD6   | 1,5-6  | 1,5-4 | 1,5-6 | 1,5-4 | 1,5-6 | 1,5-4 | 1,5-6 | 1,5-4 | T 8 - 27<br>B 8 - 27 | 180 x 90          |
| RAYCAST SP D16<br>RAYCASTSPD16 | 4-16   | 1,5-4 | 4-16  | 1,5-4 | 4-16  | 1,5-4 | 4-16  | 1,5-4 | T 8 - 32<br>B 8 - 32 | 220 x 105         |

T : Through - B : Branch



## RAYCAST SYSTEM PLUS T

T Branch joint + Four-core spacer + Screw connectors.



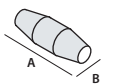
| PRODUCT / Item                  | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |          |        |          |        |          | max cables<br>Ø (mm)   | Dimension<br>(mm) |
|---------------------------------|--|----------|--------|----------|--------|----------|------------------------|-------------------|
|                                 | 2x   |          | 3x     |          | 4x     |          |                        |                   |
|                                 | T  | B        | T      | B        | T      | B        |                        |                   |
| RAYCAST SP T 35<br>RAYCASTSPT35 | 6 - 35   | 1,5 - 10 | 6 - 35 | 1,5 - 10 | 6 - 35 | 1,5 - 10 | T 22 - 42<br>B 22 - 42 | 305 x 155         |

T : Through - B : Branch



## RAYCAST SYSTEM FAST RP

Straight joint + Shear bolt connectors.



| PRODUCT / Item                            | Cable formation from 2x a 4x<br>(n° x mm <sup>2</sup> ) | max cables Ø<br>(mm) | Dimension<br>(mm) |
|---|---|----------------------|-------------------|
| RAYCAST L 35- RP/16<br>RAYCASTL35RP16     | 1,5 - 16  | 12 - 33              | 232 x 70          |
| RAYCAST L 35- RP/35<br>RAYCASTL35RP35     | 10 - 35   | 12 - 33              | 232 x 70          |
| RAYCAST L 50- RP/50<br>RAYCASTL50RP50     | 25 - 50   | 14 - 34              | 266 x 72          |
| RAYCAST L 120- RP/120<br>RAYCASTL120RP120 | 35 - 120  | 25 - 50              | 365 x 95          |
| RAYCAST L 240- RP/150<br>RAYCASTL240RP150 | 35 - 150  | 30 - 75              | 510 x 120         |

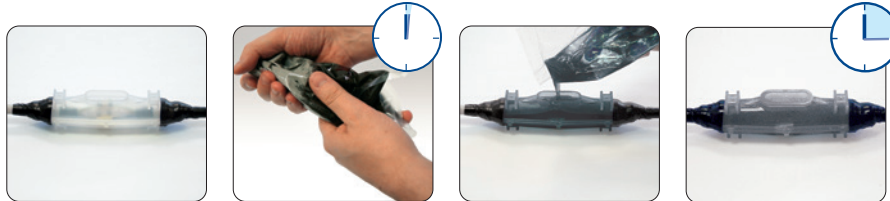
# RUBBER JOINT

Straight or branch joint with two-component cast quick cross linking rubber insulation for 0.6/1 kW cables.

With Magic Rubber insulation, designed and developed by Raytech for 0.6/1 kV cables. A range of accessories with extremely high mechanical characteristics, as well as dielectric and thermal properties. The range is re-enterable even after long periods of operation, is free of exotherm during cross linking, is extremely fast-acting and has no shelf life. Significant also for its very low emission of toxic and corrosive gases and fumes. Thanks to its exceptional mechanical characteristics, these joints are especially suitable for placement in traps or channels where there is the possibility of handling even after the laying of cables or, however, in cases of heavy abrasion, or mechanical stress within the normal parameters of installation and operation.

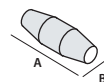
## ADVANTAGES

- ▶ Quick cross linking rubber (only 15 minutes).
- ▶ Very high mechanical and elastic characteristics.
- ▶ For 0.6/1 kV extruded cables.
- ▶ No shelf life.



## RUBBER JOINT

Straight joint for 0.6/1 kV extruded cables.



| PRODUCT / Item                            | Cable formation and conductor cross sections (n° x mm <sup>2</sup> ) |           |           |            | max cables<br>Ø (mm) | Dimension<br>(mm) |
|---|--|-----------|-----------|------------|----------------------|-------------------|
|   | 1x   | 2x        | 3x        | 4x         |                      |                   |
| <b>RUBBER JOINT 4</b><br>RUBBERJOINT4     | 1,5 - 25   | 1,5 - 4   | 1,5 - 4   | 1,5 - 4    | 10 - 18              | 160 x 45          |
| <b>RUBBER JOINT 10</b><br>RUBBERJOINT10   | 2,5 - 50   | 1,5 - 10  | 1,5 - 10  | 1,5 - 10 * | 8 - 27               | 180 x 50          |
| <b>RUBBER JOINT 25</b><br>RUBBERJOINT25   | 16 - 150   | 4 - 25    | 4 - 25    | 2,5 - 25   | 8 - 32               | 215 x 55          |
| <b>RUBBER JOINT 35</b><br>RUBBERJOINT35   | 16 - 185   | 16 - 35   | 16 - 35   | 16 - 35    | 12 - 33              | 232 x 70          |
| <b>RUBBER JOINT 50</b><br>RUBBERJOINT50   | 50 - 300   | 16 - 50   | 16 - 50   | 16 - 50    | 14 - 34              | 266 x 72          |
| <b>RUBBER JOINT 95</b><br>RUBBERJOINT95   | 120 - 400  | 25 - 95   | 25 - 95   | 25 - 95    | 15 - 42              | 330 x 75          |
| <b>RUBBER JOINT 120</b><br>RUBBERJOINT120 | 240 - 500  | 70 - 120  | 70 - 120  | 50 - 120   | 25 - 50              | 365 x 95          |
| <b>RUBBER JOINT 240</b><br>RUBBERJOINT240 | 400 - 1000   | 120 - 300 | 120 - 240 | 120 - 240  | 30 - 75              | 510 x 120         |
| <b>RUBBER JOINT 300</b><br>RUBBERJOINT300 | 630 - 2000   | 240 - 400 | 240 - 300 | 240 - 300  | 41 - 78              | 760 x 180         |

\* Rubber Joint 10 suggested for cable diameters smaller than 16 mm.

### Electrical performance:

- CEI EN 50393
- with connectors complying with EN 61238-1
- Class 2 in accordance with CEI 64-8.

Working temperature: 90°C

Installation temperature: -15°C / +55°C

Can be used underground

**IP68**

# HEAT-SHRINK

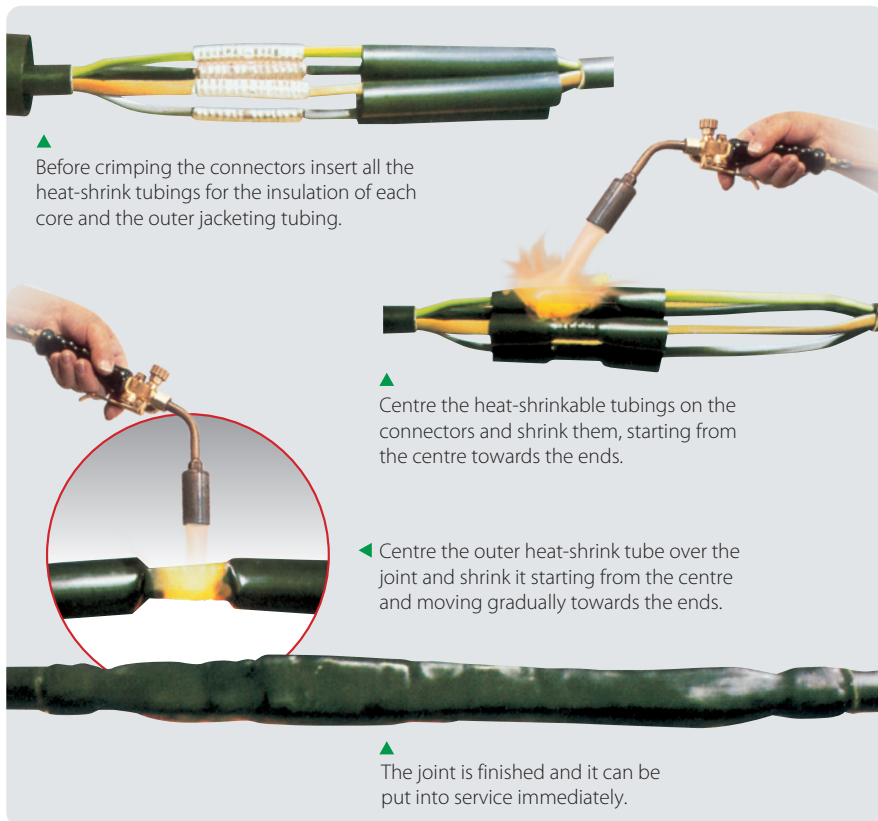
Straight or branch heat-shrinkable joints for extruded insulation cables up to a 1 kV.

**Electrical performance:**

- CEI EN 50393  
with connectors complying with EN 61238-1
- Class 2 in accordance with CEI 64-8.

 Working temperature: 90°C

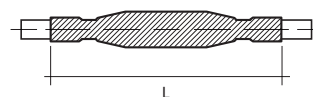
 Installation temperature: -15°C / +45°C



## GDL

Joint for single core cables including concentric neutral.

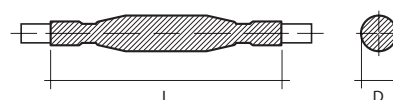
| PRODUCT / Item       | Conductor cross section mm <sup>2</sup> |     | Dimension L (mm) |
|----------------------|---|-----|------------------|
|                      | from                                    | to  |                  |
| GDL 92 A1 224578-TEC | 4                                       | 10  | 300              |
| GDL 92 A2 945252-TEC | 16                                      | 150 | 300              |
| GDL 92 A3 935251-000 | 185                                     | 400 | 300              |
| GDL 92 PA 210254-TEC | 10                                      | 50  | 300              |



## GLV

Joint for multi core cables (also for submersible pumps).

| PRODUCT / Item          | Conductor cross section mm <sup>2</sup> |     | Number of phases | Dimension |        |
|-------------------------|---|-----|------------------|-----------|--------|
|                         | from                                    | to  |                  | L (mm)    | D (mm) |
| GLV 0306 254656-TEC     | 1,5                                     | 6   | 3                | 250       | 18     |
| GLV 0316 224477-TEC     | 10                                      | 16  | 3                | 400       | 37     |
| GLV 0335 554268-TEC     | 25                                      | 35  | 3                | 550       | 43     |
| GLV 0370 457896-TEC     | 50                                      | 70  | 3                | 650       | 52     |
| GLV 3150 789992-000     | 95                                      | 150 | 3                | 800       | 65     |
| GLV 3300 789994-000     | 185                                     | 300 | 3                | 900       | 82     |
| GLV 0406 336598-TEC     | 1,5                                     | 6   | 4                | 250       | 20     |
| GLV 0416 789890-000     | 10                                      | 16  | 4                | 400       | 40     |
| GLV 0435 789891-000     | 25                                      | 35  | 4                | 650       | 45     |
| GLV 0470 234477-TEC     | 50                                      | 70  | 4                | 650       | 54     |
| GLV 4150 482979-000     | 95                                      | 150 | 4                | 800       | 67     |
| GLV 4300 609695-000     | 185                                     | 300 | 4                | 900       | 84     |
| GLV 2,5 - CP 411124-TEC | 2,5 complete with connectors            |     | 4                | 300       | 15     |

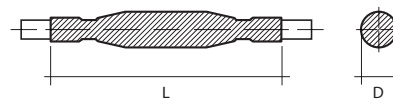


For both copper and aluminium cables. For aerial, underground, submerged installation.

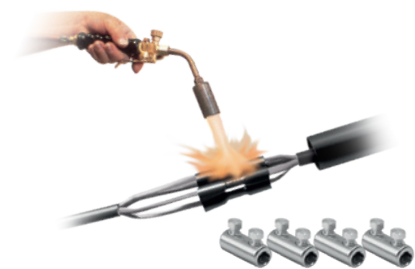
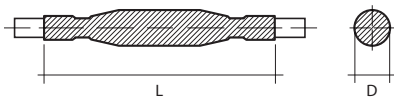
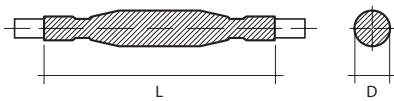
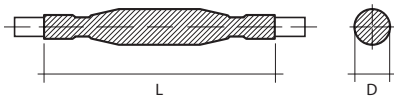
## GLV-N

Joint for multi core cables with concentric neutral.

| PRODUCT / Item          | Conductor cross section mm <sup>2</sup> |     | Number of phases | Dimension |        |
|-------------------------|---|-----|------------------|-----------|--------|
|                         | from                                    | to  |                  | L (mm)    | D (mm) |
| GLV 0306 - N 788459-000 | 1,5                                     | 6   | 3                | 250       | 18     |
| GLV 0316 - N 788429-000 | 10                                      | 16  | 3                | 400       | 37     |
| GLV 0335 - N 788460-000 | 25                                      | 35  | 3                | 550       | 43     |
| GLV 0370 - N 788461-000 | 50                                      | 70  | 3                | 650       | 52     |
| GLV 3150 - N 788462-000 | 95                                      | 150 | 3                | 800       | 65     |
| GLV 3300 - N 210054-TEC | 185                                     | 300 | 3                | 900       | 82     |
| GLV 0406 - N 789995-000 | 1,5                                     | 6   | 4                | 250       | 20     |
| GLV 0416 - N 789996-000 | 10                                      | 16  | 4                | 400       | 40     |
| GLV 0435 - N 789997-000 | 25                                      | 35  | 4                | 650       | 45     |
| GLV 0470 - N 789998-000 | 50                                      | 70  | 4                | 650       | 54     |
| GLV 4150 - N 405718-000 | 95                                      | 150 | 4                | 800       | 67     |
| GLV 4300 - N 788463-000 | 185                                     | 300 | 4                | 900       | 84     |



These kits include components for the phase insulation, metallic braiding to replace the neutral and external self-sealing heat-shrinkable tube.



## GLV-ARM

Joint for armoured multi core cables.

| For armoured <b>tape</b> cables |            | Conductor cross section (mm <sup>2</sup> ) |     | Dimension |        |
|---------------------------------|------------|--|-----|-----------|--------|
| PRODUCT / Item                  |            | from                                       | to  | L (mm)    | D (mm) |
| <b>GLV 0406-ARM</b>             | 788969-000 | 1,5  | 6   | 300       | 25     |
| <b>GLV 0416-ARM</b>             | 307689-000 | 6  | 16  | 400       | 40     |
| <b>GLV 0450-ARM</b>             | 630855-000 | 25   | 50  | 800       | 60     |
| <b>GLV 4150-ARM</b>             | 378703-000 | 70   | 150 | 1000      | 100    |
| <b>GLV 4300-ARM</b>             | 152410-000 | 185  | 300 | 1000      | 120    |

## BOPA

Joint for MV cables for public lighting.

| PRODUCT / Item                           | Operating voltage kV | Number of phases       | Section (mm <sup>2</sup> )        | Dimension |        |
|--|----------------------|------------------------|-----------------------------------|-----------|--------|
|  |                      |                        |                                   | L (mm)    | D (mm) |
| <b>BOPA 3</b><br>BOPA3-TEC               | 3                    | 1                      | 1x10                              | 300       | 50     |
| <b>BOPA 4</b><br>BOPA4-TEC               | 3                    | 2                      | 2x10                              | 450       | 60     |
| <b>BOPA 5</b><br>BOPA5-TEC               | 3                    | 3                      | 3x10                              | 450       | 70     |
| <b>BOPA 3/2</b><br>BOPA3/2-TEC           | 3,6                  | 1 + concentric neutral | 1 x 6 + 6 concentric              | 700       | 35     |
| <b>BOPA 4/T transition</b><br>784472-TEC | 3                    | 2                      | 2,5 - 10 paper / 10 - 50 extruded | 750       | 40     |

## DJ

LV branch joint.

| PRODUCT / Item            | Single core cables cross section (mm <sup>2</sup> ) |              | Multi core cables cross section (mm <sup>2</sup> ) |  | Dimension |        |
|---------------------------|---|--------------|--|--|-----------|--------|
|                           | Through   | Branch       | Through  | Branch                                 | L (mm)    | D (mm) |
| <b>DJ01</b><br>416127-000 | 1 x 4 - 50  | 1 x 2,5 - 50 | 4 x 1,5 - 10                                       | 2 x 1,5                                | 200       | 25     |
| <b>DJ02</b><br>396633-000 | 1 x 50 - 120  | 1 x 6 - 120  | 4 x 16 - 25<br>2 single core cables<br>1 x 6 - 50  | 2 x 1,5<br>1 two core cable<br>2 x 2,5 | 250       | 40     |
| <b>DJ03</b><br>396634-000 | 1 x 150 - 300                                       | 1 x 6 - 300  | 4 x 25 - 3,5 x 50                                  | 4 x 2,5 - 25                           | 400       | 70     |

## GLV SYSTEM FAST RP

Straight joint + Shear bolt connectors.

| PRODUCT / Item          |              | Cable formation 4x (n° x mm <sup>2</sup> ) | Dimension L x D (mm) |
|-------------------------|--------------|--|----------------------|
| <b>GLV 0435- RP/16</b>  | GLV0435RP16  | 6 - 16                                     | 650 x 50             |
| <b>GLV 0470- RP/35</b>  | GLV0470RP35  | 25 - 35                                    | 650 x 70             |
| <b>GLV 0470- RP/50</b>  | GLV0470RP50  | 25 - 50                                    | 650 x 75             |
| <b>GLV 4150- RP/150</b> | GLV4150RP150 | 50 - 150                                   | 800 x 80             |

## GLV F/R - GMP F/R

Joint for flame resistant cables (0,6/1 kV).

### For NAVAL TYPE POWER cables

| UNARMoured                         | Cable formation (n° x mm <sup>2</sup> ) | L (mm) | ARMoured                                   | Cable formation (n° x mm <sup>2</sup> ) | L (mm) |
|------------------------------------|---|--------|--|---|--------|
| <b>PRODUCT / Item</b>              |   |        | <b>PRODUCT / Item</b>                      |   |        |
| <b>GLV 4004-F/R</b><br>GLV4004-F/R | 4 x 1,5 - 4                             | 300    | <b>GLV 4004-ARM-F/R</b><br>GLV4004-ARM-F/R | 4 x 1,5 - 4                             | 400    |
| <b>GLV 4016-F/R</b><br>GLV4016-F/R | 4 x 6 - 16                              | 300    | <b>GLV 4016-ARM-F/R</b><br>GLV4016-ARM-F/R | 4 x 6 - 16                              | 400    |
| <b>GLV 4050-F/R</b><br>GLV4050-F/R | 4 x 25 - 50                             | 400    | <b>GLV 4050-ARM-F/R</b><br>GLV4050-ARM-F/R | 4 x 25 - 50                             | 500    |
| <b>GLV 4150-F/R</b><br>GLV4150-F/R | 4 x 70 - 150                            | 500    | <b>GLV 4150-ARM-F/R</b><br>GLV4150-ARM-F/R | 4 x 70 - 150                            | 750    |

### For NAVAL TYPE signalling and control cables

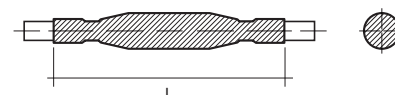
| UNARMoured                       | Cable formation (n° x mm <sup>2</sup> ) | L (mm) | ARMoured                                 | Cable formation (n° x mm <sup>2</sup> ) | L (mm) |
|----------------------------------|---|--------|--|---|--------|
| <b>PRODUCT / Item</b>            |   |        | <b>PRODUCT / Item</b>                    |   |        |
| <b>GMP 007-F/R</b><br>GMP007-F/R | 4 - 7 x 1,5 - 2,5                       | 300    | <b>GMP 007-ARM-F/R</b><br>GMP007-ARM-F/R | 4 - 7 x 1,5 - 2,5                       | 300    |
| <b>GMP 014-F/R</b><br>GMP014-F/R | 10 - 14 x 1,5 - 2,5                     | 300    | <b>GMP 014-ARM-F/R</b><br>GMP014-ARM-F/R | 10 - 14 x 1,5 - 2,5                     | 300    |
| <b>GMP 030-F/R</b><br>GMP030-F/R | 16 - 30 x 1,5 - 2,5                     | 400    | <b>GMP 030-ARM-F/R</b><br>GMP030-ARM-F/R | 16 - 30 x 1,5 - 2,5                     | 400    |

### For UNDERGROUND POWER cables

| UNARMoured                               | Cable formation (n° x mm <sup>2</sup> ) | L (mm) | ARMoured   | Cable formation (n° x mm <sup>2</sup> ) | L (mm) |
|--|---|--------|--|---|--------|
| <b>PRODUCT / Item</b>                    |   |        | <b>PRODUCT / Item</b>                            |   |        |
| <b>GLV 4006-F/R-G7</b><br>GLV4006-F/R-G7 | 4 x 1,5 - 6                             | 300    | <b>GLV 4006-ARM-F/R-G7</b><br>GLV4006-ARM-F/R-G7 | 4 x 1,5 - 6                             | 400    |
| <b>GLV 4016-F/R-G7</b><br>GLV4016-F/R-G7 | 4 x 6 - 16                              | 300    | <b>GLV 4016-ARM-F/R-G7</b><br>GLV4016-ARM-F/R-G7 | 4 x 6 - 16                              | 400    |
| <b>GLV 4050-F/R-G7</b><br>GLV4050-F/R-G7 | 4 x 25 - 50                             | 400    | <b>GLV 4050-ARM-F/R-G7</b><br>GLV4050-ARM-F/R-G7 | 4 x 25 - 50                             | 500    |
| <b>GLV 4150-F/R-G7</b><br>GLV4150-F/R-G7 | 4 x 70 - 150                            | 500    | <b>GLV 4150-ARM-F/R-G7</b><br>GLV4150-ARM-F/R-G7 | 4 x 70 - 150                            | 750    |

### For UNDERGROUND signalling and control cables

| UNARMoured                             | Cable formation (n° x mm <sup>2</sup> ) | L (mm) | ARMoured                                       | Cable formation (n° x mm <sup>2</sup> ) | L (mm) |
|--|---|--------|--|---|--------|
| <b>PRODUCT / Item</b>                  |   |        | <b>PRODUCT / Item</b>                          |   |        |
| <b>GMP 014-F/R-G7</b><br>GMP014-F/R-G7 | Up to 14 x 1,5 - 2,5                    | 300    | <b>GMP 014-ARM-F/R-G7</b><br>GMP014-ARM-F/R-G7 | Up to 14 x 1,5 - 2,5                    | 400    |
| <b>GMP 019-F/R-G7</b><br>GMP019-F/R-G7 | Up to 19 x 1,5 - 2,5                    | 400    | <b>GMP 019-ARM-F/R-G7</b><br>GMP019-ARM-F/R-G7 | Up to 19 x 1,5 - 2,5                    | 500    |



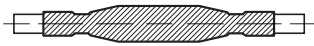
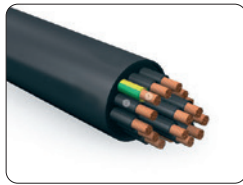
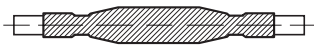
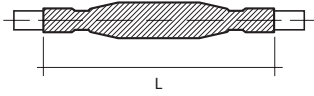
#### Electrical performance:

- CEI EN 50393 with connectors complying with EN 61238-1
- Class 2 in accordance with CEI 64-8.

#### No flame propagation:

IEC 60331-21 • CEI 20-36/2-1 (as applicable).

For other formations and cable sections please contact Raytech.



## DJ F/R

Branch joint for flame resistant cables (0,6/1 kV).

For POWER cables

| UNARMOURED                |  | ARMOURED                           |  | Cable formation (n° x mm <sup>2</sup> ) |                     | L (mm) |
|---------------------------|--|------------------------------------|--|---|---------------------|--------|
| PRODUCT / Item            |  | PRODUCT / Item                     |  | Through                                 | Branch              |        |
| DJ 4016 - F/R<br>DJ4016FR |  | DJ 4016 - ARM-F/R<br>DJ4016-ARM-FR |  | 3 - 4<br>x 1,5 - 16                     | 3 - 4<br>x 1,5 - 16 | 300    |

## GMP

Joining kits for multi conductor cables for signalling, command and control.

| NON ARMoured cable |            | N° of conductors |     | Section mm <sup>2</sup> |     | External Ø of cable |          |
|--------------------|------------|------------------|-----|-------------------------|-----|---------------------|----------|
| PRODUCT / Item     |            | from             | to  | from                    | to  | min (mm)            | max (mm) |
| GMP 007            | 786768-000 | 4                | 7   | 1,0                     | 2,5 | 8                   | 19       |
| GMP 014            | 666635-TEC | 8                | 14  | 1,0                     | 2,5 | 12                  | 22       |
| GMP 021            | 786272-000 | 15               | 21  | 1,0                     | 2,5 | 15                  | 27       |
| GMP 040            | 786684-000 | 22               | 40  | 1,0                     | 2,5 | 20                  | 35       |
| GMP 075            | 786683-000 | 41               | 75  | 1,0                     | 2,5 | 26                  | 44       |
| GMP 100            | 786688-000 | 76               | 100 | 1,0                     | 2,5 | 26                  | 60       |

| ARMoured cable |            | N° of conductors |    | Section mm <sup>2</sup> |     | External Ø of cable |          |
|----------------|------------|------------------|----|-------------------------|-----|---------------------|----------|
| PRODUCT / Item |            | from             | to | from                    | to  | min (mm)            | max (mm) |
| GMP 007-A      | 786686-000 | 4                | 7  | 1,0                     | 2,5 | 14                  | 23       |
| GMP 014-A      | 786687-000 | 8                | 14 | 1,0                     | 2,5 | 15                  | 26       |
| GMP 021-A      | 786785-000 | 15               | 21 | 1,0                     | 2,5 | 24                  | 35       |
| GMP 040-A      | 786356-000 | 22               | 40 | 1,0                     | 2,5 | 30                  | 45       |
| GMP 075-A      | 786689-000 | 41               | 75 | 1,0                     | 2,5 | 39                  | 55       |

## GMC

Joining kits for multi pair cables for communication, command and control.

| NON ARMoured cable |            | N° of pairs |     | Section mm <sup>2</sup> |         | External Ø of cable |          |
|--------------------|------------|-------------|-----|-------------------------|---------|---------------------|----------|
| PRODUCT / Item     |            | from        | to  | from                    | to      | min (mm)            | max (mm) |
| GMC 010            | 939629-000 | 5           | 10  | 2 x 0,6                 | 2 x 1,0 | 9                   | 14       |
| GMC 020            | 786828-000 | 11          | 20  | 2 x 0,6                 | 2 x 1,0 | 13                  | 20       |
| GMC 030            | 946619-000 | 21          | 30  | 2 x 0,6                 | 2 x 1,0 | 16                  | 24       |
| GMC 050            | 934676-000 | 31          | 50  | 2 x 0,6                 | 2 x 1,0 | 22                  | 29       |
| GMC 100            | 156732-000 | 51          | 100 | 2 x 0,6                 | 2 x 1,0 | 30                  | 40       |

| ARMoured cable |            | N° of pairs |    | Section mm <sup>2</sup> |         | External Ø of cable |          |
|----------------|------------|-------------|----|-------------------------|---------|---------------------|----------|
| PRODUCT / Item |            | from        | to | from                    | to      | min (mm)            | max (mm) |
| GMC 004-A      | 802965-000 | 1           | 4  | 2 x 0,6                 | 2 x 1,0 | 15                  | 23       |
| GMC 007-A      | 786769-000 | 5           | 7  | 2 x 0,6                 | 2 x 1,0 | 15                  | 26       |
| GMC 019-A      | 803162-000 | 8           | 19 | 2 x 0,6                 | 2 x 1,0 | 24                  | 35       |
| GMC 037-A      | 786412-000 | 20          | 37 | 2 x 0,6                 | 2 x 1,0 | 30                  | 45       |
| GMC 061-A      | 786355-000 | 38          | 61 | 2 x 0,6                 | 2 x 1,0 | 39                  | 55       |

# HEAT-SHRINK TERMINATIONS

## TLV

Terminations for armoured and non armoured extruded cables up to 1 kV.

### NON ARMoured extruded cables

| PRODUCT / Item |            |
|----------------|------------|
| TLV 0216       | 946613-000 |
| TLV 0316       | 496973-000 |
| TLV 0416       | 288775-000 |
| TLV 0250       | 101526-000 |
| TLV 0350       | 786134-000 |
| TLV 0450       | 786200-000 |
| TLV 3150       | 786220-000 |
| TLV 4150       | 597107-000 |
| TLV 3300       | 208159-000 |
| TLV 4300       | 063097-000 |

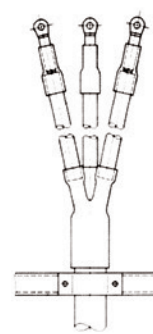
### Extruded cables with WIRE ARMOUR

| PRODUCT / Item |            | Conductor section mm <sup>2</sup> |     | Number of phases |
|----------------|------------|-----------------------------------|-----|------------------|
|                |            | from                              | to  |                  |
| TLV 0216 - AF  | 106391-000 | 4                                 | 16  | 2                |
| TLV 0316 - AF  | 178316-000 | 4                                 | 16  | 3                |
| TLV 0416 - AF  | 121775-000 | 4                                 | 16  | 4                |
| TLV 0250 - AF  | 024865-000 | 25                                | 50  | 2                |
| TLV 0350 - AF  | 179335-000 | 25                                | 50  | 3                |
| TLV 0450 - AF  | 868777-000 | 25                                | 50  | 4                |
| TLV 3150 - AF  | 181196-000 | 70                                | 150 | 3                |
| TLV 4150 - AF  | 223409-000 | 70                                | 150 | 4                |
| TLV 3300 - AF  | 181097-000 | 185                               | 300 | 3                |
| TLV 4300 - AF  | 803719-000 | 185                               | 300 | 4                |
| TLV 4500 - AF  | 915556-000 | 500                               |     | 4                |

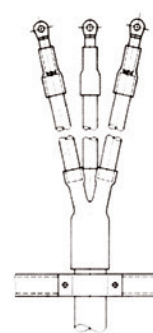
## TLV 500

Terminations for concentric neutral extruded cables up to 1 kV.

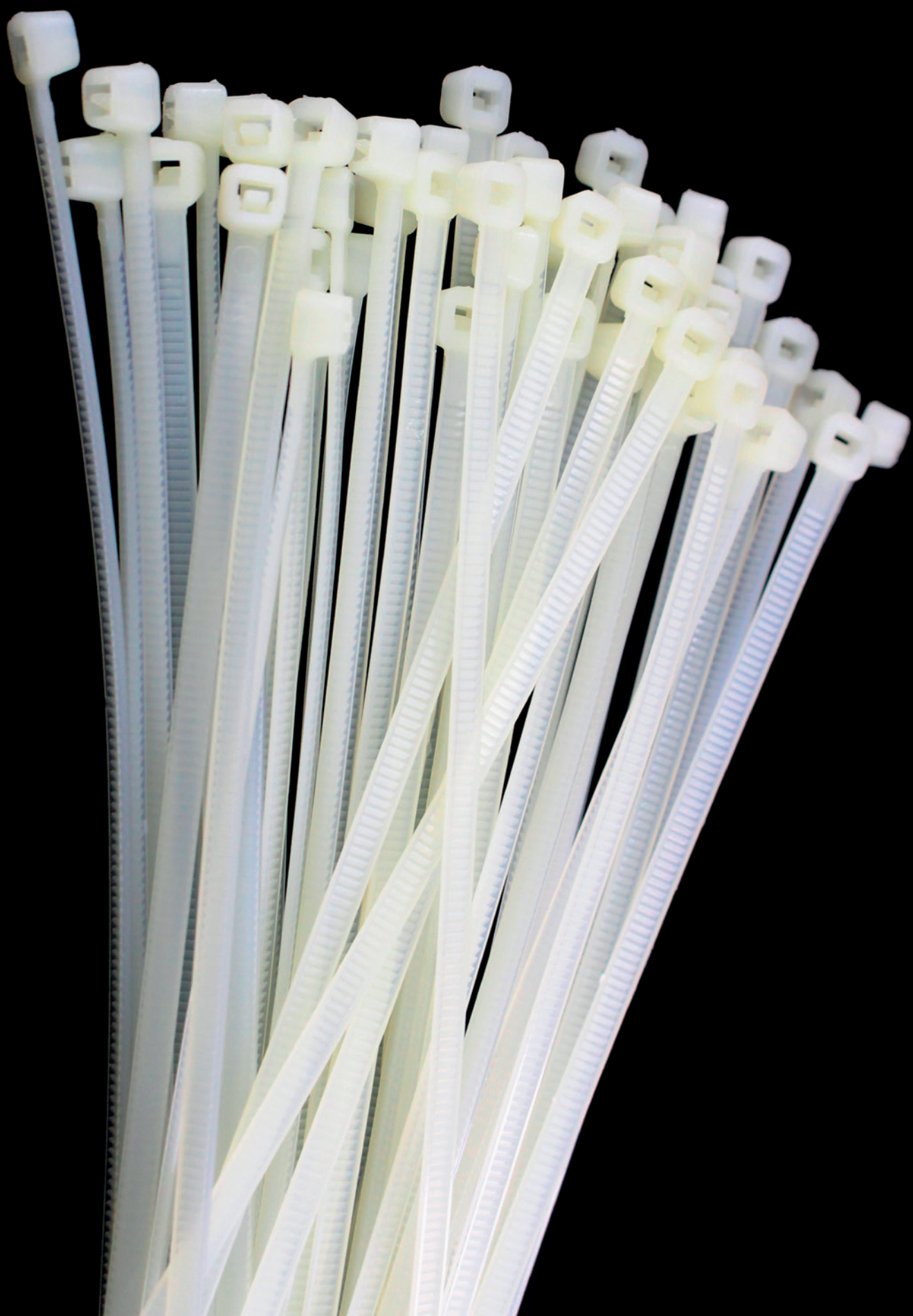
| PRODUCT / Item |            | Conductor section mm <sup>2</sup> |     | Number of phases |
|----------------|------------|-----------------------------------|-----|------------------|
|                |            | from                              | to  |                  |
| TLV 0116 - 500 | 181198-000 | 4                                 | 16  | 1                |
| TLV 0216 - 500 | 181198-001 | 4                                 | 16  | 2                |
| TLV 0316 - 500 | 816659-000 | 4                                 | 16  | 3                |
| TLV 0150 - 500 | 181198-002 | 25                                | 50  | 1                |
| TLV 0250 - 500 | 181198-003 | 25                                | 50  | 2                |
| TLV 0350 - 500 | 828617-000 | 25                                | 50  | 3                |
| TLV 2150 - 500 | 179925-000 | 70                                | 150 | 2                |
| TLV 3150 - 500 | 181198-004 | 70                                | 150 | 3                |
| TLV 2300 - 500 | 181198-005 | 185                               | 300 | 2                |
| TLV 3300 - 500 | 909765-000 | 185                               | 300 | 3                |



Include sheath to cover phases, sealing of the point of divergence of phases and sealing between phase and cable terminal.

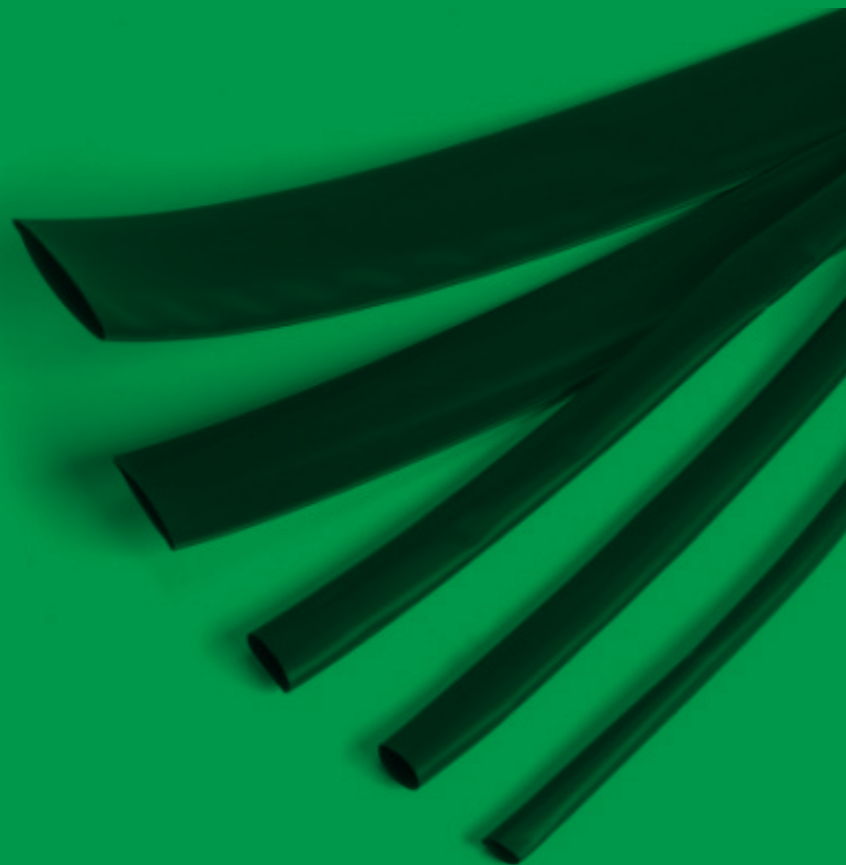



Include sheath to cover the concentric conductor.



**LOW VOLTAGE  
OTHERS**

**HEAT-SHRINK SHEATHS  
INSULATION TAPES  
CABLE PULLERS  
FIRE STOP BARRIERS  
SPECIALS**



 Operating temperature: -55°C / +125°C

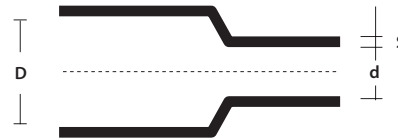
|                                 |           |
|---------------------------------|-----------|
| Tensile resistance              | 10,4 Min  |
| Elongation                      | 200 % Min |
| Tensile resistance after ageing | 7,3 Min   |
| Elongation after ageing         | 100 % Min |
| Dielectric strength             | 20 kV/mm  |
| Flammability                    | VW1*      |
| Minimum shrinkage temperature   | 110°C     |

\* except transparent sheath.

# THIN-WALL SHEATHS

Flexible heat-shrink modified polyolefin sheaths, cross linked by means of radiation. Longitudinal shortening up to 15%. Suitable for insulation and covering of conductors and their connections, bars, etc. Replace self-adhesive, self-amalgamating insulating tapes.

- Black
- Red
- Blue
- Yellow
- White
- ⊙ Transparent
- Yellow Green



D = min. Ø before shrinkage

d = max. Ø after free shrinkage

S = min. rated thickness after free shrinkage (+/- 20%)



## LST-TEC

Heat-shrink sheaths in dispensers for commercial use.

| PRODUCT            | Item       | Colour | D (mm) | d (mm) | S (mm) | Lenght (m) |
|--------------------|------------|--------|--------|--------|--------|------------|
| LST-TEC 1,6 *      | 6635996003 | ●      | 1,6    | 0,8    | 0,50   | 10         |
| LST-TEC 2,4 *      | 7284836003 | ●      | 2,4    | 1,2    | 0,55   | 10         |
| LST-TEC 3,2 *      | 0316676003 | ●      | 3,2    | 1,6    | 0,55   | 10         |
| LST-TEC 4,8 *      | 3876656003 | ●      | 4,8    | 2,4    | 0,55   | 9          |
| LST-TEC 6,4 *      | 3363736003 | ●      | 6,4    | 3,2    | 0,65   | 8          |
| LST-TEC 9,5 *      | 0915756003 | ●      | 9,5    | 4,8    | 0,65   | 6          |
| LST-TEC 12,7 *     | 1963796004 | ●      | 12,7   | 6,4    | 0,65   | 6          |
| LST-TEC 19,0 *     | 9601076004 | ●      | 19,0   | 9,5    | 0,80   | 5          |
| LST-TEC 25,4 *     | 2348536003 | ●      | 25,4   | 12,7   | 0,95   | 3          |
| LST-TEC-GV 3/1,5   | 5038106035 | ●      | 3      | 1,5    | 0,51   | 7          |
| LST-TEC-GV 4,8/2,4 | 5038815824 | ●      | 4,8    | 2,4    | 0,55   | 10         |
| LST-TEC-GV 6/3     | 5038606049 | ●      | 6      | 3      | 0,58   | 5          |
| LST-TEC-GV 10/5    | 5038816019 | ●      | 10     | 5      | 0,64   | 4          |
| LST-TEC-GV 12/6    | 5038812764 | ●      | 12     | 6      | 0,65   | 7          |
| LST-TEC-GV 19/9    | 5038496027 | ●      | 19     | 9      | 0,74   | 3          |
| LST-TEC-GV 26/13   | 5038186026 | ●      | 26     | 16     | 0,89   | 2,5        |

\* Also available in blue colour ● in red colour ● - See codes on page 126



## RAY ROLL

Heat-shrink sheaths in dispensers for industrial use.

| PRODUCT       | Item         | Colour | D (mm) | d (mm) | S (mm) | Lenght (m) |
|---------------|--------------|--------|--------|--------|--------|------------|
| RAY ROLL 1,6  | RAYROLL-1.6  | ●      | 1,6    | 0,8    | 0,50   | 20         |
| RAY ROLL 2,4  | RAYROLL-2.4  | ●      | 2,4    | 1,2    | 0,55   | 20         |
| RAY ROLL 3,2  | RAYROLL-3.2  | ●      | 3,2    | 1,6    | 0,55   | 10         |
| RAY ROLL 4,8  | RAYROLL-4.8  | ●      | 4,8    | 2,4    | 0,55   | 10         |
| RAY ROLL 6,4  | RAYROLL-6.4  | ●      | 6,4    | 3,2    | 0,65   | 10         |
| RAY ROLL 9,5  | RAYROLL-9.5  | ●      | 9,5    | 4,8    | 0,65   | 10         |
| RAY ROLL 12,7 | RAYROLL-12.7 | ●      | 12,7   | 6,4    | 0,65   | 10         |
| RAY ROLL 19,0 | RAYROLL-19.0 | ●      | 19,0   | 9,5    | 0,80   | 5          |
| RAY ROLL 25,4 | RAYROLL-25.4 | ●      | 25,4   | 12,7   | 0,95   | 5          |

## MAXI ROLL

Heat-shrink sheaths in maxi dispensers for industrial use.

| PRODUCT        | Item          | Colour | D (mm) | d (mm) | S (mm) | Spool (m) |
|----------------|---------------|--------|--------|--------|--------|-----------|
| MAXI ROLL 1,6  | MAXIROLL-1.6  | ●      | 1,6    | 0,8    | 0,50   | 300       |
| MAXI ROLL 2,4  | MAXIROLL-2.4  | ●      | 2,4    | 1,2    | 0,55   | 300       |
| MAXI ROLL 3,2  | MAXIROLL-3.2  | ●      | 3,2    | 1,6    | 0,55   | 300       |
| MAXI ROLL 4,8  | MAXIROLL-4.8  | ●      | 4,8    | 2,4    | 0,55   | 150       |
| MAXI ROLL 6,4  | MAXIROLL-6.4  | ●      | 6,4    | 3,2    | 0,65   | 75        |
| MAXI ROLL 9,5  | MAXIROLL-9.5  | ●      | 9,5    | 4,8    | 0,65   | 150       |
| MAXI ROLL 12,7 | MAXIROLL-12.7 | ●      | 12,7   | 6,4    | 0,65   | 150       |
| MAXI ROLL 19,0 | MAXIROLL-19.0 | ●      | 19,0   | 9,5    | 0,80   | 75        |
| MAXI ROLL 25,4 | MAXIROLL-25.4 | ●      | 25,4   | 12,7   | 0,95   | 60        |

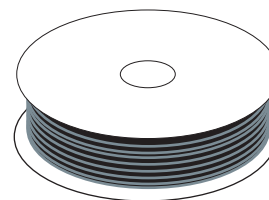


## CGP-TEC

Heat-shrink sheaths for commercial use.

| PRODUCT           | Item       | Colour | D (mm) | d (mm) | S (mm) | Spool (m) |
|-------------------|------------|--------|--------|--------|--------|-----------|
| CGP-TEC 1,2/0,6   | 5069794007 | ●      | 1,2    | 0,6    | 0,45   | 600       |
| CGP-TEC 1,6/0,8   | 5069804009 | ●      | 1,6    | 0,8    | 0,45   | 300       |
| CGP-TEC 2,4/1,2   | 5069814012 | ●      | 2,4    | 1,2    | 0,50   | 300       |
| CGP-TEC 3,2/1,6   | 5069824023 | ●      | 3,2    | 1,6    | 0,50   | 300       |
| CGP-TEC 4,8/2,4   | 5069834023 | ●      | 4,8    | 2,4    | 0,50   | 150       |
| CGP-TEC 6,4/3,2   | 5069844021 | ●      | 6,4    | 3,2    | 0,65   | 75        |
| CGP-TEC 9,5/4,8   | 5069854021 | ●      | 9,5    | 4,8    | 0,65   | 150       |
| CGP-TEC 12,7/6,4  | 5069864018 | ●      | 12,7   | 6,4    | 0,65   | 150       |
| CGP-TEC 19/9,5    | 5069874011 | ●      | 19,0   | 9,5    | 0,75   | 75        |
| CGP-TEC 25,4/12,7 | 5069884015 | ●      | 25,4   | 12,7   | 0,90   | 60        |
| CGP-TEC 38/19     | 5069894005 | ●      | 38,0   | 19,0   | 1,00   | 60        |
| CGP-TEC 51/26     | 5069904003 | ●      | 51,0   | 26     | 1,15   | 30        |
| CGP-TEC 76/38     | 5067104003 | ●      | 76,0   | 38,0   | 1,27   | 15        |
| CGP-TEC 102/51    | 5067164001 | ●      | 102,0  | 51,0   | 1,40   | 15        |

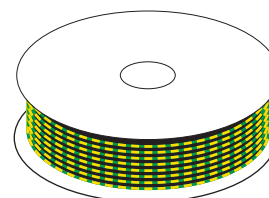
Also available in Red, Blue, Yellow, White, Transparent colours ●●●○Ⓢ - See codes on page 126

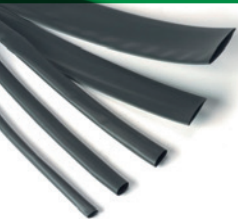


## DCP-TEC

Heat-shrink sheaths suitable for coating grounding cables.

| PRODUCT       | Item       | Colour | D (mm) | d (mm) | S (mm) | Spool (m) |
|---------------|------------|--------|--------|--------|--------|-----------|
| DCP-TEC 3/1,5 | 5038104002 | ●      | 3,0    | 1,5    | 0,51   | 300       |
| DCP-TEC 6/3   | 5038604008 | ●      | 6,0    | 3,0    | 0,58   | 75        |
| DCP-TEC 10/5  | 5038814001 | ●      | 10,0   | 5,0    | 0,64   | 75        |
| DCP-TEC 12/6  | 5038114002 | ●      | 12,0   | 6,0    | 0,64   | 75        |
| DCP-TEC 19/9  | 5038494001 | ●      | 19,0   | 9,0    | 0,74   | 75        |
| DCP-TEC 26/13 | 5038184001 | ●      | 26,0   | 13,0   | 0,89   | 30        |
| DCP-TEC 38/19 | 5673904001 | ●      | 38,0   | 19,0   | 1,00   | 60        |





**Operating temperature:** -55°C / +125°C

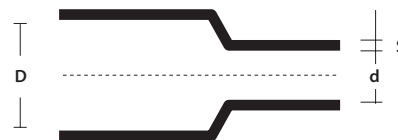
|                                 |           |
|---------------------------------|-----------|
| Tensile resistance              | 10,4 Min  |
| Elongation                      | 200 % Min |
| Tensile resistance after ageing | 7,3 Min   |
| Elongation after ageing         | 100 % Min |
| Dielectric strength             | 20 kV/mm  |
| Flammability                    | VW1*      |
| Minimum shrinkage temperature   | 110°C     |

\* except transparent sheath.

# SHEATHS IN BARS

Flexible heat-shrink modified polyolefin sheaths, cross linked by means of radiation. Longitudinal shortening up to 15%. Suitable for insulation and covering of conductors and their connections, bars. etc. Replace self-adhesive, self-amalgamating insulating tapes.

- Black
- Red
- Blue
- Yellow
- White
- ⊕ Transparent
- Yellow Green



**D** = min. Ø before shrinkage

**d** = max. Ø. after free shrinkage

**S** = min. rated thickness after free shrinkage (+/- 20%)

**Minimum shrinkage temperature:** 125°C



## RDCT-B

Yellow green tube for general use in bars.

Shrinkage ratio **2:1**

| PRODUCT      | Item       | Colour | D (mm) | d (mm) | S (mm) | Bars (m) |
|--------------|------------|--------|--------|--------|--------|----------|
| RDCT-B 3/1,5 | 315002-BAR |        | 3,0    | 1,5    | 0,51   | 1,2      |
| RDCT-B 6/3   | 630045-BAR |        | 6,0    | 3,0    | 0,58   | 1,2      |
| RDCT-B 10/5  | 105004-BAR |        | 10,0   | 5,0    | 0,64   | 1,2      |
| RDCT-B 12/6  | 126040-BAR |        | 12,0   | 6,0    | 0,64   | 1,2      |
| RDCT-B 19/9  | 199550-BAR |        | 19,0   | 9,0    | 0,74   | 1,2      |
| RDCT-B 26/13 | 261345-BAR |        | 26,0   | 13,0   | 0,89   | 1,2      |



## RGPO-B

Tube for general use in bars.

Shrinkage ratio **2:1**

| PRODUCT          | Item       | Colour | D (mm) | d (mm) | S (mm) | Bars (m) |
|------------------|------------|--------|--------|--------|--------|----------|
| RGPO-B 2,4/1,2   | 241200-BAR | ●      | 2,4    | 1,2    | 0,50   | 1,2      |
| RGPO-B 3,2/1,6   | 321600-BAR | ●      | 3,2    | 1,6    | 0,50   | 1,2      |
| RGPO-B 4,8/2,4   | 482400-BAR | ●      | 4,8    | 2,4    | 0,50   | 1,2      |
| RGPO-B 6,4/3,2   | 643200-BAR | ●      | 6,4    | 3,2    | 0,65   | 1,2      |
| RGPO-B 9,5/4,8   | 954800-BAR | ●      | 9,5    | 4,8    | 0,65   | 1,2      |
| RGPO-B 12,7/6,4  | 127640-BAR | ●      | 12,7   | 6,4    | 0,65   | 1,2      |
| RGPO-B 19/9,5    | 199500-BAR | ●      | 19,0   | 9,5    | 0,75   | 1,2      |
| RGPO-B 25,4/12,7 | 254120-BAR | ●      | 25,4   | 12,7   | 0,90   | 1,2      |
| RGPO-B 38/19     | 381900-BAR | ●      | 38,0   | 19,0   | 1,00   | 1,2      |
| RGPO-B 51/26     | 512600-BAR | ●      | 51,0   | 26     | 1,15   | 1,2      |

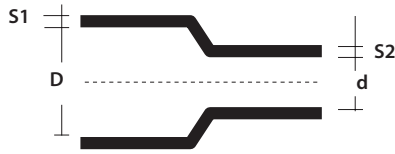
Shrinkage ratio **3:1**

|                     |                 |   |      |      |      |     |
|---------------------|-----------------|---|------|------|------|-----|
| RGPO-B-3/1-NERO     | RGPOB-3/1-N     | ● | 3,0  | 1,0  | 0,50 | 1,2 |
| RGPO-B-4,5/1,5-NERO | RGPOB-4.5/1.5-N | ● | 4,5  | 1,5  | 0,60 | 1,2 |
| RGPO-B-6/2-NERO     | RGPOB-6/2-N     | ● | 6,0  | 2,0  | 0,65 | 1,2 |
| RGPO-B-9/3-NERO     | RGPOB-9/3-N     | ● | 9,0  | 3,0  | 0,75 | 1,2 |
| RGPO-B-12/4-NERO    | RGPOB-12/4-N    | ● | 12,0 | 4,0  | 0,80 | 1,2 |
| RGPO-B-18/6-NERO    | RGPOB-18/6-N    | ● | 18,0 | 6,0  | 0,90 | 1,2 |
| RGPO-B-24/8-NERO    | RGPOB-24/8-N    | ● | 24,0 | 8,0  | 1,00 | 1,2 |
| RGPO-B-39/13-NERO   | RGPOB-39/13-N   | ● | 39,0 | 13,0 | 1,20 | 1,2 |

Also available in Red, Blue, White, Transparent colours - See codes on page 126

## RAY-TUM

Sheaths in bars with adhesive.



D = min. Ø before shrinkage  
 d = max. Ø after free shrinkage  
 S1 = rated thickness as supplied  
 S2 = min. rated thickness after free shrinkage

Shrinkage ratio **3:1**

| PRODUCT         | Item       | Colour | D (mm) | d (mm) | S <sub>2</sub> (mm) | S <sub>1</sub> (mm) | Bars (m) |
|-----------------|------------|--------|--------|--------|---------------------|---------------------|----------|
| RAY-TUM-3/1-0   | 5504062059 | ●      | 3      | 1      | 1,00                | 0,5                 | 1,2      |
| RAY-TUM-6/2-0   | 5509092033 | ●      | 6      | 2      | 1,00                | 0,5                 | 1,2      |
| RAY-TUM-9/3-0   | 5507832055 | ●      | 9      | 3      | 1,40                | 0,6                 | 1,2      |
| RAY-TUM-12/4-0  | 5509102048 | ●      | 12     | 4      | 1,75                | 0,7                 | 1,2      |
| RAY-TUM-19/6-0  | 5067452035 | ●      | 19     | 6      | 2,25                | 0,8                 | 1,2      |
| RAY-TUM-24/8-0  | 5509112040 | ●      | 24     | 8      | 2,50                | 1,0                 | 1,2      |
| RAY-TUM-40/13-0 | 5509122053 | ●      | 40     | 13     | 2,50                | 1,0                 | 1,2      |

Operating temperature: -55°C / +125°C

|   |                        |
|---|------------------------|
| Tensile resistance  | 10,4 MPa min           |
| Elongation  | 200 % min              |
| Tensile resistance after ageing                               | 7,3 MPa min            |
| Elongation after ageing                                       | 100 % min              |
| Thermal shock 4h a 250°C                                      | No-drip<br>No breaking |
| Flexibility at low temperature (1h a -30°C)                   | No breaking            |
| Dielectric strength   | Min 15,8 kV/mm         |
| Resistance to fluids (lubricant oil, hydraulic fluid, diesel) |                        |

## THERMO MINI MIX

Pre-cut heat-shrink sheaths kit.

Ready-for-installation heat-shrink sheaths in a practical, multi-compartment box divided by diameter. Indispensable for Electrical systems, as a replacement for taped insulation, wiring of all types, switchboards, Hi-Fi, hobbies, DIY.

### ADVANTAGES

- ▶ Wide range of diameters and colours.
- ▶ Always ready, quick application.
- ▶ Flexible.

| BLACK COLOUR<br>PRODUCT          | MIXED COLOURS<br>PRODUCT           | Ø before and after shrinkage (mm) | Length of sheath (mm) | Pieces for box |
|----------------------------------|------------------------------------|-----------------------------------|-----------------------|----------------|
| THERMO MINI MIX-N<br>THERMOMIN-N | THERMO MINI MIX-MC<br>THERMOMIN-MC | 1,0 / 0,5                         | 97                    | 60             |
|                                  |                                    | 2,0 / 1,0                         | 97                    | 40             |
|                                  |                                    | 3,0 / 1,5                         | 97                    | 30             |
|                                  |                                    | 4,5 / 2,25                        | 97                    | 20             |
|                                  |                                    | 6,0 / 3,0                         | 97                    | 10             |
|                                  |                                    | 9,0 / 4,5                         | 97                    | 10             |





D = min. Ø before shrinkage  
d = max. Ø after free shrinkage  
S1 = rated thickness as supplied  
S2 = min. rated thickness after free shrinkage

**Operating temperature:** -55°C / +125°C

|                                 |              |
|---------------------------------|--------------|
| Tensile resistance              | 12 MPa min   |
| Elongation                      | 350% min     |
| Tensile resistance after ageing | 12 MPa       |
| Elongation after ageing         | 300% min     |
| Dielectric strength             | 12 kV/mm min |
| Minimum shrinkage temperature   | 125°C        |

**HF** Halogen Free

# MEDIUM-WALL SHEATHS

Heat-shrink modified polyolefin sheaths, cross linked by means of radiation for insulation, sealing and LV component protection. It is in fact used for restoring insulation and for the outer covering of LV cables and wherever optimal mechanical characteristics are required for resistance to impact, abrasion, general weathering including UV radiation, or for use in under water environments. Used for the insulation of bars or naked LV connections with optimal mechanical resistance for sealing, especially if used with hot-melt adhesive, and for anti-corrosion protection. Also replaces self-adhesive and self-amalgamating tapes.

| MTR<br>PRODUCT | WITH<br>ADHESIVE | WITHOUT<br>ADHESIVE | Applications by Ø |         | D<br>(mm) | d<br>(mm) | S <sub>1</sub><br>(mm) | S <sub>2</sub><br>(mm) |
|----------------|------------------|---------------------|-------------------|---------|-----------|-----------|------------------------|------------------------|
|                | Item             | Item                | from (mm)         | to (mm) |           |           |                        |                        |
| MTR 10/3*      | 488809-000       | 854745-000          | 3,5               | 9,0     | 10        | 3         | 0,3                    | 1,0                    |
| MTR 16/5*      | 925679-000       | 411365-000          | 5,5               | 14,0    | 16        | 5         | 0,3                    | 1,4                    |
| MTR 25/8*      | 717783-000       | 082743-000          | 8,5               | 22,0    | 25        | 8         | 0,4                    | 2,0                    |
| MTR 35/12*     | 064641-000       | 089407-000          | 13,0              | 32,0    | 35        | 12        | 0,4                    | 2,0                    |
| MTR 50/16*     | 046911-000       | 738765-000          | 17,5              | 45,0    | 50        | 16        | 0,5                    | 2,0                    |
| MTR 63/19*     | 223993-000       | 644113-000          | 21,0              | 57,0    | 63        | 19        | 0,6                    | 2,4                    |
| MTR 75/22*     | 237137-000       | 605711-000          | 24,0              | 68,0    | 75        | 22        | 0,6                    | 2,7                    |
| MTR 85/25*     | 727282-000       | 917867-000          | 28,0              | 77,0    | 85        | 25        | 0,6                    | 2,8                    |
| MTR 95/29*     | 498559-000       | 355919-000          | 32,0              | 86,0    | 95        | 29        | 0,7                    | 3,1                    |
| MTR 115/34*    | 827835-000       | 036893-000          | 37,0              | 104,0   | 115       | 34        | 0,7                    | 3,1                    |
| MTR 140/42*    | 891939-000       | 149759-000          | 46,0              | 126,0   | 140       | 42        | 0,7                    | 3,1                    |
| MTR 160/55*    | 474381-000       | 938745-000          | 55,0              | 144,0   | 160       | 55        | 0,7                    | 3,2                    |
| MTR 180/60*    | 323497-000       | 827643-000          | 66,0              | 162,0   | 180       | 60        | 0,7                    | 3,2                    |

\* Complete the item code adding the length (in mm), adhesive (/172) or without adhesive (/U).

## MTN

Suitable for submersible pumps

| WITH ADHESIVE |                 | Applications by Ø |         | D<br>(mm) | d<br>(mm) | S <sub>1</sub><br>(mm) | S <sub>2</sub><br>(mm) |
|---------------|-----------------|-------------------|---------|-----------|-----------|------------------------|------------------------|
| PRODUCT       | Item            | from (mm)         | to (mm) |           |           |                        |                        |
| MTN 10/3*     | MTN1031000172   | 3,5               | 9,0     | 10        | 3         | 0,3                    | 1,0                    |
| MTN 16/5*     | MTN1651000172   | 5,5               | 14,0    | 16        | 5         | 0,3                    | 1,4                    |
| MTN 25/8*     | MTN2581000172   | 8,5               | 22,0    | 25        | 8         | 0,4                    | 2,0                    |
| MTN 35/12*    | MTN35121000172  | 13,0              | 32,0    | 35        | 12        | 0,4                    | 2,0                    |
| MTN 50/16*    | MTN50161000172  | 17,5              | 45,0    | 50        | 16        | 0,5                    | 2,0                    |
| MTN 63/19*    | MTN63191000172  | 21,0              | 57,0    | 63        | 19        | 0,6                    | 2,4                    |
| MTN 75/22*    | MTN75221000172  | 24,0              | 68,0    | 75        | 22        | 0,6                    | 2,7                    |
| MTN 85/25*    | MTN85251000172  | 28,0              | 77,0    | 85        | 25        | 0,6                    | 2,8                    |
| MTN 95/29*    | MTN95291000172  | 32,0              | 86,0    | 95        | 29        | 0,7                    | 3,1                    |
| MTN 115/34*   | MTN115341000172 | 37,0              | 104,0   | 115       | 34        | 0,7                    | 3,1                    |

\* Complete the item code adding the length (in mm).

# HEAVY-WALL SHEATHS

RAY-CSM heat-shrink tubular sheath is very thick and has been designed for uses requiring exceptional mechanical characteristics. Its ideal field of application is in underwater or directly underground environments, or where exceptional resistance to abrasion and impact is required, but also outstanding resistance to weathering, including UV radiation, for sealing, especially if used with hot-melt adhesive, and for anti-corrosion protection.

## RAY-CSM

| PRODUCT         | Item       | Applications by Ø |         | D (mm) | d (mm) | S <sub>1</sub> (mm) | S <sub>2</sub> (mm) |
|-----------------|------------|-------------------|---------|--------|--------|---------------------|---------------------|
|                 |            | from (mm)         | to (mm) |        |        |                     |                     |
| Ray-CSM 12/3*   | 672693-000 | 3,5               | 10      | 12     | 3      | 0,8                 | 2,0                 |
| Ray-CSM 16/4*   | 542973-000 | 4,5               | 14      | 16     | 4      | 0,9                 | 2,4                 |
| Ray-CSM 24/6*   | 050119-000 | 6,5               | 22      | 24     | 6      | 1,0                 | 2,7                 |
| Ray-CSM 34/8*   | 453083-000 | 9                 | 31      | 34     | 8      | 1,3                 | 4,0                 |
| Ray-CSM 48/12*  | 582237-000 | 13                | 44      | 48     | 12     | 1,5                 | 4,5                 |
| Ray-CSM 56/16*  | 898079-000 | 17,5              | 50      | 56     | 16     | 1,5                 | 4,4                 |
| Ray-CSM 70/21*  | 862223-000 | 22                | 63      | 70     | 21     | 1,4                 | 4,4                 |
| Ray-CSM 90/25*  | 862225-000 | 27                | 81      | 90     | 25     | 1,3                 | 4,3                 |
| Ray-CSM 110/30* | 934589-000 | 33                | 100     | 110    | 30     | 1,2                 | 4,3                 |
| Ray-CSM 130/36* | 833598-000 | 38                | 118     | 130    | 36     | 1,2                 | 4,3                 |
| Ray-CSM 160/50* | 430277-000 | 55                | 144     | 160    | 50     | 1,0                 | 4,3                 |
| Ray-CSM 180/50* | 237977-000 | 55                | 162     | 180    | 50     | 1,0                 | 4,3                 |

\* Complete the item code adding the length (mm), adhesive (/172).

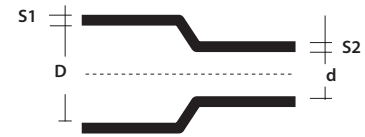
# WRAP AROUND

Wrap around heat-shrink sheath for repairing plastic or metal cable sheaths. It combines the previously seen mechanical, protective and sealing properties of tubular junctions with easy of application and closing. Indispensable when cable cutting is not possible. Does not require pre-insertion, reducing the space necessary for its application.

## RAY-RSM

| PRODUCT         | 1000       |            | 1500 |     | Ø Cable (mm) | D (mm) | d (mm) |
|-----------------|------------|------------|------|-----|--------------|--------|--------|
|                 | Item       | Item       | from | to  |              |        |        |
| Ray-RSM 34/10*  | 406345-000 | 240699-000 | 12   | 21  | 34           | 10     |        |
| Ray-RSM 53/13*  | 279727-000 | 505955-000 | 15   | 32  | 53           | 13     |        |
| Ray-RSM 84/20*  | 953639-000 | 219483-000 | 23   | 50  | 84           | 20     |        |
| Ray-RSM 107/29* | 395359-000 | 546145-000 | 34   | 65  | 107          | 29     |        |
| Ray-RSM 143/36* | 002611-000 | 091525-000 | 42   | 86  | 143          | 36     |        |
| Ray-RSM 198/55* | 318575-000 | 247637-000 | 62   | 120 | 198          | 55     |        |
| Ray-RSM 250/98* | 595947-000 | 247698-000 | 111  | 150 | 250          | 98     |        |

\* Complete the item code adding the length (mm) and adhesive (/232).

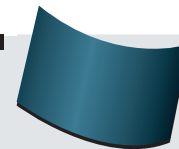


D = min. Ø before shrinkage  
 d = max. Ø after free shrinkage  
 S<sub>1</sub> = rated thickness as supplied  
 S<sub>2</sub> = min. rated thickness after free shrinkage

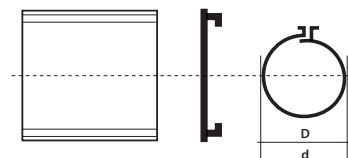
Operating temperature: -55°C / +125°C

|                                 |              |
|---------------------------------|--------------|
| Tensile resistance              | 12 MPa min   |
| Elongation                      | 350% min     |
| Tensile resistance after ageing | 12 MPa       |
| Elongation after ageing         | 300% min     |
| Dielectric strength             | 12 kV/mm min |
| Minimum shrinkage temperature   | 125°C        |

**HF** Halogen Free



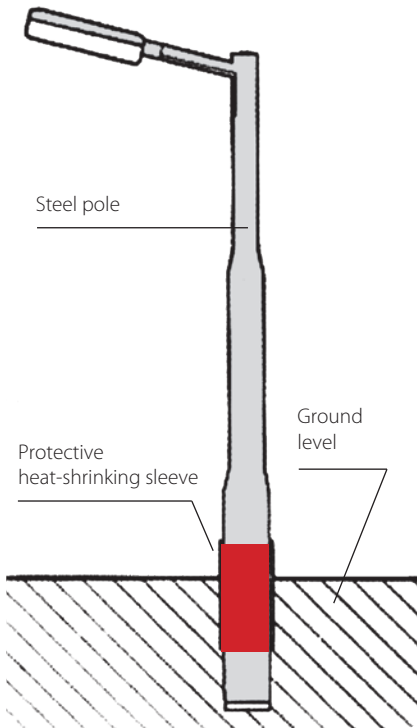
WRAP AROUND



D = min. Ø before shrinkage  
 d = max. Ø after free shrinkage

|                                |                           |
|--------------------------------|---------------------------|
| Tensile resistance             | 17 MPa (min)              |
| Elongation                     | 350 % (min)               |
| Density                        | 1,0-1,2 g/cm <sup>3</sup> |
| Hardness                       | 50-70 Shore D             |
| Thermal duration               | 120°C                     |
| Flexibility at low temperature | 4h a -40°C<br>Non-crackin |
| Dielectric strength            | Wall 1 mm<br>180 kV/cm    |
|                                | Wall 3,5 mm<br>120 kV/cm  |

**HF** Halogen Free



## ANTI-CORROSION POLE PROTECTION

On installed poles, the section most vulnerable to corrosion is right above and below ground. This section is attacked by corrosive agents that cause a rapid decay of the metal with a significant reduction of the operating life of the pole. Special heat-shrinking sheaths are suitable for the rust protection of public lighting and electric traction poles, traffic lights and traffic signs. They are composed of very thick cross linked polyolefin. The inside of the tubes and the ends are covered in a suitable thermal fuse adhesive that ensures perfect sealing without allowing moisture to enter.

### ADVANTAGES

- ▶ Ultra adhesive.
- ▶ Excellent electrical properties.
- ▶ Good chemical resistance.
- ▶ Resistant to mould and micro-organisms.
- ▶ Constant protection against stray electrical currents.
- ▶ Easy application.
- ▶ Long-term stability of all properties.



### WPCT

Open ends complete with closing pieces for already installed poles.

| PRODUCT / Item                  | End height (mm) | Package roll (m) | Code for closing piece for pole diameter |                              |
|---------------------------------|-----------------|------------------|--|------------------------------|
|                                 |                 |                  | Up to 450 mm                             | Over 450 mm                  |
| WPCT-17X100-RL<br>WPCT17X100-RL | 450             | 30               | WPCP-IV-4X17<br>WPCP-IV-4X17             | WPCP-IV-6X17<br>WPCP-IV-6X17 |
| WPCT-24X100-RL<br>WPCT24X100-RL | 600             | 30               | WPCP-IV-4X24<br>WPCP-IV-4X24             | WPCP-IV-6X24<br>WPCP-IV-6X24 |

Closing pieces sold separately



### LTPSM

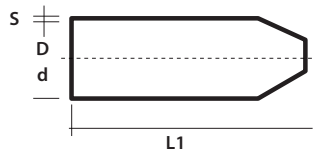
Tubular sleeve for poles for installation.

| PRODUCT / Item                      | Diameter before/after shrinkage (mm) | Sleeve length (mm) |
|-------------------------------------|--------------------------------------|--------------------|
| LTPSM 180/58-500<br>LTPSM180/58-500 | 180/58                               | 500                |
| LTPSM 245/80-500<br>LTPSM245/80-500 | 245/80                               | 500                |

## SELF-SEALING CAP

Self-sealing heat-shrink cap with adhesive for sealing cable heads.

D = Ø min. before shrinkage  
d = Ø max. after free shrinkage  
S / L1 = min. rated size after free shrinkage



HF Halogen Free

|   |                              |              |
|---|------------------------------|--------------|
| Tensile resistance                      | 12 MPa (min)                 |              |
| Elongation                              | 200 % (min)                  |              |
| Density                                 | 0,9-1,2 g/cm <sup>3</sup>    |              |
| Hardness                                | 50-70 Shore D                |              |
| Accelerated ageing<br>(7 days at 150°C) | Tensile resistance           | 12 Mpa (min) |
|   | Ultimate elongation          | 200% (min)   |
| Flexibility at low temperature          | 4h a -40°C<br>Non-cracking   |              |
| Water absorption                        | 0,5% max after<br>24h a 23°C |              |

| PRODUCT | Item       | Ø Cable   |         | D (mm) | d (mm) | S (±20% mm) | L1 (±10% mm) |
|---------|------------|-----------|---------|--------|--------|-------------|--------------|
|         |            | from (mm) | to (mm) |        |        |             |              |
| RAYL011 | 334969-000 | 4         | 8       | 12     | 4,0    | 2,0         | 40           |
| RAYL022 | 821617-000 | 8         | 17      | 20     | 6      | 2,3         | 55           |
| RAYL033 | 692333-000 | 17        | 30      | 35     | 16     | 3,0         | 83           |
| RAYL044 | 547889-000 | 30        | 45      | 55     | 26     | 3,3         | 103          |
| RAYL048 | 068743-000 | 45        | 65      | 75     | 36     | 3,3         | 120          |
| RAYL055 | 190805-000 | 65        | 95      | 100    | 52     | 3,8         | 140          |
| RAYL066 | 855203-000 | 95        | 115     | 120    | 60     | 3,8         | 150          |

## SELF-SEALING TERMINATION



| PRODUCT               | LV cable conductor (mm <sup>2</sup> ) |     | D1 (mm) | d1 (mm) | S1 ±20% (mm) | D2 (mm) | d2 (mm) | S2 ±20% (mm) | L1 ±10% (mm) | L2 ±10% (mm) |
|-----------------------|---------------------------------------|-----|---------|---------|--------------|---------|---------|--------------|--------------|--------------|
|                       | from                                  | to  |         |         |              |         |         |              |              |              |
| RayK333<br>324253-000 | 4                                     | 16  | 22      | 8       | 2            | 9       | 3,5     | 2            | 55           | 18           |
| RayK224<br>522347-000 | 25                                    | 70  | 40      | 16      | 2            | 15      | 7,5     | 2            | 125          | 35           |
| RayK466<br>556514-001 | 95                                    | 185 | 60      | 23      | 2,5          | 25      | 7,5     | 2,5          | 155          | 45           |



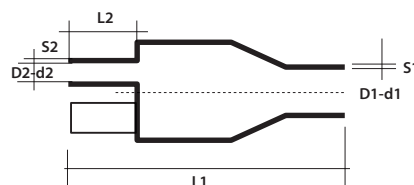
| PRODUCT               | LV cable conductor (mm <sup>2</sup> ) |     | D1 (mm) | d1 (mm) | S1 ±20% (mm) | D2 (mm) | d2 (mm) | S2 ±20% (mm) | L1 ±10% (mm) | L2 ±10% (mm) |
|-----------------------|---------------------------------------|-----|---------|---------|--------------|---------|---------|--------------|--------------|--------------|
|                       | from                                  | to  |         |         |              |         |         |              |              |              |
| RayW533<br>443425-000 | 4                                     | 35  | 38      | 17      | 2,7          | 14      | 4,5     | 2,5          | 98           | 23           |
| RayW516<br>519411-000 | 50                                    | 150 | 60      | 25      | 3            | 25      | 8       | 2,5          | 165          | 50           |
| RayW526<br>395067-000 | 185                                   | 300 | 80      | 38      | 3,5          | 35      | 11      | 3,5          | 185          | 55           |
| RayW248<br>102022-TEC | 185                                   | 500 | 110     | 50      | 4,0          | 46      | 17,5    | 3,5          | 250          | 65           |



| PRODUCT               | LV cable conductor (mm <sup>2</sup> ) |     | D1 (mm) | d1 (mm) | S1 ±20% (mm) | D2 (mm) | d2 (mm) | S2 ±20% (mm) | L1 ±10% (mm) | L2 ±10% (mm) |
|-----------------------|---------------------------------------|-----|---------|---------|--------------|---------|---------|--------------|--------------|--------------|
|                       | from                                  | to  |         |         |              |         |         |              |              |              |
| RayK033<br>645763-000 | 4                                     | 35  | 42      | 15      | 2,3          | 14      | 3,5     | 1,9          | 105          | 26           |
| RayK046<br>747267-000 | 50                                    | 70  | 55      | 21      | 3,1          | 20      | 5       | 2,5          | 150          | 40           |
| RayK016<br>119983-000 | 95                                    | 150 | 65      | 26      | 3,5          | 26      | 7       | 2,9          | 175          | 45           |
| RayK026<br>017847-000 | 185                                   | 300 | 102     | 47      | 3,9          | 38      | 12      | 3            | 198          | 58           |



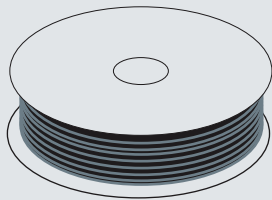
HF Halogen Free



D = min. Ø before shrinkage  
d = max. Ø after free shrinkage  
S1 / S2 = min. rated size after free shrinkage  
L1 / L2

|   |                                   |               |
|---|-----------------------------------|---------------|
| Tensile resistance                      | 10,5 MPa (min)                    |               |
| Elongation                              | 300 % (min)                       |               |
| Density                                 | 1,0-1,3 g/cm <sup>3</sup>         |               |
| Hardness                                | 50-70 Shore D                     |               |
| Accelerated ageing<br>(7 days at 150°C) | Tensile resistance                | 8,5 Mpa (min) |
|   | Ultimate elongation               | 100% (min)    |
| Flexibility at low temperature          | 4h a -40°C<br>Nessuna cricca      |               |
| Water absorption                        | 0,5% max after<br>14 days at 23°C |               |

**OTHER AVAILABLE COLOURS**



**LST-TEC**



Blue



Red

| PRODUCT      | Item       | Item          |
|--------------|------------|---------------|
| LST-TEC 1,6  | 5068276019 | LSTTEC16-ROS  |
| LST-TEC 2,4  | 5068286021 | LSTTEC24-ROS  |
| LST-TEC 3,2  | 5068296023 | LSTTEC32-ROS  |
| LST-TEC 4,8  | 5068306020 | LSTTEC48-ROS  |
| LST-TEC 6,4  | 5068316033 | LSTTEC64-ROS  |
| LST-TEC 9,5  | 5068326022 | LSTTEC95-ROS  |
| LST-TEC 12,7 | 5068336020 | LSTTEC127-ROS |
| LST-TEC 19,0 | 5068346012 | LSTTEC190-ROS |
| LST-TEC 25,4 | 5068356017 | LSTTEC254-ROS |

**CGP-TEC**



Red



Blue



Yellow



White



Transparent

| PRODUCT           | Item       | Item       | Item       | Item       | Item       |
|-------------------|------------|------------|------------|------------|------------|
| CGP-TEC 1,2/0,6   | 5069674009 | 5069674010 | 5069674011 | 5069914004 | 5069674008 |
| CGP-TEC 1,6/0,8   | 5068034005 | 5068274004 | 5068154005 | 5069924005 | 5069684005 |
| CGP-TEC 2,4/1,2   | 5068044005 | 5068284006 | 5068164005 | 5069934006 | 5069694007 |
| CGP-TEC 3,2/1,6   | 5068054008 | 5068294010 | 5068174005 | 5069944006 | 5069704005 |
| CGP-TEC 4,8/2,4   | 5068064006 | 5068304007 | 5068184005 | 5069954004 | 5069714007 |
| CGP-TEC 6,4/3,2   | 5068074011 | 5068314009 | 5068194012 | 5069964007 | 5069724010 |
| CGP-TEC 9,5/4,8   | 5068084007 | 5068324006 | 5068204006 | 5069974006 | 5069734006 |
| CGP-TEC 12,7/6,4  | 5068094006 | 5068334005 | 5068214005 | 5069984005 | 5069744004 |
| CGP-TEC 19/9,5    | 5068104006 | 5068344005 | 5068224005 | 5069944004 | 5069754005 |
| CGP-TEC 25,4/12,7 | 5068114005 | 5068354006 | 5068234005 | 5068384005 | 5069764008 |
| CGP-TEC 38/19     | 5068124001 | 5068364001 | 5068244001 | 5068004001 | 5068364005 |
| CGP-TEC 51/26     | 5068134001 | 5068374001 | 5068254001 | 226598-TEC | 5069784002 |
| CGP-TEC 76/38     | 5067104002 | 889754-TEC | 5067144001 | 230701-000 | 763800-TEC |
| CGP-TEC 102/51    | 5067204002 | 5068204003 | 5067204001 | 254199-TEC | 5067214001 |

**RGPO-B**



Red



Blue



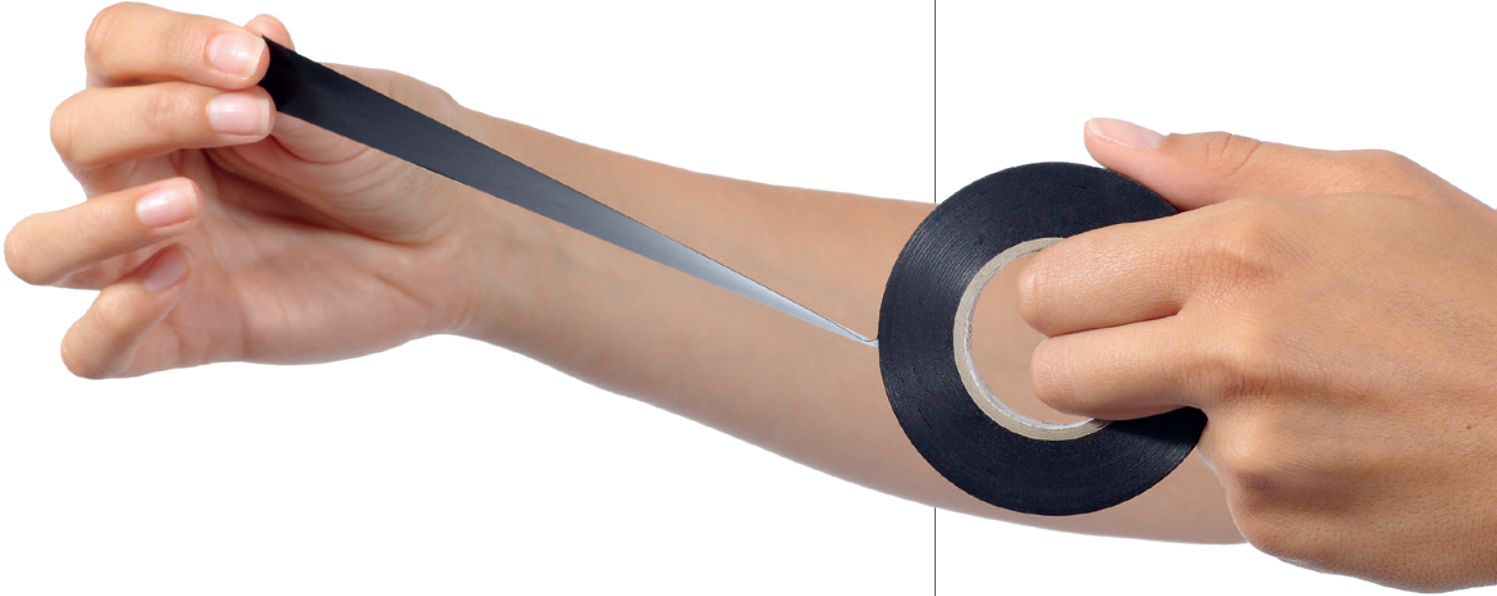
White



Transparent

| PRODUCT          | Item            | Item            | Item            | Item            |
|------------------|-----------------|-----------------|-----------------|-----------------|
| RGPO-B 2,4/1,2   | 241202-BAR      | 241206-BAR      | 241209-BAR      | 241201-BAR      |
| RGPO-B 3,2/1,6   | 321602-BAR      | 321606-BAR      | 321609-BAR      | 321601-BAR      |
| RGPO-B 4,8/2,4   | 482402-BAR      | 482806-BAR      | 482009-BAR      | 482401-BAR      |
| RGPO-B 6,4/3,2   | 643202-BAR      | 643206-BAR      | 643209-BAR      | 643201-BAR      |
| RGPO-B 9,5/4,8   | 954802-BAR      | 954806-BAR      | 954809-BAR      | 954801-BAR      |
| RGPO-B 12,7/6,4  | 127642-BAR      | 127646-BAR      | 127649-BAR      | 127641-BAR      |
| RGPO-B 19/9,5    | 199502-BAR      | 199506-BAR      | 199509-BAR      | 199501-BAR      |
| RGPO-B 25,4/12,7 | 254722-BAR      | 254726-BAR      | 254129-BAR      | 254721-BAR      |
| RGPO-B 38/19     | 381902-BAR      | 381906-BAR      | 381909-BAR      | 381901-BAR      |
| RGPO-B 51/26     | -               | -               | 512609-BAR      | -               |
| RGPO-B-3/1       | RGPOB-3/1-R     | RGPOB-3/1-B     | RGPOB-3/1-W     | RGPOB-3/1-T     |
| RGPO-B-4,5/1,5   | RGPOB-4.5/1.5-R | RGPOB-4.5/1.5-B | RGPOB-4.5/1.5-W | RGPOB-4.5/1.5-T |
| RGPO-B-6/2       | RGPOB-6/2-R     | RGPOB-6/2-B     | RGPOB-6/2-W     | RGPOB-6/2-T     |
| RGPO-B-9/3       | RGPOB-9/3-R     | RGPOB-9/3-B     | RGPOB-9/3-W     | RGPOB-9/3-T     |
| RGPO-B-12/4      | RGPOB-12/4-R    | RGPOB-12/4-B    | RGPOB-12/4-W    | RGPOB-12/4-T    |
| RGPO-B-18/6      | RGPOB-18/6-R    | RGPOB-18/6-B    | RGPOB-18/6-W    | RGPOB-18/6-T    |
| RGPO-B-24/8      | RGPOB-24/8-R    | RGPOB-24/8-B    | RGPOB-24/8-W    | RGPOB-24/8-T    |
| RGPO-B-39/13     | RGPOB-39/13-R   | RGPOB-39/13-B   | RGPOB-39/13-W   | RGPOB-39/13-T   |

# INSULATION TAPES



## SELF-ADHESIVE TAPES IN PVC

### RAYTEAM

Self-adhesive for general use



### RAYTECH SUPER 3-3

Self-adhesive for low and high temperatures



## SELF-AMALGAMATING

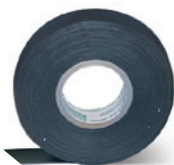
### RAYTECH 2.3

EPR insulation tape



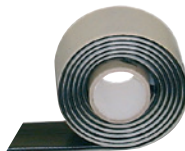
### RAYTECH 23 BT

LV insulation tape



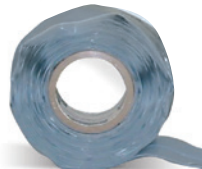
### RAYTEFILL

Heavy duty insulation tape



### RAYTECH 7-0

Silicone insulation tape



## SPECIAL TAPES

### RAYCOPPER

Copper braid tape



### MCA-FV

Self-adhesive fibreglass tape



### MCA-ALL

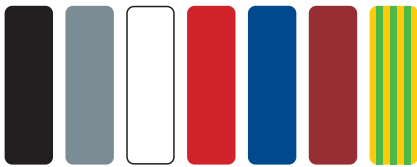
Self-adhesive aluminium tape





VDE marking

Complies with standards CEI 60454 (EN60454)



Available colours: black, grey, white, red, blue, brown, yellow/green.  
Contact Raytech for other sizes and thicknesses.

| Property   | Typical values     |
|--|--------------------|
| Breaking Strength (tensile)                          | 30 N/cm min        |
| Elongation at break                                  | > 170 %            |
| Adhesion to steel                                    | 1,8 N/cm           |
| Adhesion to backing                                  | 1,8 N/cm           |
| Self-extinguishing                                   | Self-extinguishing |
| Operating temperature                                | -5°C / 85°C        |
| Electric strength after exposure to damp environment | 40 kV/mm min       |

## RAYTEAM

Self-adhesive tape for general use.

PVC adhesive tape for electrical applications and mechanical protection for general use. Recommended for insulating low-voltage joints and for covering cables, accessories and products in general. It is self-extinguishing and does not propagate fire. Excellent resistance to ageing, exposure to weather conditions, hydrocarbons and chemical solvents in general.

| PRODUCT         | Item       | Item       | Thickness | Width | Length |
|-----------------|------------|------------|-----------|-------|--------|
| RAYTEAM 1925/13 | 270913-000 | 270913-008 | 0,13 mm   | 19 mm | 25 m   |
| RAYTEAM 1510/13 | 021513-000 | 021513-008 |           | 15 mm | 10 m   |
| RAYTEAM 1925    | 012141-000 | 012141-004 | 0,15 mm   | 19 mm | 25 m   |
| RAYTEAM 1510    | 021514-000 | 021514-006 |           | 15 mm | 10 m   |
| RAYTEAM 1525    | 270999-000 | 270999-008 |           | 15 mm | 25 m   |
| RAYTEAM 2525    | 280999-000 | 280997-000 |           | 25 mm | 25 m   |

|                 |            |            |            |            |            |
|-----------------|------------|------------|------------|------------|------------|
| RAYTEAM 1925/13 | 270913-005 | 270913-002 | 270913-006 | 270913-001 | 270913-045 |
| RAYTEAM 1510/13 | 021513-009 | 021513-002 | 021513-006 | -          | 021513-045 |
| RAYTEAM 1925    | 012141-007 | 012141-001 | 012141-002 | 012141-005 | 012141-003 |
| RAYTEAM 1510    | 021514-004 | 021514-001 | 021514-002 | 021514-007 | 021514-003 |
| RAYTEAM 1525    | 270999-009 | 270999-002 | 270999-006 | -          | 270999-045 |
| RAYTEAM 2525    | 280998-000 | -          | -          | -          | -          |

## RAYTEAM K20

20 RAYTEAM TAPES  
+ 3 MT MEASURING TAPE  
INCLUDED



### PRODUCT / Item

RAYTEAM K20  
RAYTEAM-K20

### Description

20 RAYTEAM 1925 PVC adhesive tapes dimension: 0,15 mm x 19 mm x 25 m + measuring tape in ABS with retractable belt clip and lanyard.

## RAYTECH SUPER 3-3

Self-adhesive tape for use at low and high temperatures.

PVC adhesive tape with excellent electrical and mechanical properties for a wide range of working temperatures. This tape is particularly suitable for use at low temperatures and in all weather conditions, including the most extreme. The tape is flame retardant and self-extinguishing. It is recommended as the primary insulation for joints up to 0.6/1 kV, and as the outer covering for joints and other products, and for all applications at low temperatures.

| PRODUCT / Item                    | Colour | Width | Thickness | Length |
|-----------------------------------|--------|-------|-----------|--------|
| RAYTECH SUPER 3-3<br>3-3061-00-13 | ●      | 19 mm | 0,18 mm   | 20 m   |

Complies with standards  
CEI 60454 (EN60454)



| Property   | Typical values     |
|--|--------------------|
| Breaking Strength (tensile)                          | 35 N/cm min        |
| Elongation at break                                  | 180 %              |
| Adhesion to steel                                    | > 1,8 N/cm         |
| Adhesion to backing                                  | > 1,8 N/cm         |
| Self-extinguishing                                   | Self-extinguishing |
| Temperatura d'esercizio                              | -18°C / 105°C      |
| Electric Strength after exposure to damp environment | 40 kV/mm min       |

## RAYTECH 2.3

EPR Self-amalgamating tape low and high voltage tape.

This ethylene-propylene (EPR) self-amalgamating tape is used for insulating and sealing high voltage electrical joints for voltages up to Um 72 kV. It amalgamates rapidly, adapting itself to the product underneath, forming a solid unit without air bubbles. It is particularly resistant to partial discharges (corona), with the characteristics remaining unchanged with time. Joints must be protected with a PVC tape or similar.

| PRODUCT / Item              | Colour | Width | Thickness | Length |
|-----------------------------|--------|-------|-----------|--------|
| RAYTECH 2.3<br>3-2001-00-13 | ●      | 19 mm | 0,76 mm   | 9 m    |



| Property                    | Typical values            |
|-----------------------------|---------------------------|
| Breaking Strength (tensile) | 2.2 MPa min               |
| Elongation at break         | 800% min                  |
| Overload temperature        | 130°C                     |
| Operating temperature       | 90°C                      |
| Dielectric strength         | 38 kV/mm min              |
| Volume resistivity          | 10 <sup>15</sup> Ω cm min |
| Resistance to ozone         | Positive                  |
| Resistance to U.V.          | Positive                  |

## RAYTECH 23 BT

Low voltage Self-amalgamating tape.

This rubber self-amalgamating low voltage tape (0.6/1 kV) is used for insulating and sealing low voltage electrical joints. It amalgamates rapidly, adapting itself to the product underneath, forming a solid unit. The joints must be protected with a PVC tape. The characteristics remain unchanged with time.

| PRODUCT / Item                | Colour | Width | Thickness | Length |
|-------------------------------|--------|-------|-----------|--------|
| RAYTECH 23 BT<br>3-2002-96-13 | ●      | 19 mm | 0,76 mm   | 6,7 m  |



| Property                    | Typical values |
|-----------------------------|----------------|
| Breaking Strength (tensile) | 3 MPa min      |
| Elongation at break         | 500% min       |
| Operating temperature       | 80°C           |
| Dielectric strength         | 20 kV/mm min   |



## RAYTEFILL

**Thick low voltage Self-amalgamating tape.**

This self-amalgamating thick-wall (3.2mm) has been specially designed for the rapid reconstruction of low-voltage cable insulation, to cover complex shapes (insulating and covering joints between busbars and relative bolts, clamps, etc.) and to seal against possible penetration of humidity. Once applied it becomes a solid, absolutely non-porous mass, with first class electrical qualities and ageing resistance, perfectly suited to the product it is covering.

| Property                          | Typical values     |
|-----------------------------------|--------------------|
| Breaking Strength (tensile)       | 0,1 MPa            |
| Operating temperature: Continuous | From -30°C to 80°C |
| Dielectric strength               | 23,0 kV/mm         |

| PRODUCT / Item            | Colour | Width | Thickness | Length |
|---------------------------|--------|-------|-----------|--------|
| RAYTEFILL<br>3-2140-00-13 | ●      | 38 mm | 3,2 mm    | 1,5 m  |



**Complies with standards**  
ASTM-D-2148

## RAYTECH 7-0

**Self-amalgamating silicone rubber tape.**

This self-amalgamating silicone rubber tape is used for covering medium and high voltage terminations on extruded cables up to Um 72 kV, because of its first-rate performance for electrical installations in damp or polluted environments, against corrosion, corona and against ageing. It is used as an insulation up to 180°C due to its excellent heat properties. It can be perfectly adapted to all the shapes to be covered.

| Property                    | Typical values |
|-----------------------------|----------------|
| Elongation at break         | 300%           |
| Resistance to U.V.          | Positive       |
| Resistance to ozone         | Positive       |
| Working temperature maximum | 180°C          |
| Dielectric strength         | 24 kV/mm       |

| PRODUCT / Item              | Colour | Width | Thickness | Length |
|-----------------------------|--------|-------|-----------|--------|
| RAYTECH 7-0<br>3-2042-00-13 | ●      | 25 mm | 0,51 mm   | 9,1 m  |

## RAYCOPPER

Tinned copper mesh tape for electrical screening.

| Property                    | Typical values                                |
|-----------------------------|---|
| Material                    | Tinned copper mesh tape with high flexibility |
| Elongation at break         | 70% min                                       |
| Breaking Strength (tensile) | 35 N/10 mm                                    |
| Volume resistivity          | 0,3 cm  |

| PRODUCT        | Item       | Colour | Width | Thickness | Length |
|----------------|------------|--------|-------|-----------|--------|
| RAYCOPPER 1000 | COPPER-100 | Silver | 60 mm | 0,3 mm    | 1 m    |
| RAYCOPPER 2000 | COPPER-200 | Silver | 60 mm | 0,3 mm    | 2 m    |
| RAYCOPPER 3000 | COPPER-300 | Silver | 60 mm | 0,3 mm    | 3 m    |
| RAYCOPPER 5000 | COPPER-500 | Silver | 60 mm | 0,3 mm    | 5 m    |
| RAYCOPPER 6000 | COPPER-600 | Silver | 60 mm | 0,3 mm    | 6 m    |

## MCA-FV

Fiberglass adhesive tape.

Self-adhesive mono-directional fibreglass tape with polypropylene support. Suitable for cable fixing on pipes (i.e.: Raytech MCA... cables for electrical tracing), and for any kind of strong fixing. Inextensible, it is suitable for temperatures up to 130°C.

| Property                    | Typical values |
|-----------------------------|----------------|
| Breaking Strength (tensile) | 300 N/cm min   |
| Ultimate elongation         | 8%             |
| Adhesion to steel           | 2 N/cm min     |

| PRODUCT / Item       | Colour | Width | Thickness | Length |
|----------------------|--------|-------|-----------|--------|
| MCA-FV<br>012521-000 | White  | 12 mm | 0,13 mm   | 50 m   |

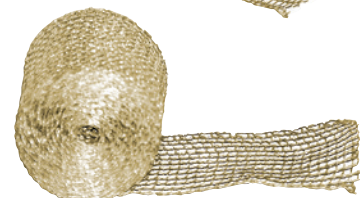
## MCA-ALL

Self-adhesive aluminium tape.

Self-adhesive aluminium tape suitable for fixing on flat surfaces (i.e.: for heating cable fixing on tanks outer surfaces); used also for holes or abrasion repairs on metallic or plastic surfaces. Strong adhesion.

| Property                    | Typical values  |
|-----------------------------|-----------------|
| Breaking Strength (tensile) | 1,2 da N/cm min |
| Elongation at break         | 5% min          |
| Adhesion to steel           | 4 N/cm min      |
| Adhesion to backing         | 4,5 N/cm min    |
| Flame resistance BS476-7    | Class 1         |

| PRODUCT / Item       | Colour    | Width | Thickness | Length |
|----------------------|-----------|-------|-----------|--------|
| MCA-ALL 75<br>R42562 | Aluminium | 75 mm | 0,06 mm   | 50 m   |



# SPEEDY LINE

Raytech, leader in the field of cable accessories, has always based its research and product line on the quality. This is why Raytech offers in the field of pulling tapes and lubricants too, systems of extremely high reliability and quality, always over the conventional types offered by the market:

- These fixed head, interchangeable nylon fishtapes are constructed with very high mechanical characteristic, long-lasting materials. Speedy Sonda tapes are made of PERLON, a practically non-deformable nylon, protecting the installer from unexpected elongation or breakage of the probe in ducts.
- “Twisted” polyester tapes, self-lubricated, extremely flexible and light, with exceptional mechanical characteristics, able to be inserted into long cable ducts, avoid the need of intermediate cable boxes; allowable bending radius is very small and, once bent, they do not break and released they come back to their original shape.
- Fibreglass tapes, thanks to their “nervous” elasticity together with their strength, are easy to use in any type of conduit.
- Nylon-steel tapes, when an exceptional strength is required.
- The widest range of accessories for all the types.
- Raytech offers the widest range of high sliding, non-toxic lubricants that are easily removable from cables. Choose from lubricant oil, lubricant gel (non-drip, allowing for a savings of up to 3 times compared to conventional types) or lubricant spray (easy application directly into the cable ducts, non-drip and dramatically reducing friction and traction force).



PRODUCT

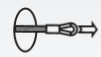
Speedy Nylon and Speedy Sonda  
Polyester Speedy Helix  
Fibreglass Speedy Glass  
Nylon-Steel Speedy Steel



Positioning

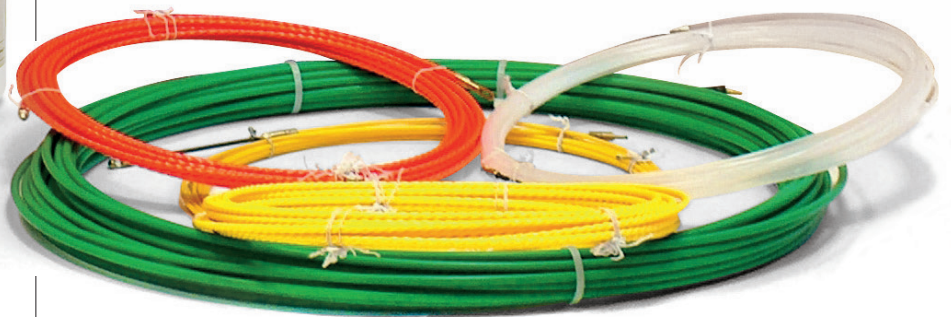


Ease of bending

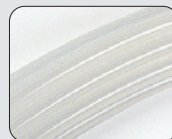


Pulling resistance

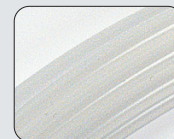
|                               |           |           |           |
|-------------------------------|-----------|-----------|-----------|
| Speedy Nylon and Speedy Sonda | Good      | Good      | Very good |
| Polyester Speedy Helix        | Very good | Very good | Very good |
| Fibreglass Speedy Glass       | Excellent | Good      | Good      |
| Nylon-Steel Speedy Steel      | Very good | Excellent | Excellent |



**Speedy Nylon**  
Fixed head Nylon probes



**Speedy Sonda 3**  
Fixed head or interchangeable Nylon Perlon® Ø 3 mm



**Speedy Sonda 4**  
Fixed head or interchangeable Nylon Perlon® Ø 4 mm



**Speedy Helix 5**  
Polyester Ø 5 mm with eyelet and fixed flexible head

## SPEEDY WIRE OIL - SPEEDY WIRE GEL

Lubricants for threading any kind of cable, power, telecom and optical fibre in ducts, smooth or corrugated piping, etc. With a very high lubrication power, especially when compared to products for similar uses, these are easily removable from cables, and require very low installation strength, even in the case of bent conduits.

**Speedy Wire Oil** is a standard, fluid and low viscosity lubricant.

**Speedy Wire Gel**, thanks to its consistency, allows for savings of up to 3 times the amount used compared to other solutions.

| PRODUCT / Item                            | Package      | Wrapping      | Appearance      | PH    | Density |
|---|--------------|---------------|-----------------|-------|---------|
| <b>SPEEDY WIRE OIL</b><br>900000-003      | 1 L bottle   | 12-piece pack | Transparent gel | 6 - 8 | About 1 |
| <b>SPEEDY WIRE GEL</b><br>900000-001      | 1 L bottle   | 12-piece pack | Milky liquid    | 6 - 8 | About 1 |
| <b>SPEEDY WIRE GEL 500</b><br>SPEEDYWG500 | 0,5 L bottle | 12-piece pack | Milky liquid    | 6 - 8 | About 1 |

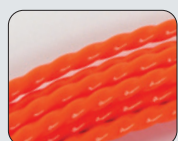
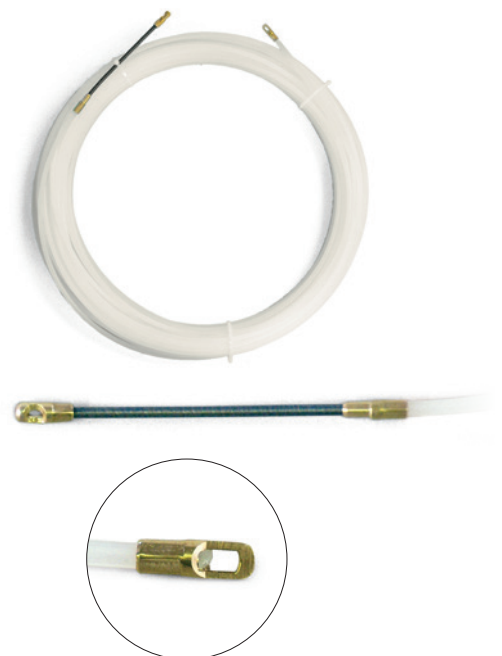


**NEW**

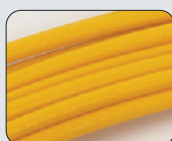
## SPEEDY NYLON

Fixed head Nylon transparent cable pullers.

| PRODUCT                    | Item             | Ø (mm) | Length (m)          | Pack of (PCS) |
|----------------------------|------------------|--------|---------------------|---------------|
| <b>SPEEDY NYLON 3/5-F</b>  | SPEEDYNYLON3/5F  | 3      | 5                   | 50            |
| <b>SPEEDY NYLON 3/10-F</b> | SPEEDYNYLON3/10F | 3      | 10                  | 40            |
| <b>SPEEDY NYLON 3/15-F</b> | SPEEDYNYLON3/15F | 3      | 15                  | 30            |
| <b>SPEEDY NYLON 3/20-F</b> | SPEEDYNYLON3/20F | 3      | 20                  | 20            |
| <b>SPEEDY NYLON 3/25-F</b> | SPEEDYNYLON3/25F | 3      | 25                  | 15            |
| <b>SPEEDY NYLON 4/5-F</b>  | SPEEDYNYLON4/5F  | 4      | 5                   | 50            |
| <b>SPEEDY NYLON 4/10-F</b> | SPEEDYNYLON4/10F | 4      | 10                  | 25            |
| <b>SPEEDY NYLON 4/15-F</b> | SPEEDYNYLON4/15F | 4      | 15                  | 20            |
| <b>SPEEDY NYLON 4/20-F</b> | SPEEDYNYLON4/20F | 4      | 20 </td <td>15</td> | 15            |
| <b>SPEEDY NYLON 4/25-F</b> | SPEEDYNYLON4/25F | 4      | 25                  | 12            |



**Speedy Helix 4**  
Polyester Ø 4 mm with eyelet and fixed flexible head



**Speedy Glass**  
Interchangeable head fibreglass probe Ø 3 mm



**Speedy Steel**  
Nylon-steel probe Ø 6 mm



**Accessories**



## SPEEDY SONDA 3

Nylon tape PERLON® Ø 3 mm with fixed or interchangeable head\*.

**FIXED** head

| PRODUCT             | Item      | Colour      | Ø (mm) | Length (m) | Pack of (PCS) |
|---------------------|-----------|-------------|--------|------------|---------------|
| SPEEDY SONDA 3/5-F  | 7139-0001 | Transparent | 3      | 5          | 50            |
| SPEEDY SONDA 3/10-F | 7139-0002 |             | 3      | 10         | 40            |
| SPEEDY SONDA 3/15-F | 7139-0003 |             | 3      | 15         | 30            |
| SPEEDY SONDA 3/20-F | 7139-0004 |             | 3      | 20         | 20            |

**INTERC.** head\*

|                     |           |             |   |    |    |
|---------------------|-----------|-------------|---|----|----|
| SPEEDY SONDA 3/5-I  | 7139-0005 | Transparent | 3 | 5  | 50 |
| SPEEDY SONDA 3/10-I | 7139-0006 |             | 3 | 10 | 40 |
| SPEEDY SONDA 3/15-I | 7139-0007 |             | 3 | 15 | 30 |
| SPEEDY SONDA 3/20-I | 7139-0008 |             | 3 | 20 | 20 |

Other dimensions available on request

\* Supplied with flexible head curve guide and pulling eyelet.

## SPEEDY SONDA 4

Nylon tape PERLON® Ø 4 mm with fixed or interchangeable head\*.

**FIXED** head

| PRODUCT             | Item      | Colour      | Ø (mm) | Length (m) | Pack of (PCS) |
|---------------------|-----------|-------------|--------|------------|---------------|
| SPEEDY SONDA 4/5-F  | 7139-0009 | Transparent | 4      | 5          | 35            |
| SPEEDY SONDA 4/10-F | 7139-0010 |             | 4      | 10         | 25            |
| SPEEDY SONDA 4/15-F | 7139-0015 |             | 4      | 15         | 20            |
| SPEEDY SONDA 4/20-F | 7139-0012 |             | 4      | 20         | 18            |
| SPEEDY SONDA 4/25-F | 7139-0059 |             | 4      | 25         | 15            |

**INTERC.** head\*

|                     |           |             |   |    |    |
|---------------------|-----------|-------------|---|----|----|
| SPEEDY SONDA 4/5-I  | 7139-0017 | Transparent | 4 | 5  | 35 |
| SPEEDY SONDA 4/10-I | 7139-0018 |             | 4 | 10 | 25 |
| SPEEDY SONDA 4/15-I | 7139-0019 |             | 4 | 15 | 20 |
| SPEEDY SONDA 4/20-I | 7139-0020 |             | 4 | 20 | 18 |
| SPEEDY SONDA 4/25-I | 7139-0058 |             | 4 | 25 | 15 |

**FIXED** head

| PRODUCT               | Item      | Colour | Ø (mm) | Length (m) | Pack of (PCS) |
|-----------------------|-----------|--------|--------|------------|---------------|
| SPEEDY SONDA 4/5-F-N  | 7139-0013 | Black  | 4      | 5          | 35            |
| SPEEDY SONDA 4/10-F-N | 7139-0014 |        | 4      | 10         | 25            |
| SPEEDY SONDA 4/15-F-N | 7139-0011 |        | 4      | 15         | 20            |
| SPEEDY SONDA 4/20-F-N | 7139-0016 |        | 4      | 20         | 18            |
| SPEEDY SONDA 4/25-F-N | 7139-0065 |        | 4      | 25         | 15            |

**INTERC.** head\*

|                       |           |       |   |    |    |
|-----------------------|-----------|-------|---|----|----|
| SPEEDY SONDA 4/5-I-N  | 7139-0021 | Black | 4 | 5  | 35 |
| SPEEDY SONDA 4/10-I-N | 7139-0022 |       | 4 | 10 | 25 |
| SPEEDY SONDA 4/15-I-N | 7139-0023 |       | 4 | 15 | 20 |
| SPEEDY SONDA 4/20-I-N | 7139-0024 |       | 4 | 20 | 18 |
| SPEEDY SONDA 4/25-I-N | 7139-0066 |       | 4 | 25 | 15 |

Other dimensions available on request

\* Supplied with flexible head curve guide and pulling eyelet.



## SPEEDY HELIX 5

Polyester tape Ø 5 mm with fixed eyelet and flexible interchangeable head.

Twisted tapes, very strong, extremely flexible and light. They pass the "4 curves test" on both rigid and corrugated pipes, but they can also avoid to have an intermediate box, and even if bent on themselves they do not break.

| PRODUCT / Item                 | Colour | Ø (mm) | Length (m) | Pack of (PCS) |
|--------------------------------|--------|--------|------------|---------------|
| SPEEDY HELIX 5/10<br>7139-0025 | Yellow | 5      | 10         | 1             |
| SPEEDY HELIX 5/15<br>7139-0026 |        | 5      | 15         | 1             |
| SPEEDY HELIX 5/20<br>7139-0027 |        | 5      | 20         | 1             |
| SPEEDY HELIX 5/25<br>7139-0064 |        | 5      | 25         | 1             |
| SPEEDY HELIX 5/30<br>7139-0028 |        | 5      | 30         | 1             |
| SPEEDY HELIX 5/50<br>7139-0029 |        | 5      | 50         | 1             |
| SPEEDY HELIX 5/60<br>7139-0030 |        | 5      | 60         | 1             |

Other dimensions available on request



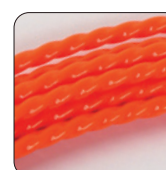
## SPEEDY HELIX 4

Polyester tape Ø 4 mm with interchangeable eyelet and head\*.

Twisted tapes, very strong, extremely flexible and light. They pass the "4 curves test" on both rigid and corrugated pipes, but they can also avoid to have an intermediate box, and even if bent on themselves they do not break.

| PRODUCT / Item                 | Colour | Ø (mm) | Length (m) | Pack of (PCS) |
|--------------------------------|--------|--------|------------|---------------|
| SPEEDY HELIX 4/10<br>7139-0031 | Orange | 4      | 10         | 1             |
| SPEEDY HELIX 4/15<br>7139-0032 |        | 4      | 15         | 1             |
| SPEEDY HELIX 4/20<br>7139-0033 |        | 4      | 20         | 1             |
| SPEEDY HELIX 4/30<br>7139-0034 |        | 4      | 30         | 1             |

Other dimensions available on request \* Supplied with flexible head curve guide and pulling eyelet



### Accessories for Speedy Helix 4

| PRODUCT            | Item             | Description               | Pack of (PCS) |
|--------------------|------------------|---------------------------|---------------|
| TGF SPEEDY HELIX 4 | TGF-SPEEDYHELIX4 | Flexible head curve guide | 1             |
| OTL SPEEDY HELIX 4 | OTL-SPEEDYHELIX4 | Long pulling eyelet       | 1             |
| PN SPEEDY HELIX 4  | PN-SPEEDYHELIX4  | Pin M4 (for tape Ø 4 mm)  | 1             |

### Accessories for Speedy Helix 5

| PRODUCT            | Item             | Description               | Pack of (PCS) |
|--------------------|------------------|---------------------------|---------------|
| TGF SPEEDY HELIX 5 | TGF-SPEEDYHELIX5 | Flexible head curve guide | 1             |
| OTL SPEEDY HELIX 5 | OTL-SPEEDYHELIX5 | Long pulling eyelet       | 1             |
| PN SPEEDY HELIX 5  | PN-SPEEDYHELIX5  | Pin M4 (for tape Ø 5 mm)  | 1             |




The tape is complete of repairing kit.



## SPEEDY GLASS

Interchangeable head "self-starting" fibreglass Ø 3 mm cable pullers\*.

Suitable for light use, even on long lengths, easy to use thanks to their "nervous" elasticity which makes easier their positioning in pipes and conduits.

| INTERC. head                          |   |        |            |               |
|---------------------------------------|---|--------|------------|---------------|
| PRODUCT / Item                        | Colour  | Ø (mm) | Length (m) | Pack of (PCS) |
| <b>SPEEDY GLASS 3/10</b><br>7139-0035 | <br>Yellow | 3      | 10         | 10            |
| <b>SPEEDY GLASS 3/15</b><br>7139-0036 |   | 3      | 15         | 10            |
| <b>SPEEDY GLASS 3/20</b><br>7139-0037 |   | 3      | 20         | 10            |
| <b>SPEEDY GLASS 3/25</b><br>7139-0060 |   | 3      | 25         | 10            |
| <b>SPEEDY GLASS 3/30</b><br>7139-0038 |   | 3      | 30         | 10            |


Other dimensions available on request

\* Supplied with flexible head curve guide and pulling eyelet

## SPEEDY STEEL

Nylon-steel tape Ø 6 mm complete of all accessories.

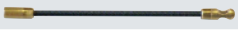

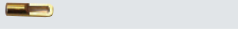

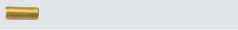

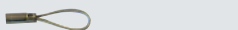

Nylon-steel tapes are extremely robust, and are made of an internal core 4 x 1,5 mm steel made, coated with a nylon layer. Particularly suitable for industrial use with heavy duty. Use in installations without voltage.

| PRODUCT / Item                        | Colour   | Ø (mm) | Length (m) | Pack of (PCS) |
|---------------------------------------|--|--------|------------|---------------|
| <b>SPEEDY STEEL 6/20</b><br>7139-0039 | <br>Green | 6      | 20         | 1             |
| <b>SPEEDY STEEL 6/25</b><br>7139-0061 |  | 6      | 25         | 1             |
| <b>SPEEDY STEEL 6/30</b><br>7139-0040 |  | 6      | 30         | 1             |
| <b>SPEEDY STEEL 6/40</b><br>7139-0041 |  | 6      | 40         | 1             |
| <b>SPEEDY STEEL 6/50</b><br>7139-0062 |  | 6      | 50         | 1             |
| <b>SPEEDY STEEL 6/60</b><br>7139-0063 |  | 6      | 60         | 1             |



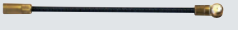

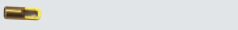

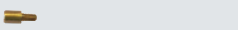


Other dimensions available on request

## ACCESSORIES

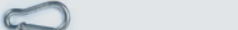

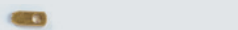

For Speedy Sonda cable pullers.

| PRODUCT    | Item      | Description               | Pack of (PCS) |   |
|------------|-----------|---------------------------|---------------|---|
| Speedy TFG | 7139-0042 | Flexible head curve guide | 3             |  |
| Speedy TFC | 7139-0043 | Flexible head with sheave | 3             |  |
| Speedy OTL | 7139-0047 | Long pulling eyelet       | 3             |  |
| Speedy OTC | 7139-0044 | Short pulling eyelet      | 3             |  |
| Speedy BU  | 7139-0045 | Joint bush for fishtapes  | 3             |  |
| Speedy PN  | 7139-0050 | Pin M4 (for tape Ø 4 mm)  | 3             |  |
| Speedy AT  | 7139-0048 | Pulling slot              | 3             |  |
| Speedy CA  | 7139-0049 | Accessories kit           | 1             |  |

For Speedy Glass cable pullers.

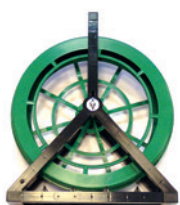
| PRODUCT    | Item      | Description               | Pack of (PCS) |   |
|------------|-----------|---------------------------|---------------|---|
| Speedy REP | 7139-0051 | Repairing kit             | 3             |    |
| Speedy TFG | 7139-0042 | Flexible head curve guide | 3             |    |
| Speedy TFC | 7139-0043 | Flexible head with sheave | 3             |    |
| Speedy OTL | 7139-0047 | Long pulling eyelet       | 3             |   |
| Speedy OTC | 7139-0044 | Short pulling eyelet      | 3             |  |
| Speedy BU  | 7139-0045 | Joint bush for fishtapes  | 3             |  |
| Speedy PNG | 7139-0046 | Pin for Speedy Glass tape | 3             |  |
| Speedy AT  | 7139-0048 | Pulling slot              | 3             |  |
| Speedy CA  | 7139-0049 | Accessories kit           | 1             |  |

For Speedy Steel cable pullers.

| PRODUCT   | Item      | Description               | Pack of (PCS) |   |
|-----------|-----------|---------------------------|---------------|---|
| Speedy MO | 7139-0072 | Snap link                 | 3             |  |
| Speedy TS | 7139-0069 | Flexible head curve guide | 3             |  |
| Speedy OL | 7139-0071 | Clamping device           | 3             |  |
| Speedy RS | 7139-0070 | Sliding wheel device      | 3             |  |

Accessories available upon request for Speedy Helix and:

| PRODUCT         | Item      | Description                             | Pack of (PCS) |         |
|-----------------|-----------|---|---------------|---------|
| Speedy AS       | 7139-0054 | Reels with support                      | 1             | (see A) |
| Speedy AF       | 7139-0053 | Reels on frame                          | 1             | (see B) |
| Speedy AFS      | 7139-0055 | Steel reels on frame                    | 1             | (see C) |
| Speedy PR Glass | 7139-0052 | Repairing pliers for Speedy Glass tapes | 1             | (see D) |



(A)



(B)



(C)



(D)



# FIRE STOP BARRIERS

## FIRE STOP BAG

Fire stop barrier in an intumescent bag.

Intumescent incombustible bags which stop the passage of fire through openings in walls. They are available in different sizes and they have to be placed to seal the openings, both in walls and floor slabs. At a temperature of 200°C the material starts to compact sealing the gaps thus avoiding the passage of the flames.

- ▶ Made from a fireproof fabric.
- ▶ Contains intumescent putty seal inside.

| PRODUCT / Item   | Bag dimensions    |
|------------------|-------------------|
| FSB-11<br>FSB-11 | mm 250 x 100 x 25 |
| FSB-12<br>FSB-12 | mm 250 x 200 x 35 |
| FSB-13<br>FSB-13 | mm 250 x 300 x 35 |

**INSTALLATION**  
Finish and opening then lay, the bags as bricks, staggered and overlapped.

For the application on plasterboard walls please contact Raytech.

## FIRE STOP PANEL

Fire stop barriers in panels.

Incombustible panels treated on the surface with putty to stop the passage of fire through openings in walls. This product allows for the sealing of cavities in walls safely and cost effectively.

- ▶ Manufactured from Rockwool.
- ▶ Coated with putty.
- ▶ Resistant to mould and bacteria .

| PRODUCT / Item   | Dimension (mm) |
|------------------|----------------|
| FSP-11<br>FSP-11 | 600 x 600 x 51 |

**INSTALLATION**  
Finish and clean the opening edges then cut the panels with a cutters and position them in the opening. The edges and the jointing lines, as well as the interstices among the cables, are sealed and covered with FIRE STOP SEAL FSS sealant..

For the application on plasterboard walls please contact Raytech.



**APPROVAL**

Class EI 120 Non toxic and asbestos free. In compliance with standard EN 1366-3.



**APPROVAL**

Class EI 120 Non toxic, asbestos and solvent free. In compliance with standard EN 1366-3.

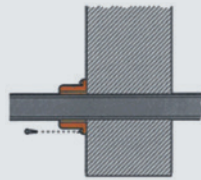
## FIRE STOP COLLAR

### Fire stop transit collar for plastic pipes.

Fire stop barrier transit collar for plastic pipes (minimum wall thickness 200mm). Available in a wide range of dimensions to surround pipes that pass through walls.

- Stainless steel outer band.
- Contains intumescent putty seal inside.

| PRODUCT / Item |        | Ø<br>(mm)       |
|----------------|--------|-----------------|
| FSC 11         | FSC-11 | from 63 to 110  |
| FSC 12         | FSC-12 | from 110 to 160 |
| FSC 13         | FSC-13 | 200             |
| FSC 14         | FSC-14 | 250             |



#### INSTALLATION

No special care is required: the collar, when opened, is positioned around the duct, closed and fastened by means of inserts.

For other dimensions and installation please contact Raytech.



#### APPROVAL

Class EI 120 non toxic and asbestos free. In compliance with standard EN 1366-3.

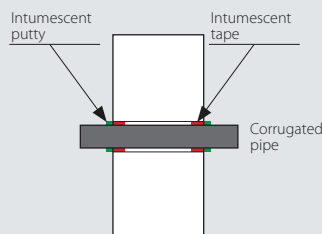
## FIRE STOP TAPE

### Fire stop barrier in an intumescent tape for plastic corrugated pipes.

Fire stop barrier in an intumescent tape for the crossing closure of single corrugated pipes. Highly heat-sensitive, intumescent graphite tape with high expansion properties for the protection of corrugated electrical pipes containing cables. Applied on both sides of the pipe crossing through the wall so as to surround the pipe. The heat from a fire causes the tape to expand and fill all possible voids.

#### RECOMMENDATION

The solution is 10m long, and it can be cut at the required length, saving the remaining parts for a future application. Can also be used in conjunction with FSCI, FSSE, FSCC box covering protections.



#### INSTALLATION

Wrap the tape twice around the corrugation, on both sides of the wall, fitting it in the through hole. Seal with FIRE STOP SEAL (FSS) sealant putty. Let dry.

| PRODUCT / Item             | Application corrugated pipe diameter range (mm) | Width (mm) | Thickness (mm) | Length (m) |
|----------------------------|---|------------|----------------|------------|
| FST-E-25/32<br>FST-E-25/32 | da 25 a 32 *                                    | 20         | 2              | 10         |

\*containing cables up to 10 mm<sup>2</sup>



#### APPROVAL

Class EI 120 non toxic and asbestos free. In compliance with standard EN 1366-3.



**APPROVAL**

**Class** EI 120

Non toxic and asbestos free.

Does not emit toxic gases and dense fumes.

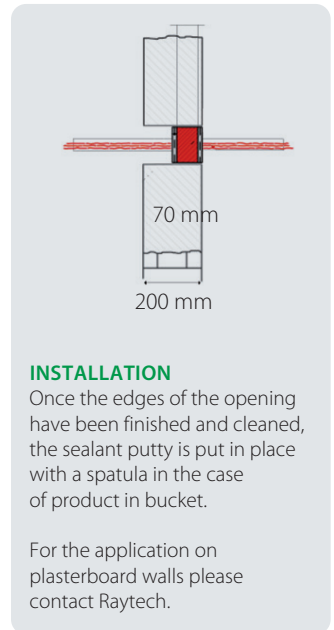
In compliance with standard EN 1366-3.

**FIRE STOP SEAL**

**Fire stop barrier in intumescent sealing mastic.**

Intumescent mastic to seal and close small voids in walls, also in addition to other types of barriers. It is applied to seal a void or to provide a barrier in a cable duct.

- ▶ **A polymer compound with fireproof fibres and intumescent in an aqueous solution.**
- ▶ **Non-hygroscopic and thixotropic.**
- ▶ **Can be applied with a spatula.**



**INSTALLATION**

Once the edges of the opening have been finished and cleaned, the sealant putty is put in place with a spatula in the case of product in bucket.

For the application on plasterboard walls please contact Raytech.

| PRODUCT / Item          | Package                     |
|-------------------------|-----------------------------|
| <b>FSS 10</b><br>FSS-10 | Spatula type,<br>10 kg drum |

**FIRE STOP FOAM**

**Fire stop barriers in expanding foam.**

Single-component expandable sealant foam for filling and fire sealing of small crossing gates on cable duct channels that have been previously compartmented with FSB bags and small gaps. Each canister covers a volume of approximately 20 L.

- ▶ **Made from a fire resistant polyurethane based foam.**
- ▶ **Graphite fortified.**
- ▶ **Hardens upon contact with air.**
- ▶ **Suitable for the protection of plasterboard walls or slabs.**



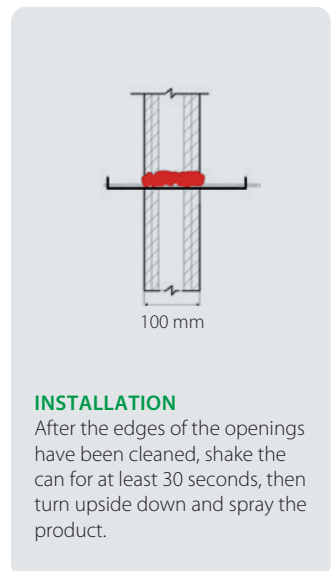
**APPROVAL**

**Class** EI 120

Non toxic and asbestos free.

Does not emit toxic gases and dense fumes.

In compliance with standard EN 1366-3.



**INSTALLATION**

After the edges of the openings have been cleaned, shake the can for at least 30 seconds, then turn upside down and spray the product.

| PRODUCT / Item         | Package             |
|------------------------|---------------------|
| <b>FSF 700</b> FSF-700 | Spray can of 750 ml |

## FSC-TPC

### Fire stop barrier for plastic and/or corrugated pipes with cables.

Protection designed to be built into the wall after pipes have been installed. Can be installed in locations where the construction support is damaged and there is an annular space around the services. It is possible to protect mixed corrugated plastic pipes in the same crossing.

- For PE/PP, PVC, Abs pipes containing electrical cables or other services.
- Pipes can be grouped and protected in bundles.

| PRODUCT / Item |             | For pipes with Ø (mm) |
|----------------|-------------|-----------------------|
| FSC-TPC 050    | FSC-TPC-050 | 50                    |
| FSC-TPC 060    | FSC-TPC-060 | 60                    |
| FSC-TPC 090    | FSC-TPC-090 | 90                    |
| FSC-TPC 120    | FSC-TPC-120 | 125                   |

#### INSTALLATION

Clean the pipe. Open the sleeve longitudinally, place it around the pipe and clamp it on it using special metal tabs. Push the collar towards the centre of the wall.

Fix with FSS putty in the event of installation on a special crossover pipe.

Contact Raytech regarding through openings or installation on inclined piping.



#### APPROVAL

Class EI 120

Non toxic and asbestos free.

Does not emit toxic gases and dense fumes. In compliance with standard EN 1366-3.

## FSM

### Fire stop barriers in incombustible plaster.

Protective coating to seal and prevent fire propagation in wall cavities; it can be applied manually or sprayed. It can be easily mixed in big quantities with suitable mixer (e.g. concrete mixer).

- Made from mineral fibres.
- Simply mix with water and with or without cement mixes.
- For gates on walls or slabs.

| PRODUCT / Item | Package   |
|----------------|-----------|
| FSM 20 FSM-20  | 20 kg bag |

#### INSTALLATION

After the edges of the openings have been finished and cleaned, the incombustible plaster is mixed with water, than applied manually, with a trowel or a pump, and left to dry in air. Water quantity: about 0,85 lt/kg (volume 1 kg = about 2,5 dm<sup>3</sup>).

For other applications please contact Raytech.



#### APPROVAL

Class EI 120

Non toxic and asbestos free.

Does not emit toxic gases and dense fumes. In compliance with standard EN 1366-3.

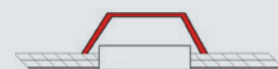
## FSCP

### Fire stop barriers for ceiling lights.

Fireproof barriers for fluorescent lights in suspended ceilings. Maintains conditions of fire resistance of ceilings and suspended ceilings. Slightly reduces the temperature in the space between the ceiling and the ceiling panel.

- Made from non-toxic mineral fibres.
- Prevents propagation.
- Flexible, light and self-supporting, easy to install and to remove.

| PRODUCT / Item         | Dimension (mm)   | Weight (kg) |
|------------------------|------------------|-------------|
| FSCP 600<br>FSCP-600   | 720 x 750 x 150  | 1,7 circa   |
| FSCP 1200<br>FSCP-1200 | 1330 x 720 x 140 | 3,5 circa   |



#### INSTALLATION

No special care is required. The protection must be placed on the ceiling light grid adhering to the panel.



#### APPROVAL

Class EI 120

Non toxic and in compliance with standard EN 1365-2 • 1363-1.



**APPROVAL**

**Class** EI 120 Non toxic.  
It expands up to 5 times.  
In compliance with standard  
EN 1365-2 • 1363-1

**FSCF**

**Fire stop hoods for downlighters.**

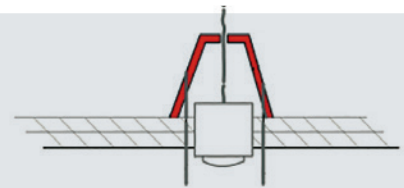
Fireproof dome shaped hood for downlighters in suspended ceilings. Maintains fire conditions of fire resistance of ceilings and suspended ceilings. Prevents fire propagation and slightly reduces the temperature in the void between the ceiling and the suspended ceiling.

- ▶ **Made from non-toxic mineral fibres.**
- ▶ **Resistant to fire and expandable compounds.**
- ▶ **Prevents lamp overheating.**
- ▶ **Flexible, light and self-supporting.**
- ▶ **Easy to install and to remove.**

**INSTALLATION**

No special care is required.  
The protection must be placed on the spotlight, adhering to the panel.

For other dimensions please contact Raytech.



| PRODUCT / Item           | Dimension (mm) | Type        |
|--------------------------|----------------|-------------|
| <b>FSCF 250</b> FSCF-250 | 250 x 280      | Cone-shaped |
| <b>FSCF 350</b> FSCF-350 | 350 x 230      | Dome-shaped |



**FSSE**

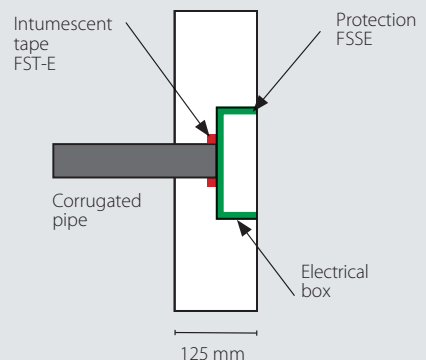
**Intumescent fire stop barrier for electrical boxes.**

Intumescent barrier for the fire protection of electrical system components built into walls.

- ▶ **Inserted in electrical boxes.**
- ▶ **Protection with high expansion properties.**
- ▶ **Guarantees wall conditions in the event of a fire.**

**INSTALLATION**

The protections are inserted inside the box before the insertion of modules. Protect corrugated pipes crossing walls with FST-E-25/32



| PRODUCT / Item        | For electric boxes             |
|-----------------------|--------------------------------|
| <b>FSSE 01</b> FSSE01 | Up to three modules (type 503) |
| <b>FSSE 02</b> FSSE02 | Up to six modules (type 506)   |

**APPROVAL**

**Class** EI 120 Non toxic.  
In compliance with standard EN 1364-1

## FSCC

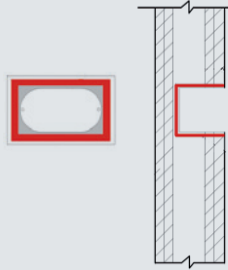
### Fire stop barriers for covering enclosures.

Fire protection system for electrical enclosures and junction boxes. These protect plasterboard wall compartments from heat and fire propagation.

- Made from calcium silicate.
- Contains enclosure.

#### INSTALLATION

After the opening edges have been finished and cleaned, the protection is properly placed and fixed to the wall by means of screws and putty.



| PRODUCT / Item    | External dimension (mm) | Internal dimension (mm) |
|-------------------|-------------------------|-------------------------|
| FSCC 150 FSCC-150 | 150 x 120 x 75          | 110 x 80 x 55           |

## FSCO T110

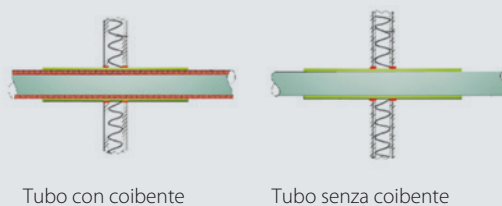
### Metal pipe insulating mat protective barrier.

The FSCO T110 barrier is made up a flexible and easily conformable, highly fire resistant insulating mat. It is clad with an aluminium sheet and protects insulated or non-insulated metal piping in wall crossings. The product is cut and modelled with ease, wrapped in a single layer around the pipe, and then closed with aluminised tape. Protects metal piping crossing walls or slabs, preventing longitudinal transmission of heat and fusion of any insulating material.

- Composed of fibres free of any resins or organic binders.
- For wall thicknesses of at least 125 mm.

#### INSTALLATION

The product is laid in a single layer around the pipe, matching the edges and fastening them with aluminised tape. The installation is then reinforced with wrapped steel wire pulled with pliers. It is positioned letting at least 430 mm come out from each side.



| PRODUCT / Item      | Colour    | Width | Thickness | Length |
|---------------------|-----------|-------|-----------|--------|
| FSCO T110 FSCO-T110 | Aluminium | 1 m   | 20 mm     | 5 m    |



#### APPROVAL

**Class** EI 120 Non toxic and asbestos free.  
Does not emit toxic gases and dense fumes.  
In compliance with standard EN 1364-1.



#### APPROVAL

**Class** EI 120 Non toxic and asbestos free.  
In compliance with standard  
EN 1366-1 • EN 1366-3 • EN 1366-5

# SPECIALS

Kits for the connection, maintenance and protection of electrical systems.



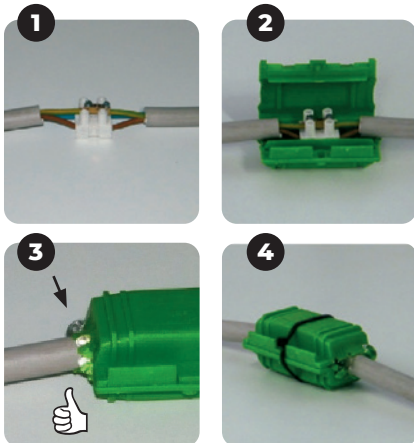
## GALACTIC MAMMUT SECURITY

Straight joint pre-filled with gel.

Galactic Mammut Security is an extremely compact accessory that is suitable for resolving insulation and sealing problems. Make reliable strip connector connections using the components found within the kit. Supplied with connectors for up to 3 core 4mm cables. Suitable for all types of domestic and industrial uses. Make safe temporary or uninsulated connections already in place. For quick repairs of damaged cable and extension cords. Suitable for outdoor use, in panels, within the kitchen etc. Non-toxic, no shelf life, easily re-enterable. Once closed the internal connectors are immediately protected. Galactic Mammut is essential in any area where water is present.

### ADVANTAGES

- ▶ No more tangled wires or uncovered connectors!
- ▶ A safe, reliable and quick solution *Galactic Mammut Security*.



### BEFORE

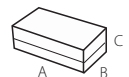


### AFTER



**Package:**  
3-piece blister pack

**Electrical performance:**  
CEI EN 50393 as applicable  
(testing under water head  
of the accessory installed in a box)



| PRODUCT / Item                           | Cable formation  | Dimension (mm) |
|--|--|----------------|
| GALACTIC MAMMUT SECURITY<br>GALACTIC-MAM | Cables 3 x 1 to 4 mm <sup>2</sup><br>3 insulated conductors<br>with ground from 1 to 4 mm <sup>2</sup> | 61 x 35 x 28   |

## GALACTIC ANIMAL BARRIER

Mouldable two-component rubber paste to prevent animal intrusion.

Galactic Animal Barrier is a two-component paste with no shelf life that can be easily moulded before cross linking is complete. It can be applied to entries to protect against intrusion (conduits, cable ducts and pipes etc). It cross links quickly to form an effective barrier against small insects however it is easily removable. Ideal for electric gate type installations.

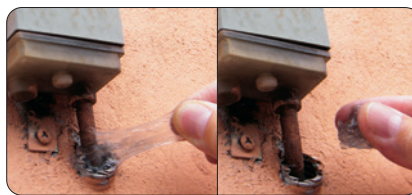


| PRODUCT / Item                             | Description          | Rubber colour | Total quantity (g) |
|--|----------------------|---------------|--------------------|
| GALACTIC ANIMAL BARRIER<br>GALACTIC-ANIBAR | two-component rubber | ●             | 250                |

## GALACTIC WATER STOP

Ready to use single component gel.

The Galactic Water Stop single component gel is a soft, extremely sticky product supplied in convenient, ready to use packages: just tear open the quantity needed and place it at the entry point to protect from infiltration. Thanks to its stickiness, it provides stable and effective sealing over time. Easily removable and re-enterable, allowing repeated access to the protected component without leaving traces. Non-drip so it can also be installed vertically or on the ceiling. Highly sealant, lends itself to the insulation of small connections, or for the protection of particularly exposed connections (connections to external car battery terminals, etc.). This product can be applied wherever there may be leakages from pipes, corrugated pipes, channels, etc., or where there is a need for rapid and efficient insulation.



Corrugated pipe entry protection

Removal

| PRODUCT / Item                       | Description          | Gel colour  | Package (g) |
|--------------------------------------|----------------------|-------------|-------------|
| GALACTIC WATER STOP<br>GALAWATERSTOP | single component gel | transparent | 2 x 100     |



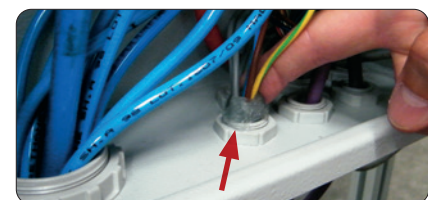
Kit composition:  
1 can for component (A+B)



IT BECOMES RUBBER  
IN 5 MINUTES



Kit composition: 2 cans, 100 g each





## RAY RTV

Fast cross linking two-component silicone rubber with high mechanical, thermal and elastic characteristics.

Ray-RTV cross links quickly at room temperature, transforming into a rubber with high mechanical, thermal and elastic characteristics. Available in single dose bags, bottles, tanks and boxes, in standard 30 Shore A hardness for black. Fast cross linking (less than 8 minutes at 30°C) and easily re-enterable.

### ADVANTAGES

- Highly resistant, non-stick, insulating and sealing.
- No shelf life.



In 15 minutes  
Ray RTV is ready!

**Density:** about 1.24 gr/cm<sup>3</sup>  
**Cross linking:** (pot life) at + 30°C: <8 minutes  
**Viscosity:** 4000-6000 max MPas  
**Elongation at break:** 350 %  
**Tensile strength:** 2,8 MPa  
**Operating temperature:** -60°C / +200°C  
**Overload temperature:** +250°C  
**Thermal conductivity:** 0,2 W/m<sup>2</sup>K  
**Dielectric strength:** >21 kV/mm  
**Volume resistivity:** >1,5 x 10 exp 15 Ω cm

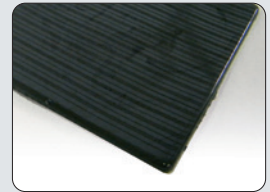
### Applications Examples



Glass sealing



Pit sealing



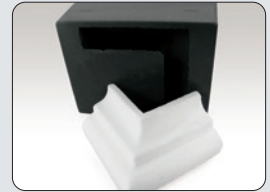
Rubber mats



Extruded profiles



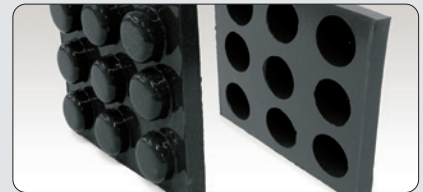
Rubber gaskets



Profile reliefs



Anti-corrosion protection



Moulds for making models and for industry

| PRODUCT / Item                 | Colour | Shore A hardness | Weight | Package type  |
|--------------------------------|--------|------------------|--------|---|
| BAG-RTV 200-N<br>BAGRTV200-N   | ●      | 30               | 200 g  | Single dose bag    |
| BAG-RTV 350-N<br>BAGRTV350-N   | ●      | 30               | 350 g  |   |
| RAY-RTV 10K-N<br>RAYRTV10K-N   | ●      | 30               | 10 kg  | Boxes   |
| RAY-RTV 20K-N<br>RAYRTV20K-N   | ●      | 30               | 20 kg  |   |
| RAY-RTV 400K-N<br>RAYRTV400K-N | ●      | 30               | 400 kg |   |

Other colours, hardness and cross linking times (pot life) are available upon request for tanks of 400 Kg. Ray-RTV is available in bags up to 600 g.

## SHINY SOLAR

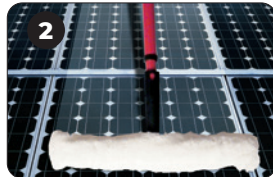
**Solution for solar and photovoltaic panel maintenance.**

Shiny Solar is a product for photovoltaic and solar module maintenance, for easy removal of grease, limestone and crystallised deposits, dust, smog, excrement, etc. A photovoltaic panel can reduce generated power by up to 15% for non-polluted areas and 25% for highly polluted areas, Regular use of Solar Shiny keeps systems running efficiently. Extremely effective and easy to apply, with no shelf life. To maintain system efficiency, proceed with 2-3 applications/year for medium-polluted areas. The degreasing and anti-static protection contained in the product allows excellent results even with rinsing with hard water (even higher than 30°F). Rapid application: treatment of a 6 kW system (approximately 50 m<sup>2</sup>), thanks to the fact that degreasing, cleaning and application of the anti-static protection are all part of one single operation, requires less than 20 minutes. Shiny Solar respects panel components, the aluminium frame, gaskets and protective glass. A single package of Shiny Solar can treat installed photovoltaic panel power from 10 to 15 kW, equal to a surface of about 80-120 m<sup>2</sup>. The order data table shows the power and surfaces which can be treated with different packages.

- For easy removal of grease, limestone and crystallised deposits, dust, smog, excrement, etc.
- Contains anti-static protection.



1 Spray the product evenly on the solar or photovoltaic panel or on the surface to be cleaned and protected.



2 Let stand for a few minutes, depending on the level of dirt to be cleaned, then wipe with a soft, non-abrasive, slightly damp pad or sponge.



3 Rinse with water or remove product with a paper towel. Repeat for especially dirty surfaces.



| PRODUCT / Item                      | Product contents | Efficiency (kW/ surfaces treated per package) |                            |
|-------------------------------------|------------------|---|----------------------------|
|                                     |                  | Power in kW                                   | Surfaces (m <sup>2</sup> ) |
| Shiny Solar<br>SHINYSOLAR           | 750 ml           | 10 - 15                                       | 80 - 120                   |
| Shiny Solar 5<br>SHINYSOLAR5        | 5 lt             | 70 - 100                                      | 530 - 800                  |
| Shiny Solar 1000<br>SHINYSOLAR-1000 | 1000 lt          | 14.000 - 20.000                               | 106.000 - 160.000          |
| Shiny Brush SB4<br>SHINYBRUSCH4     | brush microfiber |   |                            |



### Advantages:

The 750 ml and 5 lt kits are supplied together with a professional sprayer, with an adjustable spray jet nozzle with a range in the latter case of up to 3 m.

For proper application of the product even in hard to reach areas, a microfiber brush mounted on a telescopic arm which projects up to 4 m is available.



Shiny Brush SB4



**Self extinguishing:** according to UL94.

**Halogen free.**

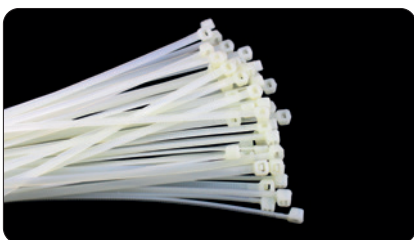
Excellent resistance to basis, oils, fats, hydrocarbons, chemicals, chlorinated solvents.

 **Operating temperature:** -40°C / +85°C

 **Installation temperature:** -10°C / +60°C



100-piece pack.



100-piece pack.

# CABLE TIES

Tilted tip for easy insertion into clamping head. Rounded corners for greater safety. Quick sliding thanks to a low material friction coefficient. Good UV resistance thanks to it's black colour.

## ESSENTIAL FOR:

- ▶ **Electrical installations.**
- ▶ **Industrial applications.**
- ▶ **Panels.**
- ▶ **Special applications.**

| Colour <b>Black</b> |            | Width (mm) | Length (mm) | Appl. diameter |     | Strength |     |
|---------------------|------------|------------|-------------|----------------|-----|----------|-----|
| PRODUCT             | Item       |            |             | min            | max | (Kg)     | (n) |
| Ray-fasc N 22/75    | 700000-050 | 2,2        | 75          | 0.75           | 15  | 6.12     | 60  |
| Ray-fasc N 25/98    | 700000-026 | 2,5        | 98          | 1              | 21  | 8.16     | 80  |
| Ray-fasc N 25/135   | 700000-027 | 2,5        | 135         | 1              | 32  | 8.16     | 80  |
| Ray-fasc N 26/160   | 700000-028 | 2,6        | 160         | 1              | 40  | 8.16     | 80  |
| Ray-fasc N 26/200   | 700000-029 | 2,6        | 200         | 2              | 52  | 8.16     | 80  |
| Ray-fasc N 36/140   | 700000-030 | 3,6        | 140         | 2              | 35  | 13.26    | 130 |
| Ray-fasc N 36/200   | 700000-031 | 3,6        | 200         | 2              | 50  | 13.26    | 130 |
| Ray-fasc N 36/290   | 700000-032 | 3,6        | 290         | 2              | 80  | 13.26    | 130 |
| Ray-fasc N 36/370   | 700000-033 | 3,6        | 370         | 2              | 103 | 13.26    | 130 |
| Ray-fasc N 48/178   | 700000-035 | 4,8        | 178         | 2              | 45  | 22.44    | 220 |
| Ray-fasc N 48/200   | 700000-036 | 4,8        | 200         | 3              | 50  | 22.44    | 220 |
| Ray-fasc N 48/250   | 700000-037 | 4,8        | 250         | 3              | 68  | 22.44    | 220 |
| Ray-fasc N 48/290   | 700000-038 | 4,8        | 290         | 3.5            | 79  | 22.44    | 220 |
| Ray-fasc N 48/360   | 700000-039 | 4,8        | 360         | 3.5            | 103 | 22.44    | 220 |
| Ray-fasc N 48/430   | 700000-041 | 4,8        | 430         | 3.5            | 115 | 22.44    | 220 |
| Ray-fasc N 78/180   | 700000-051 | 7,8        | 180         | 3.5            | 45  | 55.08    | 540 |
| Ray-fasc N 78/240   | 700000-043 | 7,8        | 240         | 3.5            | 63  | 55.08    | 540 |
| Ray-fasc N 78/300   | 700000-044 | 7,8        | 300         | 4              | 80  | 55.08    | 540 |
| Ray-fasc N 78/365   | 700000-045 | 7,8        | 365         | 8              | 100 | 55.08    | 540 |
| Ray-fasc N 78/450   | 700000-046 | 7,8        | 450         | 35             | 130 | 55.08    | 540 |
| Ray-fasc N 78/540   | 700000-047 | 7,8        | 540         | 35             | 158 | 55.08    | 540 |
| Ray-fasc N 78/750   | 700000-048 | 7,8        | 750         | 35             | 220 | 55.08    | 540 |

| Colour <b>White</b> |            | Width (mm) | Length (mm) | Appl. diameter |     | Strength |     |
|---------------------|------------|------------|-------------|----------------|-----|----------|-----|
| PRODUCT             | Item       |            |             | min            | max | (Kg)     | (n) |
| Ray-fasc B 22/75    | 700000-049 | 2,2        | 75          | 0.75           | 15  | 6.12     | 60  |
| Ray-fasc B 25/98    | 700000-002 | 2,5        | 98          | 1              | 21  | 8.16     | 80  |
| Ray-fasc B 25/135   | 700000-003 | 2,5        | 135         | 1              | 32  | 8.16     | 80  |
| Ray-fasc B 26/160   | 700000-004 | 2,6        | 160         | 1              | 40  | 8.16     | 80  |
| Ray-fasc B 26/200   | 700000-005 | 2,6        | 200         | 2              | 52  | 8.16     | 80  |
| Ray-fasc B 36/140   | 700000-006 | 3,6        | 140         | 2              | 35  | 13.26    | 130 |
| Ray-fasc B 36/200   | 700000-007 | 3,6        | 200         | 2              | 50  | 13.26    | 130 |

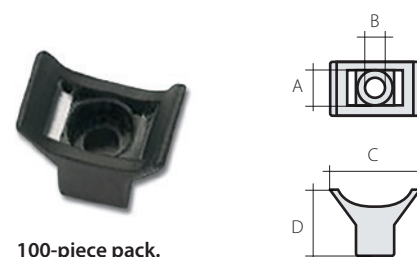
CABLE TIES

|                   |            |     |     |     |     |       |     |
|-------------------|------------|-----|-----|-----|-----|-------|-----|
| Ray-fasc B 36/290 | 700000-008 | 3,6 | 290 | 2   | 80  | 13.26 | 130 |
| Ray-fasc B 36/370 | 700000-009 | 3,6 | 370 | 2   | 103 | 13.26 | 130 |
| Ray-fasc B 48/178 | 700000-011 | 4,8 | 178 | 2   | 45  | 22.44 | 220 |
| Ray-fasc B 48/200 | 700000-012 | 4,8 | 200 | 3   | 50  | 22.44 | 220 |
| Ray-fasc B 48/250 | 700000-013 | 4,8 | 250 | 3   | 68  | 22.44 | 220 |
| Ray-fasc B 48/290 | 700000-014 | 4,8 | 290 | 3,5 | 79  | 22.44 | 220 |
| Ray-fasc B 48/360 | 700000-015 | 4,8 | 360 | 3,5 | 103 | 22.44 | 220 |
| Ray-fasc B 48/430 | 700000-017 | 4,8 | 430 | 3,5 | 115 | 22.44 | 220 |
| Ray-fasc B 78/180 | 700000-052 | 7,8 | 180 | 3,5 | 45  | 55.08 | 540 |
| Ray-fasc B 78/240 | 700000-019 | 7,8 | 240 | 3,5 | 63  | 55.08 | 540 |
| Ray-fasc B 78/300 | 700000-020 | 7,8 | 300 | 4   | 80  | 55.08 | 540 |
| Ray-fasc B 78/365 | 700000-021 | 7,8 | 365 | 8   | 100 | 55.08 | 540 |
| Ray-fasc B 78/450 | 700000-022 | 7,8 | 450 | 35  | 130 | 55.08 | 540 |
| Ray-fasc B 78/540 | 700000-023 | 7,8 | 540 | 35  | 158 | 55.08 | 540 |
| Ray-fasc B 78/750 | 700000-024 | 7,8 | 750 | 35  | 220 | 55.08 | 540 |

### CABLE TIE SUPPORT

Fastening with standard inserts for cable ties with widths up to 9 mm. UV resistant.

| PRODUCT / Item        | Dimension (mm) |   |    |      |
|-----------------------|----------------|---|----|------|
|                       | A              | B | C  | D    |
| Ray-fasc S 700001-000 | 9,4            | 5 | 23 | 17,6 |

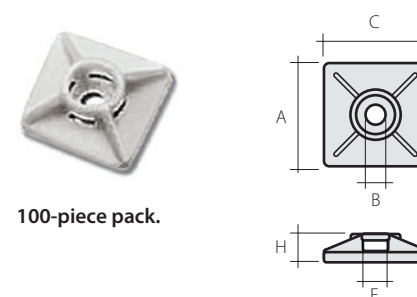


100-piece pack.

### BI-DIRECTIONAL ADHESIVE FIXING DEVICE

Self adhesive, can be used on all materials. Suitable for cable ties up to 4.8 mm. Made from ABS with rubber based adhesive foam. UV resistant.

| Colour <b>Black</b>       |                           | Colour <b>White</b> |    | Tie width (mm) | Dimension (mm) |   |     |  |  |
|---------------------------|---------------------------|---------------------|----|----------------|----------------|---|-----|--|--|
| PRODUCT / Item            | PRODUCT / Item            | A                   | B  |                | C              | F | H   |  |  |
| Ray-fasc NBA36 700003-000 | Ray-fasc BBA36 700002-000 | 3,6                 | 19 | 4,1            | 19             | 4 | 5   |  |  |
| Ray-fasc NBA48 700005-000 | Ray-fasc BBA48 700004-000 | 4,8                 | 27 | 4,8            | 27             | 6 | 6,5 |  |  |

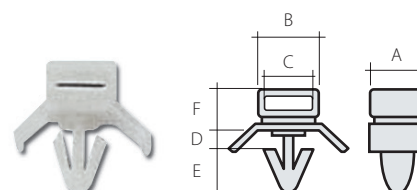


100-piece pack.

### BAYONET-JOINT SUPPORT

Push fit support for cable ties up to 7.8mm. Can be used on sheet surfaces with up to 3.2 mm thick. 6.2mm O/D hole required. Polyamide 6.6.

| PRODUCT / Item         | Dimension (mm) |      |     |     |   |     | Ø Hole (mm) |
|------------------------|----------------|------|-----|-----|---|-----|-------------|
|                        | A              | B    | C   | D   | E | F   |             |
| Ray-fasc SI 700006-000 | 10             | 10,6 | 8,1 | 3,2 | 8 | 7,1 | 6,2         |



100-piece pack.