

ALTO di GAMMA

CONNECTING ENERGY













etelec[®]
electrical technology






General catalogue

KEY




Connectors > Terminal blocks > Accessories

-  U connector
-  Connector with shear-off head bolts
-  Insulated compression connector
-  Three-pole insulated terminal block
-  Three-pole insulated terminal block
-  Five-pole insulated terminal block
-  Insulated U connector
-  Five-pole insulated terminal block
-  Separator
-  Cable strain relief system

Number of cores

-  Single core cables
-  Two-core cables
-  Three-core cables
-  Four-core cables
-  Five-core cables

Heat shrink tubing

-  Shrink ratio 2:1
-  Shrink ratio 3:1
-  Shrink ratio 4:1

Certifications > Compliance

-  CE marking
-  IMQ marking
Istituto Italiano del Marchio di Qualità
(Italian Institute of Quality Label)
-  RINA approval
Registro Italiano Navale
(Italian Register of Shipping)
-  TÜV-Rheinland certification
-  CSA approved
-  Compliance with ROHS 2 standard

Available colours

-  black
-  blue
-  green
-  red
-  brown
-  yellow
-  grey
-  white
-  transparent
-  yellow/green



General Catalogue

WHAT'S NEW 2017





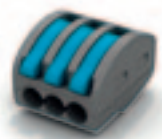
LED JOY® - IP68 gel insulated junction device with spring connector



RESIL® - Re-enterable two-component silicone resin



SHELL BOX® - IPX8 gel insulated connecting device with lever connectors



SPRING BOX® - Insulated lever connector

LEDJOY®
SMART CONNECTION



**Through
thick and
thin.**



LEDJOY®, the tiny junction device that loves narrow spaces.

LEDJOY® is a revolutionary gel insulated junction device with IP68 protection level for connecting small cross-section cables from 0.5 to 2.5 mm², compliant with EN60998-2-2 standard. Its innovative design, patented solutions, and advanced manufacturing process guarantee **reliable performances under all conditions of use and in narrow spaces.**



Co-moulded shell
Perfect assembly without tools and with few components.



Insulated spring-loaded connector
Makes the installation **easy and fast** and guarantees a **high traction resistance** with no risk of damaging small cross-section conductors.



Flexible walls for gel retention
Adapt easily to the outer surface of the installed cable, with no need to break or remove the rigid walls.



Cable blocking system
Safe connection: the cable is secured in the event of traction or external mechanical stress.



IP68 Total Protection
under all installation conditions.



Versatility of use
LEDJOY® is suitable for a variety of lighting fixtures.



Zero Capillarity
Gel insulation prevents moisture from rising along the cable.



Re-enterable
Its features allow an easy access to the connection



Minimum size, maximum performance
compact round shape and small size suitable for narrow spaces.

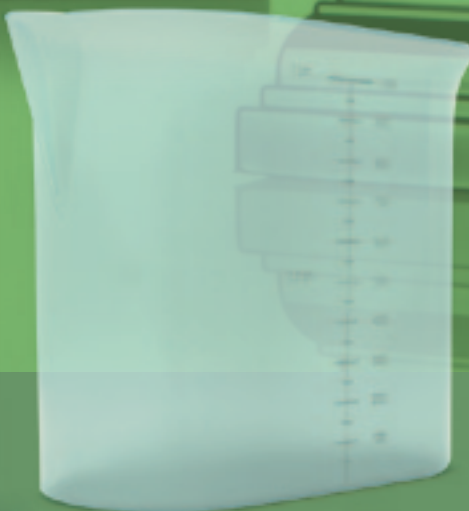


Eco-friendly
non-toxic and with no expiry date.

resil[®]
silicone resin

BRAND
NEW

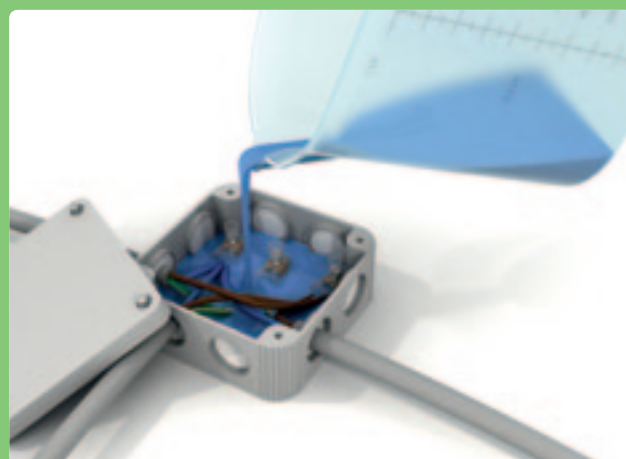
Formula One.
Or two.



The first re-enterable two-component silicone resin. It will revolutionize the way you work.



Insulation and protection from water and dust



Resil® is a re-enterable two-component silicone resin for low voltage filling and insulating. Together with GSA and GSB series shells, Resil® can be used to make low voltage insulated straight (RJA series) and branch (RJB series) joints with Resil JOINT® silicone gel, compliant with CEI EN 50393 regulations.



Non-toxic and ecological

Resil® is classified as non-hazardous under European Regulation 1272/2008 (CLP). The product is safe to handle. The two components, supplied in special containers, are mixed in a measuring jug that ensures the correct 1:1 dose however much product is used. The parts polymerize quickly and fill the shell rapidly and safely thanks to their low viscosity.



USE & REUSE

Thanks to RESIL®'s innovative formula, unlike traditional resins, it is possible to use only the amount required, keeping the remainder for later use: no waste of product, maximum yield and versatility of use.

SHELL[®]
BOX
mini junction box

**BRAND
NEW**

**Create,
insulate,
protect.
Amaze.**

IPX8



IPX8 gel insulated connecting device with lever connectors

Protected and secure connections in 3 simple steps.

3 sizes of gel insulated minibox

3 models of Spring Box® lever insulated connectors

5 solutions for insulating and protecting your connections

Shell Box® is the quickest and easiest solution to create, insulate, and protect. Thanks to the combination of three models of 2, 3 and 5-way connector with clamping levers, and three sizes of snap-shut gel insulated minibox, low voltage connections can be made using up to five conductors on a single phase, and up to two conductors on two or three phases.

Applications

- Insulation and protection, even in contact with water, of low voltage electrical connections using small cross-section cables (lighting fixtures, automation for windows, doors and gates, telephone and telecommunications systems, audio systems and cable radio)
- Create overhead junction boxes for ceilings or outdoors
- Additional insulation and protection of junction box connections
- Terminal insulation for live cables

Technical specifications

- Pre-filled shell with silicone gel and snap-shut closure
- IPX8 protection level, in accordance with EN 60629 standard (Intertek certificate No. 200018187UDI-NSR)
- Compact Spring Box® lever connectors for rigid and flexible cables with cross-section from 0.2 to 4 mm² compliant with Low Voltage Directive 2014/35/EU in accordance with EN 60947-7-1 and EN 60998-2-2 standards TÜV-Rheinland certificate (no. R 50349910)
- Rated voltage 600 V
- Rated current 32 A



EN 60947-7-1
EN 60998-2-2



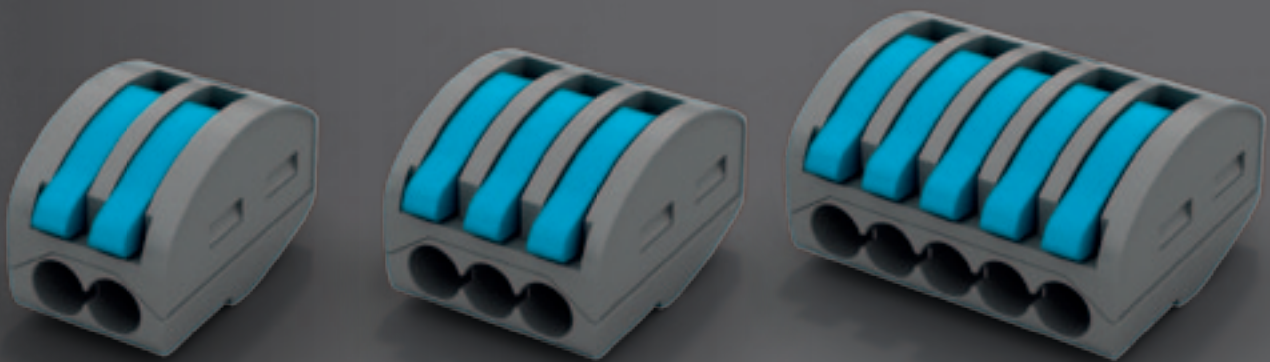
BOX **SPRING**[®]
lever connectors



**So small,
so great.**



- compact size
- quick and easy installation without tools
- reliable connections thanks to spring-loaded technology
- for both rigid and flexible small cross-section cables
(lighting fixtures, automation for windows, doors and gates,
telephone and telecommunications systems, audio systems and cable radio)
- no risk of damaging the conductors
- connect and disconnect each conductor without shutting off the line
- ideal for connecting conductors of different sized cross-sections
- rated cross-section 0.2 - 4 mm²
- rated insulation voltage 600 V
- rated current 32 A
- with voltage test point
- compliant with Low Voltage Directive 2014/35/EU
in accordance with EN 60947-7-1 and EN 60998-2-2 standards
TÜV-Rheinland certificate (n. R 50349910)



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SHARK® CLASSIC Series - straight and parallel

SHARK® 600 Series - Y branch

SHARK® 400 Series - T branch

01.2

Gel fillers

MPGEL PLUS - fast cross-linking

CRYSTALGEL - crystal clear

REPLAYGEL - repositionable

ONE GEL - in ready-to-use cartridge

01.3

Gel insulated connecting devices

LEDJOY® - IP68 gel insulated junction device

with spring connector

SHELL BOX® - IPX8 gel insulated connecting device

with lever connectors

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01.4

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GBT / GBT-S - straight

01.9

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01.10

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01.11

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Thin wall

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GTGV - yellow-green spool

ROLLBOX - dispenser box

TUBINGS - bars

Medium wall

GTMS - spool · bars with sealant

With wrap-around sleeve

GTCR - with wrap-around sleeve and sealant

Anticorrosive for pole protection

GTPA - for poles to be installed

RJS - for already installed poles

Installation tools for heat shrink tubing

02

CONNECTING COMPONENTS

02.1

Connectors

SPRING BOX® - compact insulated lever connectors

TBOX® - insulated terminal block with screw clamping

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for Resil Joint® RJB branch joints

MC - cylindrical connector with hex grub screw

MC-RJ - insulated terminal block with hex grub screw

for Resil Joint® RJA straight joints

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03

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03.2

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GEL SOLUTIONS

01.1

GEL INSULATED JOINTS



SHARK® SIXEIGHT® SERIES - IP68



SHARK® CLASSIC SERIES - straight



SHARK® 600 SERIES - Y branch



SHARK® 400 SERIES - T branch

01.2

GEL FILLERS



MPGEL PLUS - fast cross-linking



CRYSTALGEL - crystal clear



REPLAYGEL - repositionable



ONE GEL - in ready-to-use cartridge

01.3

GEL INSULATED CONNECTING DEVICES

NEW



LEDJOY® - IP68 gel insulated junction device with spring connector

NEW



SHELL BOX® - IPX8 gel insulated connecting device with lever connectors



A designer knows he has achieved perfection
not when there is nothing left to add,
but when there is nothing left to take away.

A. de Saint-Exupéry



From the technological point of view, Shark has been the best solution in the field of gel insulation connections for over 15 years.

In an effort to overcome and improve on the current limits and the standards adopted today, Etelec has accepted a stiff challenge: to begin a project that, starting out from the standards of the Shark range, will interpret the future using the finest technology, providing unique and effective solutions to make the installer's job easier and safer.



Shark SIXEIGHT has been selected by the Permanent Observatory of Design of the ADI (the Industrial Design Association) for inclusion in the ADI Design Index, ADI's annual publication that brings together the best Italian design.

The first IP68 certified gel joint.
Under ordinary conditions, the IP protection level
certified by the Intertek institute guarantees a value of 68:

68

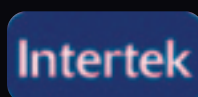
Total protection from dust

The fully closed joint with the cable inside
is totally protected from dust and access to live parts

68

Protection from water

The fully closed joint with the cable inside
is totally water resistant
allowing permanent immersion at up to 10 metres in depth










EN 50393
EN 60529



etelec
electrical technology

3 sizes - 10 versions

size	code	cores	conductor cross-section min-max (mm ²)	connector / terminal block	
Shark 6801	SH6801	1 5	25 – 50 1.5 – 6	–	–
	SH6801A	1	25 – 50		single-pole with shear-off head bolts
	SH6801B	3	2.5 – 6		insulated nylon three-pole terminal block
	SH6801C	3	2.5 – 6		three-pole insulated pre-assembled
	SH6801D	5	2.5 – 6	5 × 	insulated compression
Shark 6802	SH6802	1 5	50 – 95 2.5 – 10	–	–
	SH6802A	5	2.5 – 10		five-pole insulated pre-assembled
Shark 6803	SH6803	1 5	120 – 240 10 – 25	–	–
	SH6803A	5	10 – 25		five-pole insulated pre-assembled
	SH6803B	4	6 – 25		four-pole insulated IPC (rigid cables)

connectors / terminal blocks



single-pole
with shear-off
head bolts



three-pole
insulated
terminal block



three-pole
insulated



single-pole
compression
insulated

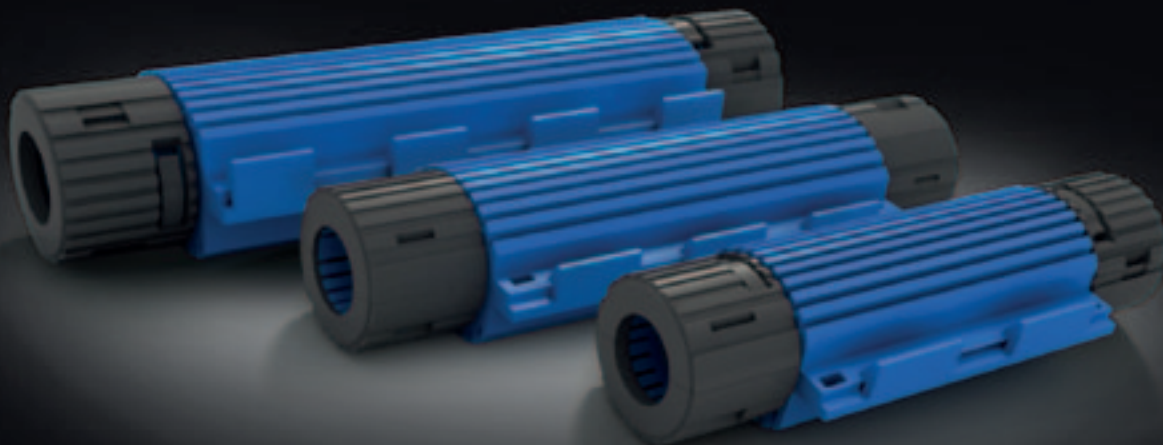


five-pole
insulated

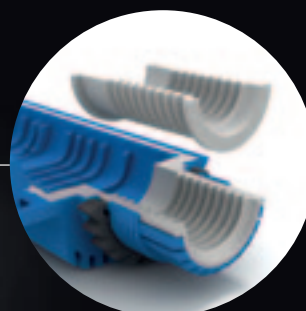
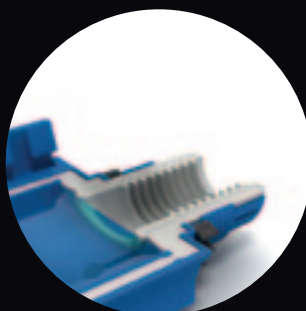


four-pole
insulated
IPC

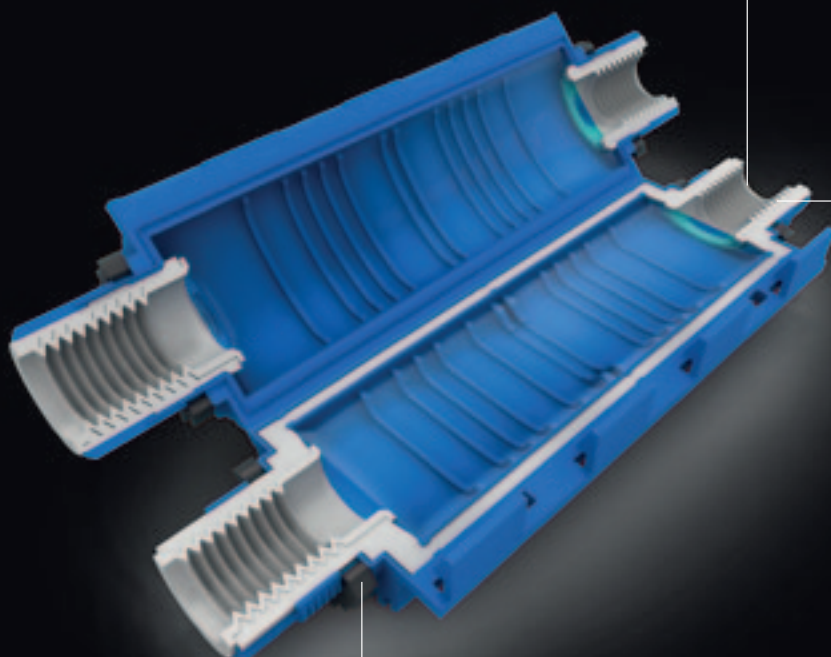
- Total protection from dust and water
- IP68 tested to a depth of 10 metres by the independent Intertek laboratory
- Unique distinctive features
- Innovative patented technical solutions
- Innovative design



without walls
for even quicker
and easier installation

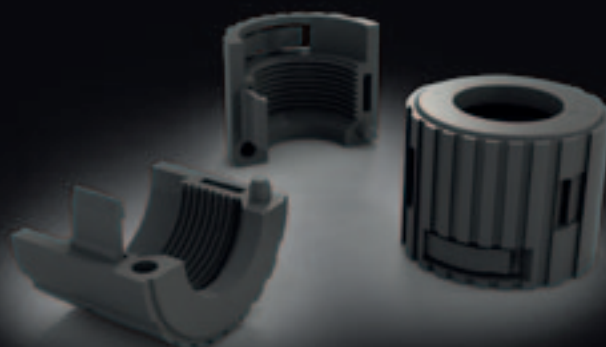
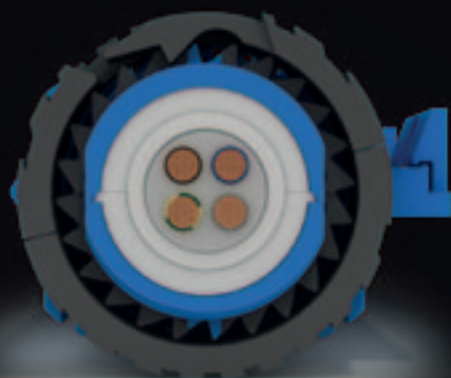


modular gaskets
to guarantee optimal
installation and sealing
performance for cables of
varying cross-sections and
external diameters



safety racks
with no further action required the racks
automatically stop the nuts unscrewing and
the connection opening, leading to access
to live parts without the use of tools, as
required by Regulation CEI 64/8

modular nuts
for safe and easy
installation, even after
cable connection

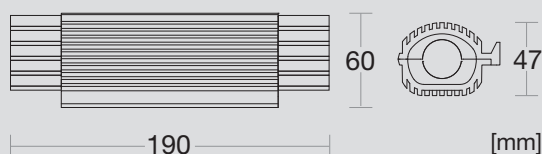




SIZE

1

- Compliant with CEI EN 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- **IP68 protection level** (in accordance with CEI EN 60529 standard) tested in water at a depth of 10 metres with independent certification Intertek
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Installation in permanent immersion
- Underground installation
- Overhead installation
- Installation in cable ducts
- Temporary installations

Advantages

- 100% water resistant
- 100% impenetrable
- Ready to use
- Re-enterable
- No resin or gel to cast
- Usable immediately
- Excellent electrical insulation
- No accidental access to live parts
- Good mechanical resistance
- No expiry date
- Non-hazardous product



officially tested
by Intertek



100%
impenetrable



100%
water resistant



ready to use



permanent
immersion



Shark 6801

IP68
10 m

CE

cod. SH6801

IP68 gel joint
Straight connections
Cables up to 5 cores*






Kit contents

- Gel joint - size 1
- Tightening nuts and joint insulation
- Assembly instructions

Table of use



IP68 Straight connections

Cores	Conductor cross-section (mm²)	
	min	max
	25 *	50 *
	1.5 *	6 *
		
		
		
Cable diameter (min-max): 12-18 mm		

* with suitable connectors



Shark 6801-A



cod. SH6801A

IP68 gel joint
Straight connections
Single-core cables
Single-pole connector included

Kit contents

- Gel joint - size 1
- Tightening nuts and joint insulation
- Tin-plated aluminium connector with steel shear-off tightening bolts, suited for copper-copper, aluminium-aluminium, and copper-aluminium connections
- Assembly instructions

Table of use



IP68 Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
●	25	50
Cable diameter (min-max): 12-18 mm		



Shark 6801-B



cod. SH6801B

IP68 gel joint
Straight connections
3-core cables
Three-pole insulated terminal block included

- Double insulation

Kit contents

- Gel joint - size 1
- Tightening nuts and joint insulation
- **Three-pole insulated terminal block** (compliant with DIN EN 60998 and CSA/UL standards, VDE label - Current 20 A)
- Assembly instructions

Table of use



IP68 Straight connections

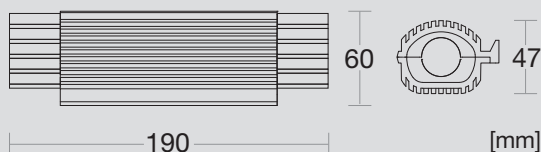
Max cores	Conductor cross-section (mm ²)	
	min	max
●●●	2.5	6
Cable diameter (min-max): 12-18 mm		



SIZE

1

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- **IP68 protection level** (in accordance with CEI 60529 standard) tested in water at a depth of 10 metres with independent certification Intertek
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Installation in permanent immersion
- Underground installation
- Overhead installation
- Installation in cable ducts
- Temporary installations

Advantages

- 100% water resistant
- 100% impenetrable
- Ready to use
- Re-enterable
- No resin or gel to cast
- Usable immediately
- Excellent electrical insulation
- No accidental access to live parts
- Good mechanical resistance
- No expiry date
- Non-hazardous product



officially tested
by Intertek



100%
impenetrable



100%
water resistant



ready to use



permanent
immersion



Shark 6801-C

IP68
10 m

cod. SH6801C

IP68 gel joint
Straight connections
3-core cables
Three-pole insulated terminal block included

- Double insulation

Kit contents

- Gel joint - size 1
- Tightening nuts and joint insulation
- **Pre-assembled three-pole insulated terminal block**
- Assembly instructions

Table of use



IP68 Straight connections

Max cores	Conductor cross-section (mm ²)	
	min	max
	2.5	6
Cable diameter (min-max): 12-18 mm		

Available with terminal block suitable for copper-copper, aluminium-aluminium, and copper-aluminium connections on request



Shark 6801-D

IP68
10 m

CE

cod. SH6801D

IP68 gel joint
Straight connections
Cables up to 5 cores
5 insulated compression connectors included

- Double insulation




Kit contents

- Gel joint - size 1
- Tightening nuts and joint insulation
- **5 insulated compression connectors**
- Assembly instructions

Table of use

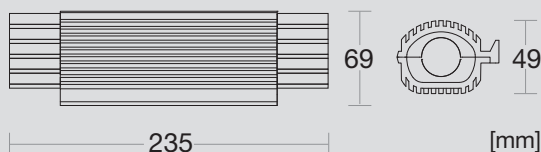


IP68 Straight connections

Max cores	Conductor cross-section (mm ²)	
	min	max
	2.5	6
		
		
Cable diameter (min-max): 12-18 mm		


SIZE
2

- Compliant with CEI EN 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- **IP68 protection level** (in accordance with CEI EN 60529 standard) tested in water at a depth of 10 metres with independent certification Intertek
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Installation in permanent immersion
- Underground installation
- Overhead installation
- Installation in cable ducts
- Temporary installations

Advantages

- 100% water resistant
- 100% impenetrable
- Ready to use
- Re-enterable
- No resin or gel to cast
- Usable immediately
- Excellent electrical insulation
- No accidental access to live parts
- Good mechanical resistance
- No expiry date
- Non-hazardous product



officially tested
by Intertek



100%
impenetrable



100%
water resistant



ready to use



permanent
immersion



Shark 6802

IP68
10 m

cod. SH6802

IP68 gel joint
Straight connections
Cables up to 5 cores*







Kit contents

- Gel joint - size 2
- Tightening nuts and joint insulation
- Assembly instructions

Table of use



IP68 Straight connections

Cores	Conductor cross-section (mm²)	
	min	max
	50 *	95 *
	2.5 *	10 *
		
		
		
		
Cable diameter (min-max): 14-21 mm		

* with suitable connectors



Shark 6802-A

IP68
10 m

cod. SH6802A

IP68 gel joint
Straight connections
Cables up to 5 cores
Five-pole insulated terminal block included

- Double insulation

Kit contents

- Gel joint - size 2
- Tightening nuts and joint insulation
- **Pre-assembled five-pole insulated terminal block**
- Assembly instructions

Table of use



IP68 Straight connections

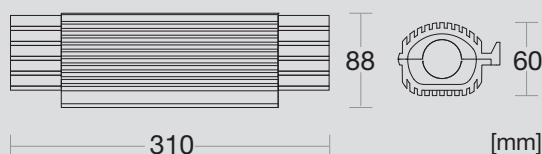
Max cores	Conductor cross-section (mm ²)	
	min	max
	2.5	10

Cable diameter (min-max): 14-21 mm

Available with terminal block suitable for copper-copper, aluminium-aluminium, and copper-aluminium connections on request


SIZE
3

- Compliant with CEI EN 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- **IP68 protection level** (in accordance with CEI EN 60529 standard) tested in water at a depth of 10 metres with independent certification Intertek
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Installation in permanent immersion
- Underground installation
- Overhead installation
- Installation in cable ducts
- Temporary installations

Advantages

- 100% water resistant
- 100% impenetrable
- Ready to use
- Re-enterable
- No resin or gel to cast
- Usable immediately
- Excellent electrical insulation
- No accidental access to live parts
- Good mechanical resistance
- No expiry date
- Non-hazardous product



officially tested
by Intertek



100%
impenetrable



100%
water resistant



ready to use



permanent
immersion



Shark 6803

IP68
10 m

cod. SH6803

IP68 gel joint
Straight connections
Cables up to 5 cores*







Kit contents

- Gel joint - size 3
- Tightening nuts and joint insulation
- Assembly instructions

Table of use



IP68 Straight connections

Cores	Conductor cross-section (mm²)	
	min	max
	120 *	240 *
	10 *	25 *
		
		
		
		
Cable diameter (min-max): 20-30 mm		

* with suitable connectors



Shark 6803-A

IP68
10 m



cod. SH6803A

IP68 gel joint
Straight connections
Cables up to 5 cores
Five-pole insulated terminal block included

▪ Double insulation




Kit contents

- Gel joint - size 2
- Tightening nuts and joint insulation
- **Pre-assembled five-pole insulated terminal block**
- Assembly instructions

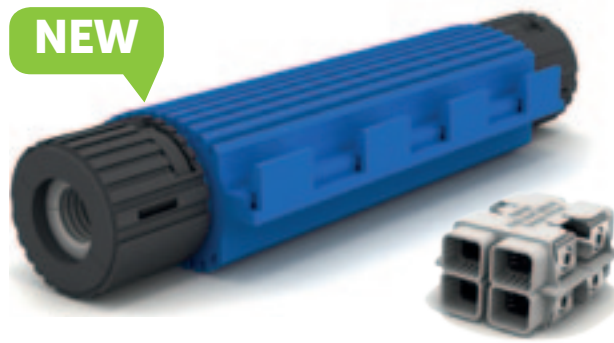
Table of use



IP68 Straight connections

Max cores	Conductor cross-section (mm²)	
	min	max
	10	25
		
		
Cable diameter (min-max): 20-30 mm		

Available with terminal block suitable for copper-copper, aluminium-aluminium, and copper-aluminium connections on request



NEW

Shark 6803-B

IP68
10 m



cod. SH6803B

IP68 gel joint
Straight connections for cables with rigid conductors up to 4 cores
Insulated four-pole perforation terminal block for cables with rigid conductors included

- Double insulation
- Suitable for use with copper or aluminium conductors





Kit contents

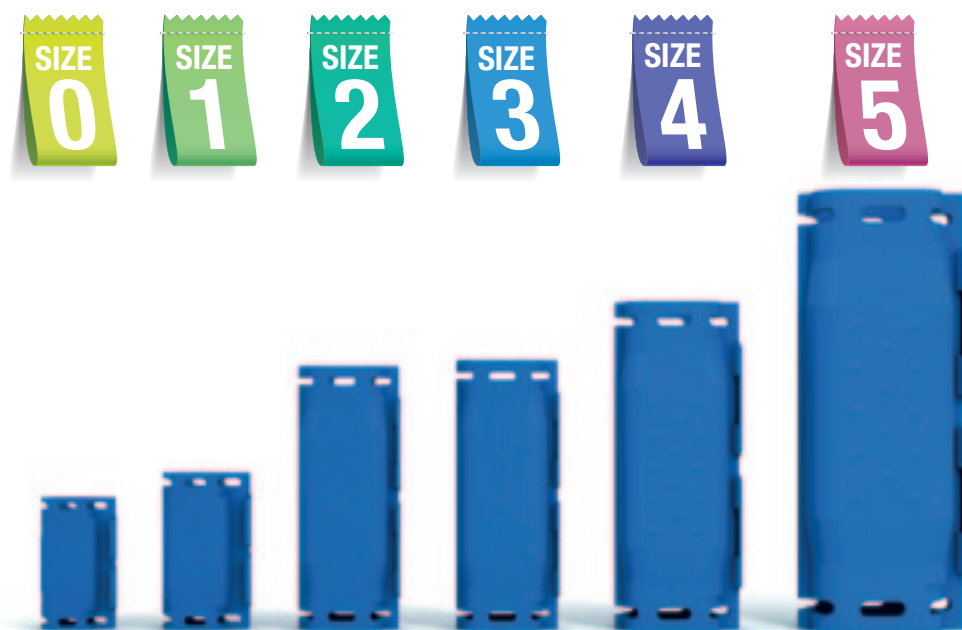
- Gel joint - size 3
- Tightening nuts and joint insulation
- **Insulated four-pole perforation terminal block for cables with rigid conductors**
- Allen key
- Assembly instructions

Table of use



IP68 Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
	6	25
		
		
		
Cable diameter (min-max): 20-30 mm		



SHARK® Classic Series Gel insulated joints for straight connections

SHARK® Classic Series gel insulated joints can be used to make straight connections on 0.6/1 kV single or multicore low voltage cables with up to four cores.

Thanks to the greater space available inside the joint, the **versions without terminal blocks** are suitable for the straight connection of single-core cables, and for the connection and insulation of electronic boards and components.

The **versions with terminal block** allow the straight connection with double insulation of cables with up to five cores and are available with tin-plated aluminium connectors for copper-copper, aluminium-aluminum, and copper-aluminium connections on request.

Technical specifications

- Compliant with CEI EN 50393 standard for low voltage joints
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- No accidental contact with live parts: the cable ties supplied prevent the reopening of the joint without the use of tools, as required by CEI 64-8 standard
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)

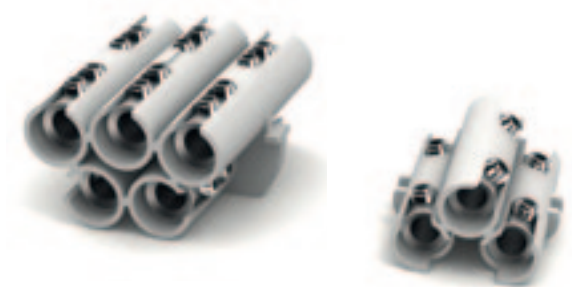
Applications

- Straight connections of single and multicore cables with up to 5 cores
- Versions without terminal blocks: insulation of joints on multi-paired telecommunications cables and insulation of electronic boards and components
- Installation in cable ducts, underground, overhead, or underwater
- Street lighting systems

Advantages

- Ready to use
- Re-enterable
- No resin mixing and casting
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No expiry date
- 6 sizes for use with a wide range of cables

NEW



Versions with terminal block are available with tin-plated aluminium connectors for copper-copper, aluminium-aluminium and copper-aluminium connections on request

Examples of application



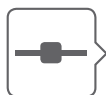
Shark 315 - Shark 325

Straight connection on three-core cables with insulated three-pole terminal block



Shark 506 - 516

Straight connection on five-core cables with five-pole insulated terminal block


SHARK® Classic Series • Gel joints
Straight connections

SIZE	ITEM	SEPARATORS/ CONNECTOR/ TERMINAL BLOCK/ ACCESSORIES I	SINGLE-CORE CABLES		MULTICORE CABLES		CODE
			CORES	CONDUCTOR CROSS-SECTION MIN – MAX [mm²]	MAX CORES	CONDUCTOR CROSS-SECTION MIN – MAX [mm²]	
SIZE 0	SHARK 125			2.5 – 10			SH0125
	SHARK 315					0.5 – 1.5	SH0315BL
SIZE 1	SHARK 150			6 – 35			SH0150
	SHARK 325					0.5 – 2.5	SH0325
SIZE 2	SHARK 306					1.5 – 6	SH0306
	SHARK 406/S	–		10 – 50			SH1406
SIZE 3	SHARK 506					1.5 – 6	SH0506
	SHARK 410/S	–		70 – 150			SH1410
SIZE 4	SHARK 516					6 – 16	SH0516
	SHARK 416/S	–		95 – 240			SH1416
	SHARK 506WS			95 – 240 *		1.5 – 6	SH0506WS
SIZE 5	SHARK 525WS			95 – 240 *		6 – 25	SH0525WS

NOTES:

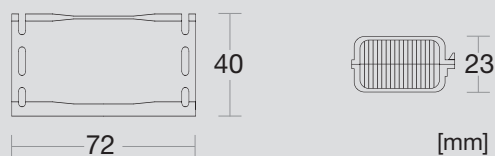
* SHARK 506WS - 525WS: without use of terminal block

** See MU 16/35 connectors.

SHARK® GEL INSULATED JOINTS

**SIZE
0**

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Underground installation
- Overhead installation
- Installation in cable ducts
- Street lighting systems

Advantages

- Ready to use
- Re-enterable
- No gel or resin to cast
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No accidental access to live parts
- No expiry date



Shark 125


cod. SH0125

Gel joint
Straight connections
Single-core cables
Single-pole connector included

- IMQ approved (cert. no. CA01-00297)
- RINA approved (cert. no. ELE 153611CS)

Kit contents

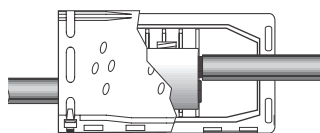
- Joint with gel - size 0
- Brass connector
- Allen key
- Cable ties
- Assembly instructions

Table of use



Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
●	2.5	10



*Straight connection
on single-core cables*



Shark 315



cod. SH0315BL

Gel joint
Straight connections
3-core cables
Insulated three-pole terminal block included

- Double insulation
- Ideal for LED lighting systems

Kit contents

- Joint with gel - size 0
- **Indirect contact** insulated three-pole terminal block **with conductor protection blades for narrow cross-section cables**
- Cable ties
- Assembly instructions

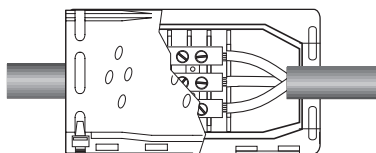


Table of use



Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
	0.5	1.5

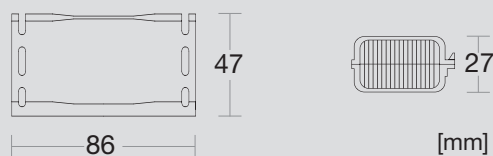


*Straight connection
on three-core cables
with three-pole insulated
terminal block*

SHARK® GEL INSULATED JOINTS

**SIZE
1**

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Underground installation
- Overhead installation
- Installation in cable ducts
- Street lighting systems

Advantages

- Ready to use
- Re-enterable
- No gel or resin to cast
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No accidental access to live parts
- No expiry date



Shark 150


cod. SH0150

Gel joint
Straight connections
Single-core cables
Single-pole connector included

- IMQ approved (cert. no. CA01-00297)
- RINA approved (cert. no. ELE 153611CS)

Kit contents

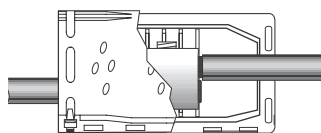
- Joint with gel - size 1
- Brass connector
- Allen key
- Cable ties
- Assembly instructions

Table of use



Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
	6	35



*Straight connection
on single-core cables*



Shark 325



cod. SH0325

Gel insulated joint
Straight connections
3-core cables
3-pole insulated terminal block included

- Double insulation

Kit contents

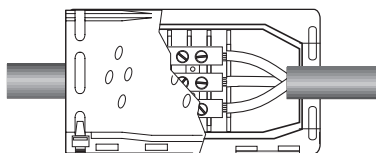
- Joint with gel - size 1
- **Three-pole insulated terminal block VDE label**
compliant with DIN EN 60998 and CSA/UL standards -
Current 20 A
- Cable ties
- Assembly instructions

Table of use



Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
	1.5	2.5

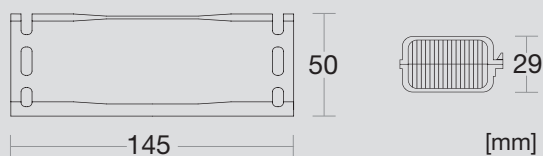


*Straight connection
on three-core cables
with three-pole insulated
terminal block*

SHARK® GEL INSULATED JOINTS

**SIZE
2**

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Underground installation
- Overhead installation
- Installation in cable ducts

Advantages

- Ready to use
- Re-enterable
- No gel or resin to cast
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No accidental access to live parts
- No expiry date



Shark 306



cod. SH0306

Gel joint
Straight connections
Three-core cables
Three-pole insulated terminal block included

- **Double insulation**

Kit contents

- Joint with gel - size 2
- Three-pole insulated terminal block and Allen key
- Cable ties
- Assembly instructions

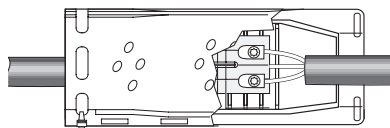
Table of use



Straight connections

Cores	Conductors cross-section (mm ²)	
	min	max
	1.5	6

Available with terminal block suitable for copper-copper, aluminium-aluminum, and copper-aluminium connections on request



*Straight connection
on three-core cables
with insulated terminal block*



Shark 406/S



cod. SH1406

Gel joint
Straight connections
Single-core cables

- **IMQ approved** (cert. no. CA01-00298)
- **RINA approved** (cert. no. ELE 153611CS)
- Thanks to the greater space inside the joint, it can be used on wide cross-section cables and for the insulation of electronic boards and components

Kit contents

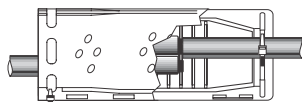
- Joint with gel - size 2
- Cable ties
- Assembly instructions

Table of use

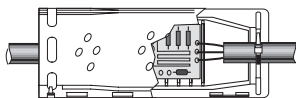


Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
●	10	50



*Straight connection
on single-core cable*

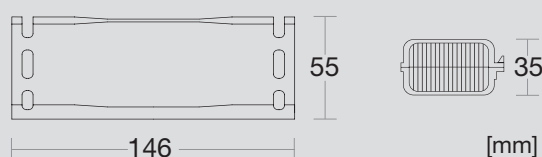


*Insulation of electronic
components*

SHARK® GEL INSULATED JOINTS

**SIZE
3**

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Underground installation
- Overhead installation
- Installation in cable ducts

Advantages

- Ready to use
- Re-enterable
- No gel or resin to cast
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No accidental access to live parts
- No expiry date



Shark 506



cod. SH0506

Gel joint
Straight connections
Cables up to 5 cores
Five-pole insulated terminal block included

- Double insulation

Kit contents

- Joint with gel - size 3
- Five-pole insulated terminal block and Allen key
- Cable ties
- Assembly instructions

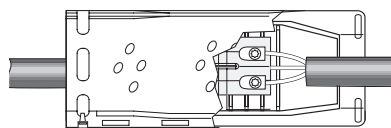
Table of use



Straight connections

Max cores	Conductor cross-section (mm²)	
	min	max
	1.5	6

Available with tin-plated aluminium terminal block suitable for copper-copper, aluminium-aluminum, and copper-aluminium connections on request



*Straight connection
on five-core cables
with insulated
terminal block*



Shark 410/S



cod. SH1410

Gel joint
Straight connections
Single-core cables

- **IMQ approved** (cert. no. CA01-00298)
- **RINA approved** (cert. no. ELE 153611CS)
- Thanks to the greater space inside the joint, it can be used on wide cross-section cables and/or for the insulation of electronic boards and components

Kit contents

- Joint with gel - size 3
- Cable ties
- Assembly instructions

Table of use



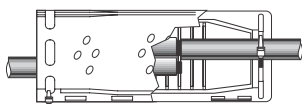
Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
●	70	150

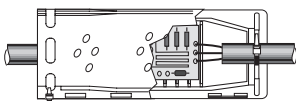


Parallel connections

Cores	Conductor cross-section (mm ²)			
	min		max	
	main cable	branch cable	main cable	branch cable
●	35	16	95	50



*Straight connection
on single-core cable*

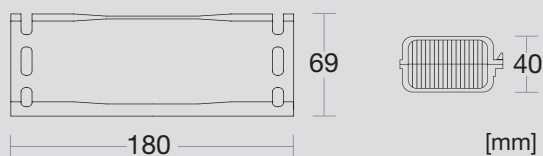


*Insulation of electronic
components*

SHARK® GEL INSULATED JOINTS

**SIZE
4**

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Underground installation
- Overhead installation
- Installation in cable ducts

Advantages

- Ready to use
- Re-enterable
- No gel or resin to cast
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No accidental access to live parts
- No expiry date



Shark 516


cod. SH0516

Gel joint
Straight connections
Cables up to 5 cores
Five-pole insulated terminal block included

- **Double insulation**

Kit contents

- Joint with gel - size 4
- Five-pole insulated terminal block and Allen key
- Cable ties
- Assembly instructions

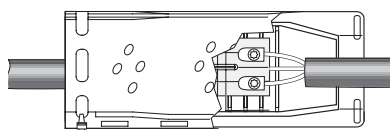
Table of use



Straight connections

Max cores	Conductor cross-section (mm ²)	
	min	max
	6	16

Available with terminal block suitable for copper-copper, aluminium-aluminum, and copper-aluminium connections on request



*Straight connection
on five-core cables
with insulated terminal block*



Shark 416/S



cod. SH1416

Gel joint
Straight connections
Single-core cables

- **IMQ approved** (cert. no. CA01-00298)
- **RINA approved** (cert. no. ELE 153611CS)
- Thanks to the greater space inside the joint, it can be used on wide cross-section cables and/or for the insulation of electronic boards and components

Kit contents

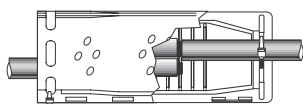
- Joint with gel - size 4
- Cable ties
- Assembly instructions

Table of use

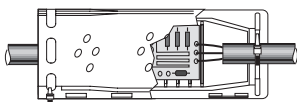


Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
●	95	240



*Straight connection
on single-core cable*

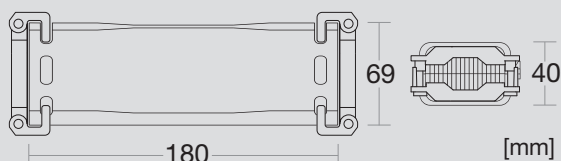


*Insulation of electronic
components*

SHARK® GEL INSULATED JOINTS

**SIZE
4**

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Underground installation
- Overhead installation
- Installation in cable ducts

Advantages

- Ready to use
- Re-enterable
- No gel or resin to cast
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No accidental access to live parts
- No expiry date



Cable strain relief included



Shark 506WS



cod. SH0506WS

Gel joint
Straight connection
Cables up to 5 cores
Insulated five-pole terminal block
and cable strain relief system included

- Double insulation







Kit contents

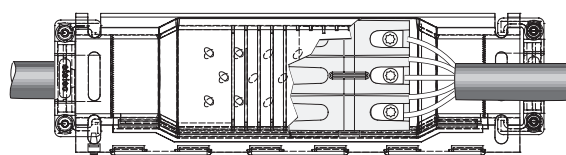
- Joint with gel - size 4
- Insulated five-pole terminal block
- Allen terminal block key
- Cable strain relief
- Cable ties
- Assembly instructions

Table of use



Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
	95 *	240 *
	1.5	6
		
		
		
		
* without use of terminal block		
Maximum cable diameter: 28 mm		

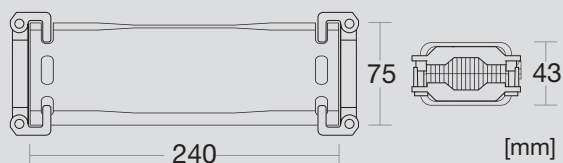


Straight connection on five-core cables
with insulated terminal block and cable strain relief

SHARK® GEL INSULATED JOINTS

SIZE
5

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

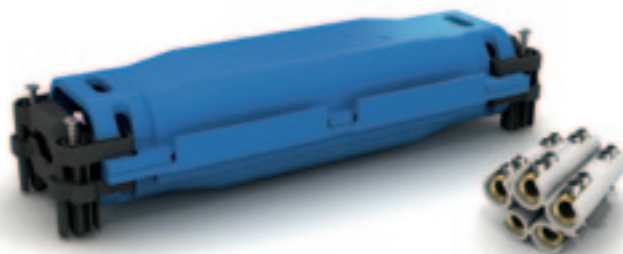
- Underground installation
- Overhead installation
- Installation in cable ducts

Advantages

- Ready to use
- Re-enterable
- No gel or resin to cast
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No accidental access to live parts
- No expiry date



Cable strain relief included



Shark 525WS



cod. SH0525WS

Gel joint
Straight connection
Cables up to 5 cores
Insulated five-pole terminal block
and cable strain relief included






- Double insulation

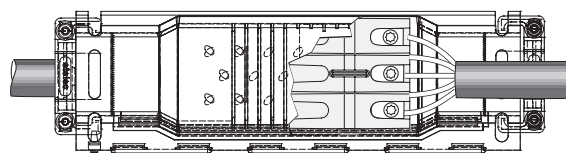
Kit contents

- Joint with gel - size 5
- Insulated five-pole terminal block
- Allen terminal block key
- Cable strain relief
- Cable ties
- Assembly instructions

Table of use

Straight connections

Cores	Conductor cross-section (mm ²)	
	min	max
	95 *	240 *
	6	25
		
		
		
* without use of terminal block		
Maximum cable diameter: 29 mm		



Straight connection on five-core cables
with insulated terminal block and cable strain relief



SHARK® 600 Series Gel insulated joints for Y branch connections

Gel insulated 30° branch connections for single and multicore 0.6/1 kV cables with up to five conductors.

The innovative insulated terminal blocks supplied with the joints allow branch connections without interrupting the main cable and ensure double insulation and the correct positioning and securing of the cable inside the joint.

The Allen key necessary for tightening the terminal screws is also included in the kit, and reduces the number of tools required to make the connection.

The nylon cable ties supplied with the kit, once inserted and secured in the slots in the narrow end of the joint, ensure that it cannot be reopened without the use of tools, in compliance with CEI EN 64-8 standard.

Technical specifications

- Compliant with CEI EN 50393 standard for low voltage joints
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20 to 90°
- Compliant with directive 2011/65/UE (RoHS 2)

Applications

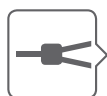
- Y branch connections on 0.6/1 kV and multicore cables with up to five cores
- For installation in cable ducts, underground, overhead, and underwater
- Street lighting systems, light fixtures, galleries, and environments at risk of fire

Advantages

- Connection without interrupting main cable
- Ready to use
- Re-enterable
- No resin mixing and casting
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No expiry date









Pre-assembled terminal blocks provided with joints Shark® 600 Series has brass contacts with mechanical screw clamping and self-extinguishing insulating body in PA 6.6-V2



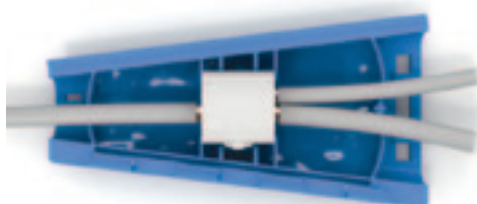
SHARK® 600 Series · Gel joints

Y branch connections

	ITEM	CONNECTOR / TERMINAL BLOCK	MAX NO. OF CORES	CONDUCTOR CROSS-SECTION [mm²]				CODE
				MIN		MAX		
				MAIN CABLE	BRANCH CABLE	MAIN CABLE	BRANCH CABLE	
Single-core cables	SHARK 150Y			6	1.5	50 *	25 *	SH6150
Multicore cables	SHARK 516Y			6	2.5	16	16	SH6516
	SHARK 535Y			16	2.5	35	35	SH6535

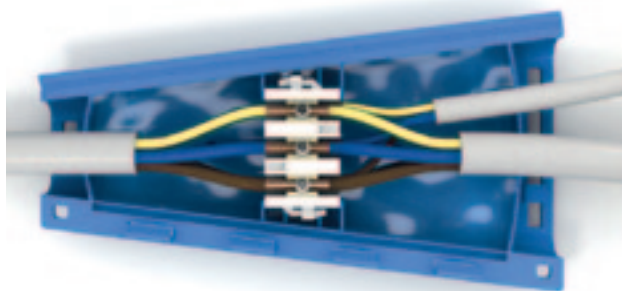
* for a main cable with a cross-section of 35 mm², the maximum cross-section of the branch cable without interrupting the main cable is 10 mm²
for a main cable with a cross-section of 50 mm², the maximum cross-section of the branch cable without interrupting the main cable is 6 mm²

Examples of application



Shark 150Y

Y branch connection
on single-core cables
with single-pole insulated connector



Shark 516Y - Shark 535Y

Y branch connection
on multicore cables
with insulated multi-pole terminal block

SHARK® GEL INSULATED JOINTS

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)

Applications

- Underground installation
- Overhead installation
- Installation in cable ducts
- Street lighting systems, tunnels, and areas at risk of fire.

Advantages

- Ready to use
- Re-enterable
- No gel or resin to cast
- Usable immediately
- Branch connection **without interrupting main cable**
- Excellent electrical insulation
- **Double insulation**
- Good mechanical resistance
- The connector or terminal block supplied, placed in the seat, ensure that the cables are blocked inside the joint
- **No accidental access to live parts:** the nylon cable ties supplied ensure that the joint cannot be reopened without the use of tools, in compliance with CEI EN 64-8
- No expiry date



Shark 150Y



cod. SH6150

Gel joint
Y branch connections
Single-core cables
Single-pole connector included

- **Double insulation**

Kit contents

- Joint with gel
- Single-pole insulated connector
- Allen key for the connector
- Cable ties
- Assembly instructions

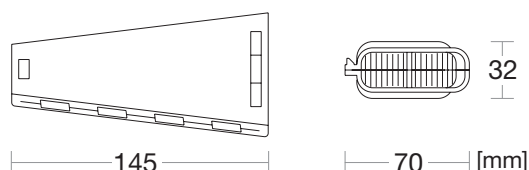


Table of use

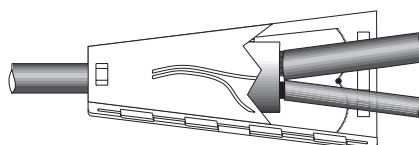


Y branch connections

Cores	Conductor cross-section (mm ²)			
	min		max	
	main cable	branch cable	main cable	branch cable
	6	1.5	50 *	25 *

*for a main cable of 35 mm², max branch cable cross-section 10 mm²

* for a main cable of 50 mm², max branch cable cross-section 6 mm²



Y branch connection on single-core cables with insulated connector



Shark 516Y



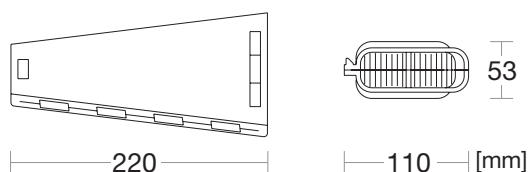
cod. SH6516

Gel joint
Y branch connections
Cables up to 5 cores
Five-pole insulated terminal block included

- Double insulation

Kit contents

- Joint with gel
- Pre-assembled five-pole insulated terminal block
- Allen key for the terminal block
- Cable ties
- Assembly instructions



Shark 535Y



cod. SH6535

Gel joint
Y branch connections
Cables up to 5 cores
Five-pole insulated terminal block included

- Double insulation

Kit contents

- Joint with gel
- Pre-assembled five-pole insulated terminal block
- Allen key for the terminal block
- Cable ties
- Assembly instructions

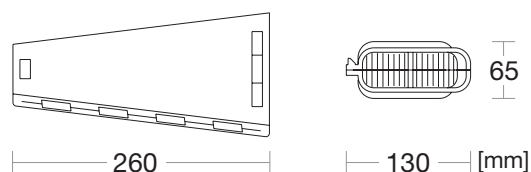
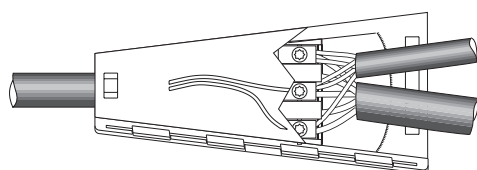


Table of use



Y branch connections

Max cores	Conductor cross-section (mm ²)			
	min		max	
	main cable	branch cable	main cable	branch cable
	6	2.5	16	16



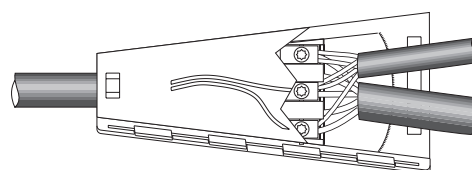
Y branch connection on five-core cables with insulated terminal block

Table of use

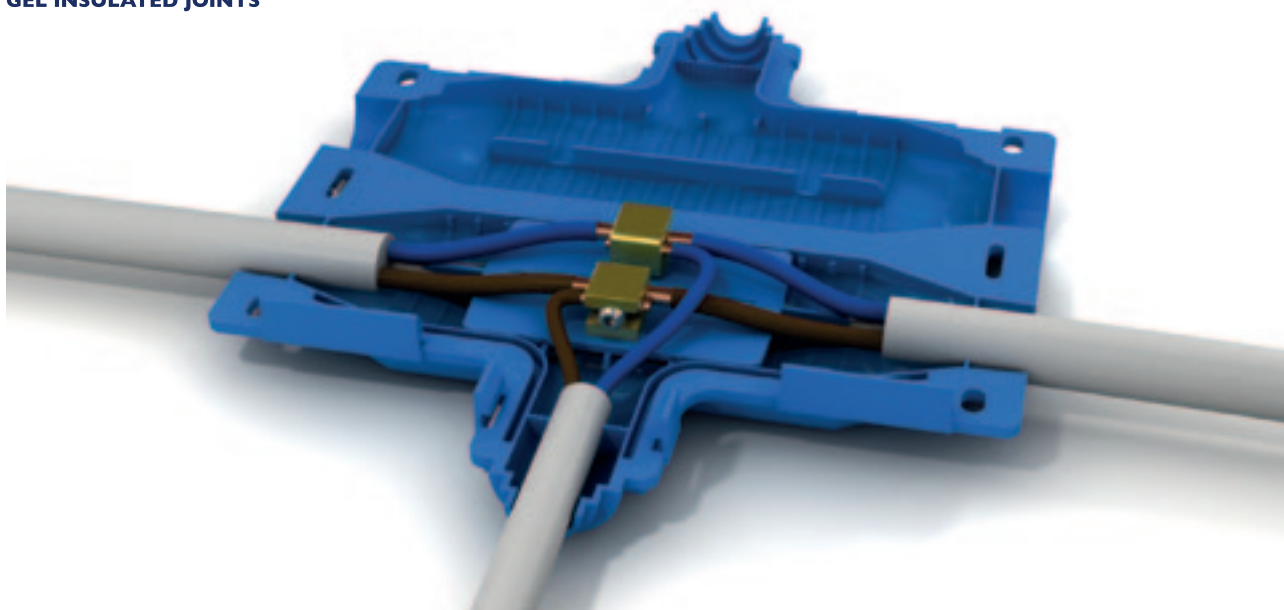


Y branch connections

Max cores	Conductor cross-section (mm ²)			
	min		max	
	main cable	branch cable	main cable	branch cable
	16	2.5	35	35



Y branch connection on five-core cables with insulated terminal block



SHARK® 400 Series Gel insulated joints for T branch connections

Gel insulated T branch connections for single and multicore 0.6/1 kV cables with up to five cores.

The versions for single-core cables are without separators, while the versions for multicore cables are provided with a patented separator system that ensures the securing of the cable inside the joint and allows the assembly and insulation of four non-insulated connectors lined up in the centre of the joint.

400 Series joints are IMQ and RINA approved.

Technical specifications

- Compliant with CEI EN 50393 standard for low voltage joints
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- No accidental access to live parts: the cable ties supplied ensure that the joint cannot be reopened without the use of tools, in compliance with CEI EN 64-8 standard
- IMQ approved (certificate no. CA01-00299)
- RINA approved (certificate no. ELE 153611CS)
- Operating temperature: -20 to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- T branch connections on single and multicore cables with up to four cores
- For installation in cable ducts, underground, overhead, and underwater
- Street lighting systems







Advantages

- Connection without interrupting main cable
- Ready to use
- Re-enterable
- No resin mixing and casting
- Usable immediately
- Excellent electrical insulation
- Good mechanical resistance
- No expiry date

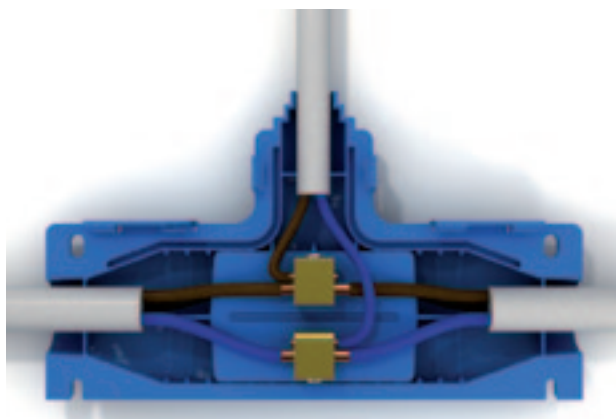


SHARK® 400 Series · Gel joints

T branch connections

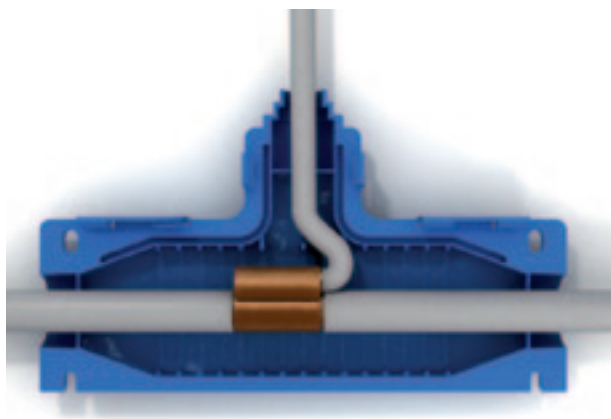
ITEM	SEPARATORS / CONNECTORS	MAX NO. OF CORES	CONDUCTOR CROSS-SECTION [mm²]				CODE
			MIN		MAX		
			MAIN CABLE	BRANCH CABLE	MAIN CABLE	BRANCH CABLE	
SHARK 425	 optional connectors		6	1.5	25	16	SH0425
SHARK 425/S	—		70	10	150	50	SH1425
SHARK 435	 optional connectors		10	2.5	35	25	SH0435
SHARK 435/S	—		95	50	240	120	SH1435

Examples of application



Shark 425 and Shark 435

T branch connection on multicore cables with separator

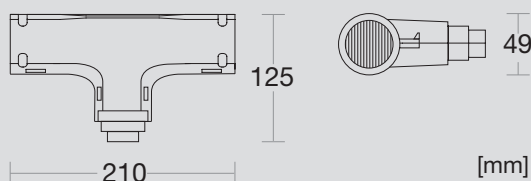


Shark 425/S - Shark 435/S

T branch connection on single-core cables (connector not included)

SHARK® GEL INSULATED JOINTS

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Underground installation
- Overhead installation
- Installation in cable ducts
- Street lighting systems

Advantages

- Ready to use
- Re-enterable
- No gel and no resin to cast
- Usable immediately
- Branch connection **without interrupting main cable**
- Excellent electrical insulation
- Good mechanical resistance
- **No accidental access to live parts:** the cable ties supplied ensure that the joint cannot be reopened without the use of tools, in compliance with CEI EN 64-8 standard
- No expiry date



Shark 425



cod. SH0425

Gel joint
T branch connections
Cables up to four cores
Separator included

- **IMQ approved** (cert. no. CA01-00299)
- **RINA approved** (cert. no. ELE 153611CS)
- The separator ensures the securing of the cables inside the joint and allows the use of four non-insulated connectors without needing staggered assembly

Kit contents

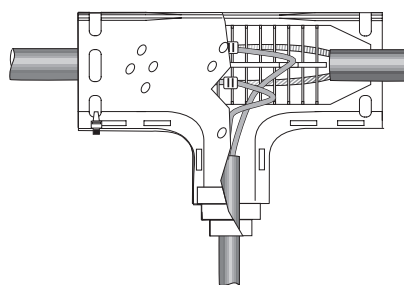
- Joint with gel
- Separator
- Cable ties
- Assembly instructions

Table of use



T branch connections

Max cores	Conductor cross-section (mm²)			
	min		max	
	eadthrough cable	branch cable	eadthrough cable	branch cable
	6	1,5	25	16



T branch connection
on multicore cables



Shark 425/S



cod. SH1425

Gel joint
T branch connections
Single-core cables
Without separator

- **IMQ approved** (cert. no. CA01-00299)
- **RINA approved** (cert. no. ELE 153611CS)
- The greater space inside the joint allows its use on wide cross-section cables

Kit contents

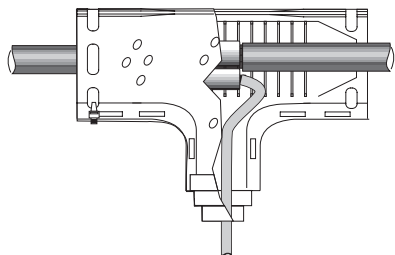
- Joint with gel
- Cable ties
- Assembly instructions

Table of use



T branch connections

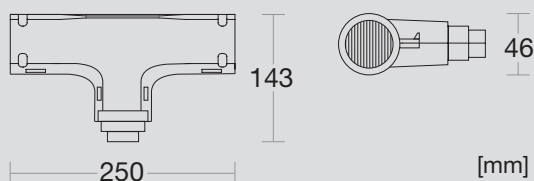
Cores	Conductor cross-section (mm ²)			
	min		max	
	main cable	branch cable	main cable	branch cable
●	70	10	150	50



*T branch connection
on single-core cables*

SHARK® GEL INSULATED JOINTS

- Compliant with CEI 50393 standard for low voltage joints 0.6/1 kV
- Self-extinguishing in accordance with EN 60695-2-11 standard
- Low smoke and toxic gas emission in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20° C to 90° C
- Compliant with directive 2011/65/UE (RoHS 2)



Applications

- Underground installation
- Overhead installation
- Installation in cable ducts
- Street lighting systems

Advantages

- Ready to use
- Re-enterable
- No gel and no resin to cast
- Usable immediately
- Branch connection **without interrupting main cable**
- Excellent electrical insulation
- Good mechanical resistance
- **No accidental access to live parts:** the cable ties supplied ensure that the joint cannot be reopened without the use of tools, in compliance with CEI EN 64-8 standard
- No expiry date



Shark 435



cod. SH0435

Gel joint
T branch connections
Cables up to four cores
Separator included

- **IMQ approved** (cert. no. CA01-00299)
- **RINA approved** (cert. no. ELE 153611CS)
- The separator ensures the securing of the cables inside the joint and allows the use of four non-insulated connectors without needing staggered assembly

Kit contents

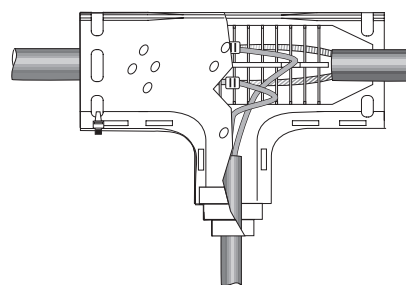
- Joint with gel
- Separator
- Cable ties
- Assembly instructions

Table of use



T branch connection

Max cores	Conductor cross-section (mm ²)			
	min		max	
	main cable	branch cable	main cable	branch cable
	10	2,5	35	25



T branch connection
on multicore cables



Shark 435/S



cod. SH1435

Gel insulated joint
T branch connections
Single-core cables
Without separator

- **IMQ approved** (cert. no. CA01-00299)
- **RINA approved** (cert. no. ELE 153611CS)
- The greater space inside the joint allows its use on wide cross-section cables

Kit contents

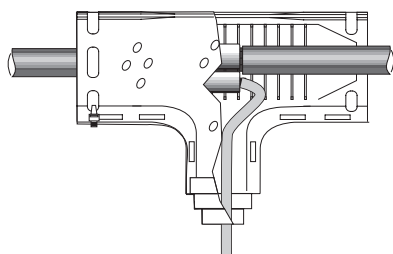
- Joint with gel
- Cable ties
- Assembly instructions

Table of use



T branch connections

Cores	Conductor cross-section (mm ²)			
	min		max	
	main cable	branch cable	main cable	branch cable
●	95	50	240	120



*T branch connection
on single-core cables*



Fast cross-linking two-component silicone gel

MPgel PLUS is a re-enterable two-component silicone gel for insulated filling and sealing of casings and junction boxes housing electrical connections of up to 1 kV or electronic components, suitable for a wide range of applications.

Simple

The two components are supplied in separate containers, thus ensuring the correct 1:1 mixing ratio.

MPgel PLUS may be partially used as needed, and reused even after the pack has been opened, providing maximum yield.

Rapid cross-linking

MPgel PLUS has an extremely short **cross-linking time**, allowing rapid installation and reducing delays before activation.



12 min

Fast and accurate mixing

The measuring jug provided with the 1 and 10-liter size ensures accurate mixing and prevents waste.

MPgel 100 is supplied with a **new 1 liter jug**, which allows to mix the entire contents of the bottles in one go, making installation even faster.

The bag, on the other hand, has a special **Perforation Pouring System (PPS)** which allows the operator to avoid contact with the gel when opening it.

The nozzle has a toothed cylindrical end that fits securely into a ring inside the bag and punctures it, allowing the gel to flow evenly without accidental spills.

**NEW
1 LITER JUG**



Low viscosity

Its low viscosity makes **MPgel PLUS** easy to pour and also ensures fast and **safe filling** of the containers and gaps.

Re-enterable and removable

Once cross-linked, **MPgel PLUS** can easily be removed without the need for tools even after long periods of time.

Safe

MPgel PLUS is non-toxic, non-irritating, odourless, and solvent-free, and is classified as non-hazardous under European Regulation no. 1272/2008 (CLP).

High performance

High dielectric strength (25.5 kV/mm).

Wide range of operating temperatures (-60 to 200° C).

MPgel PLUS is resistant to **UV rays** and so can also be used outdoors and exposed to the elements.

Packaging

MPgel PLUS is available in bags with removable baffle, in bottles of different sizes, and in jerrycans, for efficient use whatever the quantity of product required.



Low viscosity



Re-enterable and removable



Eco-friendly



Odourless



Non-irritating



High dielectric strength



High moisture protection



No expiry date

Available size



bottles in 2 sizes

0.3 L

1 L



bags in 4 sizes

0.17 L

0.24 L

0.42 L

0.6 L



jerrycan

10 L



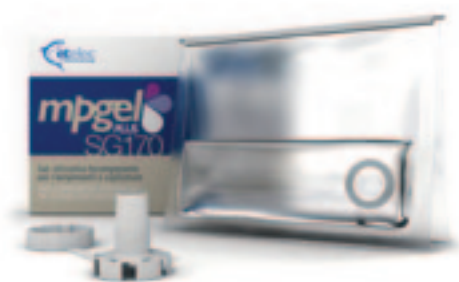
- **Very fast cross-linking:**
Cross-linking time: 12 min at 23° C
- Dielectric strength: 25.5 kV/mm
- Mixing ratio 1:1
- Working time at 23° C: 5 min
- Operating temperature: -60 to 200° C
- Colour: pale blue
- Classified as non-hazardous according to European Regulation no. 1272/2008 (CLP)

Applications

- Filling junction boxes
- Insulation of 0.6/1 kV electrical connections
- Insulation of electronic boards and components

Advantages

- Non-toxic
- Re-enterable
- Eco-friendly
- Easy pouring
- **Very fast cross-linking**
- Excellent electrical insulation
- Good mechanical resistance
- UV resistant
- Protection from elements (rain, moisture), dust, animals, insects, leaves
- No expiry date
- Reusable after opening
- **Available in 7 sizes**



MPgel PLUS

Fast cross-linking silicone gel in bags

re-enterable two-component for insulated filling and sealing

- **No waste** thanks to PPS
- Suitable when a **limited amount** of product is needed



Kit contents

- Bags with removable baffle
- Perforation Pouring System (PPS)

Available size

item	volume (liters)
MPGEL 170	0.170
MPGEL 240	0.240
MPGEL 420	0.420
MPGEL 600	0.600

Filling capacity (calculated for completely empty casings)

	volume (liters)	ROUND BOXES $\varnothing \times H$ (mm) 		SQUARE BOXES $A \times B \times H$ (mm) 				
		65×35	80×40	100×100×50	120×80×50	150×110×70	190×140×70	240×190×90
Bags	0.170	1	1	-	-	-	-	-
	0.240	2	1	-	-	-	-	-
	0.420	4	2	-	-	-	-	-
	0.600	5	3	1	1	-	-	-
Bottles	0.300	3	2	-	-	-	-	-
	1.000	9	5	2	2	1	-	-
Jerrycans	10.0	86	50	20	21	9	5	2



MPgel PLUS

Fast cross-linking silicone gel
in bottles

re-enterable two-component
for insulated filling and sealing

- **No waste** thanks to separate bottles and measuring jug
- Can be mixed in one go with the new 1 lt jug (supplied with MP0100)

Kit contents

- 2 transparent 150 ml or 500 ml bottles
- 1 litre measuring jug (MP0100)

Available size

item	volume (liters)
MPGEL 30	0.3
MPGEL 100	1



MPgel PLUS

Fast cross-linking silicone gel
in jerrycan

re-enterable two-component
for insulated filling and sealing

- **No waste** thanks to separate jerrycans and measuring jug
- Suitable when a **large amount of product** is needed and/or **for later use**

Kit contents

- 2 transparent 5 litres jerrycans
- Measuring jug

Available size

item	volume (liters)
MPGEL 1000	10.0

crystalgel



Two-component silicone gel crystal clear

Crystalgel is a re-enterable transparent two-component silicone gel for insulated filling and sealing of casings and junction boxes housing electrical connections of up to 1 kV or electronic components, suitable for a wide range of applications.

Crystal clear

Crystalgel is extremely transparent, which means that the contents of the casing are always visible.

Easy and without waste

The two components supplied **in separate containers** always guarantee the correct 1:1 mixing ratio.

Crystalgel is supplied with a **new 1 liter jug**, which allows to mix the entire contents of the bottles in one go, making installation even faster.

**NEW
1 LITER JUG**



Crystalgel may be partially used as needed, and reused even after the pack has been opened, providing maximum yield.

High performance

High dielectric strength: 24.5 kV/mm.

Wide range of operating temperatures:
-60 to 200° C.

Re-enterable and removable

Once cross-linked, **Crystalgel** can easily be removed without the need for tools even after long periods of time.

Low viscosity

Its low viscosity makes **Crystalgel** easy to pour and ensures fast and **safe filling** of the containers and gaps.

Safe

Crystalgel is non-toxic, non-irritating, odourless, and solvent-free, and is classified as non-hazardous under European Regulation no. 1272/2008 (CLP).

crystalgel

- Colour: crystal clear
- Dielectric strength: 24.5 kV/mm
- Mixing ratio 1:1
- Working time at 23° C: 10 min
- Cross-linking time: 24 min at 23° C
- Operating temperature: -60 to 200° C
- Classified as non-hazardous under European Regulation no. 1272/2008 (CLP)

Applications

- Filling junction boxes
- Insulation of 0.6/1 kV electrical connections
- Insulation of electronic boards and components

Advantages

- Crystal clear
- Non-toxic
- Re-enterable
- Eco-friendly
- Easy pouring
- No waste thanks to separate bottles and measuring jug
- Excellent electrical insulation
- Protection from elements (rain, moisture), dust, animals, insects, leaves
- Good mechanical resistance
- No expiry date
- Reusable after opening



Low viscosity



Re-enterable
and removable



Eco-friendly



No expiry
date



Odourless



Non-irritating



High dielectric
strength



High moisture
protection



Crystalgel

Two-component silicone gel
re-enterable
crystal clear
for insulated filling and sealing

- **No waste** thanks to separate bottles and measuring jug
- Can be mixed in one go with the new 1 lt jug (provided with Crystalgel 1 lt)
- Suitable when it is necessary to keep the visibility of the connection and/or the casing

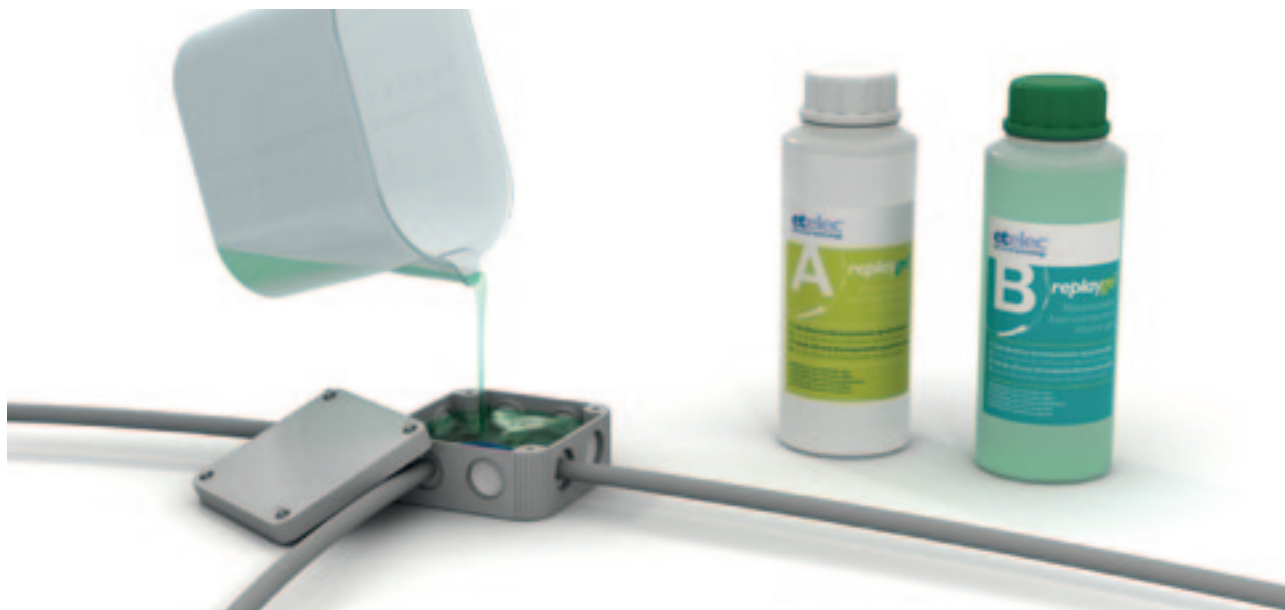
Kit contents

- 2 transparent bottles
- Measuring jug

Available size

item	volume (liters)
CRYSTALGEL 1L	1.0
CRYSTALGEL 2L	2.0

replaygel



Two-component silicone gel re-enterable repositionable

Replaygel is a **repositionable and reusable** re-enterable two-component silicone gel for insulated filling and sealing of casings and junction boxes housing electrical connections of up to 1 kV or electronic components, suitable for a wide range of applications.

Repositionable and reusable

Thanks to its innovative formula, it is possible to reposition and reuse **Replaygel** inside the casing even after long periods of time from the initial cross-linking: **Replaygel** coalesces easily and quickly while maintaining its characteristics.



Easy and without waste

The two parts are supplied in separate containers to always guarantee the correct 1:1 mixing ratio.

The **new 1-liter measuring jug** ensures a precise waste-free mix and allows to mix the entire contents of the bottles in one go, making installation even faster.

Replaygel may be partially used as needed, and reused even after the pack has been opened, providing maximum yield.

Being repositionable, the gel can be cross-linked before use.

NEW
1 LITER JUG



Re-enterable

Replaygel can be penetrated using tools such as screwdrivers, thus enabling work on the connection without removing the gel.

Low viscosity

Its low viscosity makes **Replaygel** easy to pour and also ensures fast and **safe filling** of the containers and gaps.

High performance

High dielectric strength: 24 kV/mm.

Wide range of operating temperatures (-60 to 200° C)

Safe

Replaygel is non-toxic, non-irritating, odourless and solvent-free, and is classified as non-hazardous under European Regulation no. 1272/2008 (CLP).

replaygel

- Repositionable
- Dielectric strength: 24 kV/mm
- Mixing ratio 1:1
- Working time at 23° C: 10 min
- Cross-linking time at 23° C: 25 min
- Operating temperature: -60 to 200° C
- Colour: pale green
- Classified as non-hazardous under European Regulation no. 1272/2008 (CLP)

Applications

- Filling junction boxes
- Insulation of 0.6/1 kV electrical connections
- Insulation of electronic boards and components
- Suitable in cases of difficult installation conditions
- Suitable for vertical or upside down installation

Advantages

- Repositionable
- Non-toxic
- Re-enterable
- Eco-friendly
- Easy pouring
- No waste thanks to separate bottles and measuring jug
- Excellent electrical insulation
- Protection from elements (rain, moisture), dust, animals, insects, leaves
- Good mechanical resistance
- No expiry date
- Reusable after opening



Repositionable



Low viscosity



Re-enterable
and removable



Eco-friendly



Odourless



Non-irritating



High dielectric
strength



High moisture
protection



No expiry date



Replaygel

Re-enterable repositionable
two-component silicone gel
for insulated filling and sealing

- **No waste** thanks to separate bottles and measuring jug
- Can be mixed in one go with the new 1 lt jug

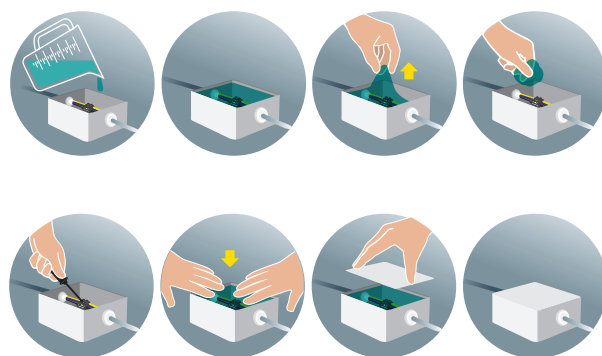
Kit contents

- 2 transparent 500 ml bottles
- 1 liter measuring jug

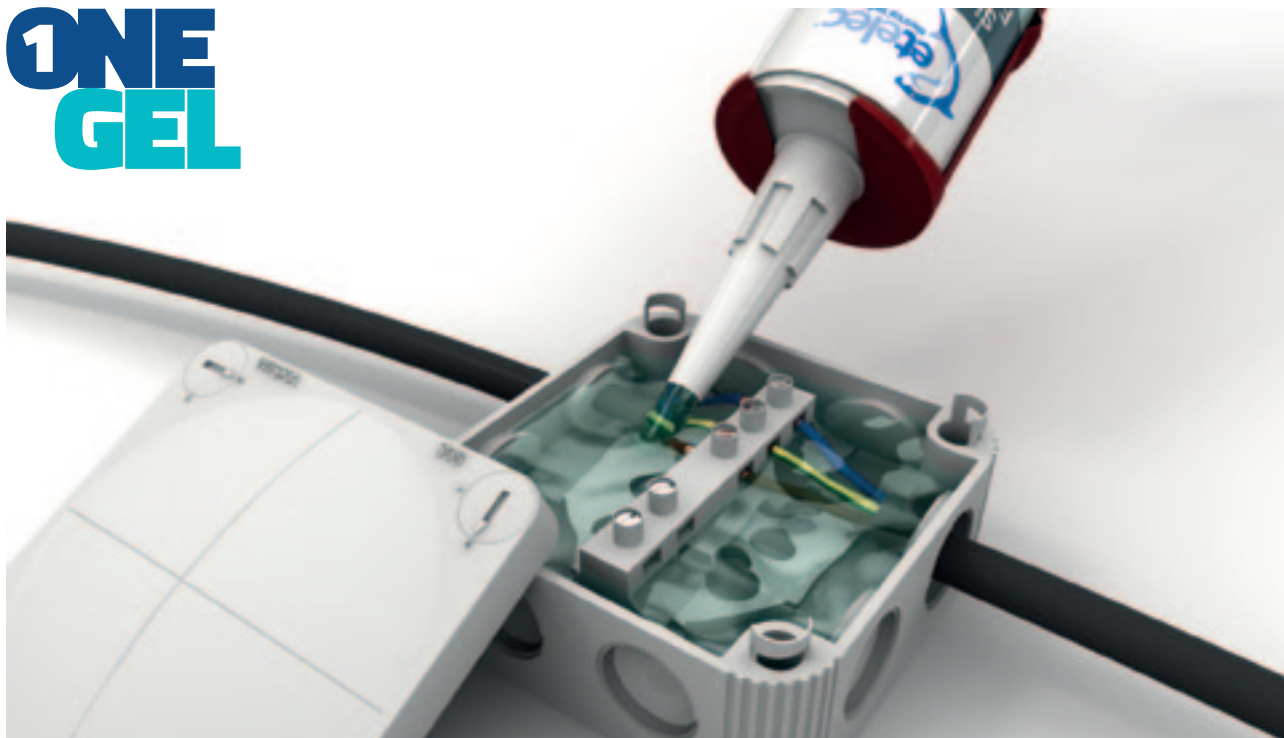
Available size

item	volume (liters)
REPLAYGEL 1L	1.0

Example of application



ONE GEL



Single-component re-enterable silicone gel in ready-to-use cartridge

ONE GEL is a **single-component** silicone gel for insulated filling and sealing of casings and junction boxes housing electrical connections of up to 1 kV or electronic components.

Ready to use

ONE GEL is already cross-linked and **ready to use straight away** with no need for mixing or waiting for cross-linking as with conventional two-component gels.

Thanks to its special characteristics, ONE GEL comes in a **standard cartridge** that can be used with a normal sealant gun, allowing rapid installation.

Re-enterable

ONE GEL does not dry, and **always stays soft**, preserving its characteristics and remaining **re-enterable** over time.

Insulates and protects

Its excellent chemical and physical properties make it ideal for a wide range of applications requiring a **high level of electrical insulation and protection from moisture**.

Easy installation in all conditions of use

Its excellent adhesive properties ensure rapid and correct application of **ONE GEL** even **in vertical position** or in cases of difficult access to a casing or connection.

Eco-friendly

ONE GEL is non-toxic, and is classified as non-hazardous under European Regulation no. 1272/2008 (CLP).



Ready to use



Re-enterable and removable



Eco-friendly



Odourless



Non-irritating



High dielectric strength



High moisture protection



No expiry date



TECHNICAL SPECIFICATIONS	NORMAL VALUE	TESTING METHOD
dielectric strength	25 kV/mm	-
operating temperature	-60 / 200 °C	-
density	0,97 g/l	ISO 3219
penetration	300 mm/cone 100 g	ISO 2137
self-extinguishing quality	HB	UL 94
resistivity	10 GΩ/mm	IEC 93
volume contraction	< 0.01%	

Applications

- Filling junction boxes
- Insulation of 0.6/1 kV electrical connections
- Insulation of electronic boards and components
- Suitable in cases of difficult access to a casing and/or connection
- Suitable for vertical or upside down installation
- For use in civil, industrial, nautical, aeronautical, and automotive areas

Advantages

- No mixing
- Ready to use
- Cartridge that can be used with a normal sealant gun
- Precise waste-free dosage
- Re-enterable
- Removable
- Transparent
- Eco-friendly
- High electrical insulation
- Protection from elements (rain, moisture), dust, animals, insects, leaves
- UV rays resistant
- No expiry date



**300
ml**



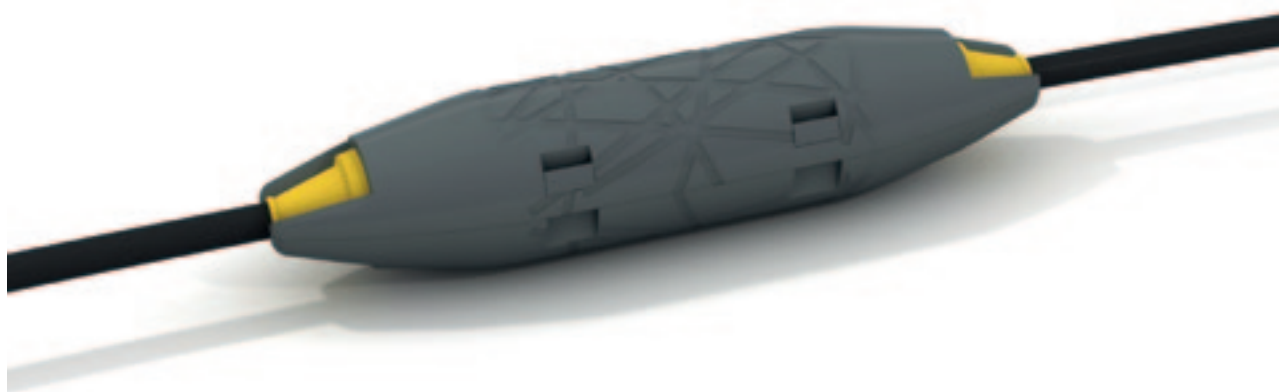
ONE GEL

cod. ONEGEL

Single-component re-enterable silicone gel in ready-to-use cartridge

Features

- Single-component silicone gel
- Thixotropic consistency
- Colour: transparent pale blue
- Odourless
- Solvent-free
- 300 ml cartridge
- Classified as non-hazardous under European Regulation no. 1272/2008 (CLP)



IP68 gel insulated junction device with spring connector

LEDJOY® is a revolutionary gel insulated junction device with IP68 protection level for connecting small cross-section cables from 0.5 to 2.5 mm², compliant with EN60998-2-2 standard.

Its innovative design, patented solutions, and an advanced manufacturing process guarantee high and reliable performances under all conditions and in narrow spaces.

PATENTED SOLUTIONS

Co-moulding technology
used to make the outer protective shell, guarantees perfect assembly of the rigid mechanical protection part and the watertight gaskets, which also prevent the entry of foreign bodies. It also reduces the number of components to be assembled.



Flexible walls
for gel retention, made using co-moulding technology. They easily adapt to the outer surface of the installed cable, with no need to break or remove the rigid walls.



Special insulated spring connector
included in the kit, makes the connection quick and easy with no need for tightening tools, and **guarantees excellent electrical performances** together with a high resistance to traction without compromising the integrity of narrow cross-section conductors.



Cable blocking system
specially designed and easy to apply without tools and tightening screws, increases the safety of the connection **securing the cable in the event of traction** or external mechanical stress.



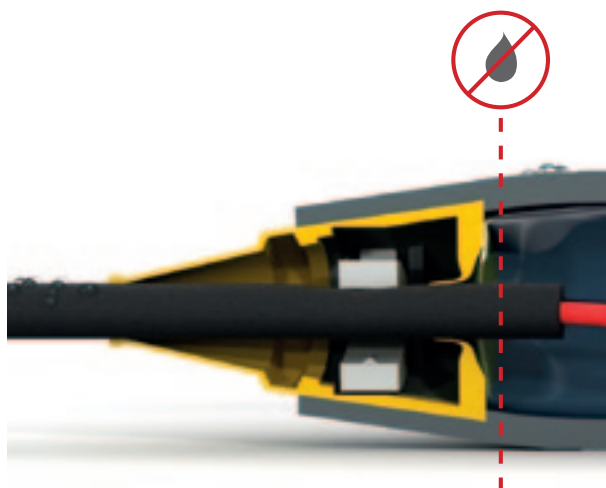
Minimum size, maximum performance
With its compact circular shape and small size, LEDJOY® can also be installed in narrow spaces, and can be used in cable ducts, corrugated pipes, poles, and supporting structures, with no need for supplementary junction boxes. LEDJOY® is easy and quick to instal also in limited operating space as it requires no tools, cable gland or components to be pulled over the cables.



THE SAFETY OF GEL TECHNOLOGY

Zero capillarity

The silicone gel inside LEDJOY® guarantees high long-term protection and insulation, preventing moisture entering the shell and the rise of moisture along the cable due to capillary action, a frequent cause of damage to appliances (especially LED lighting fixtures).



Re-enterable connection

The features of LEDJOY® allow quick and easy re-entry in the connection, with no need for complicated dismantling.



Total protection under all installation conditions

The patented solutions make LEDJOY® an excellent tool for installation outdoor, overhead, underground, and permanent immersion, guaranteeing an IP68 protection level: total protection from dust, water, debris, and the elements.



Eco-friendly

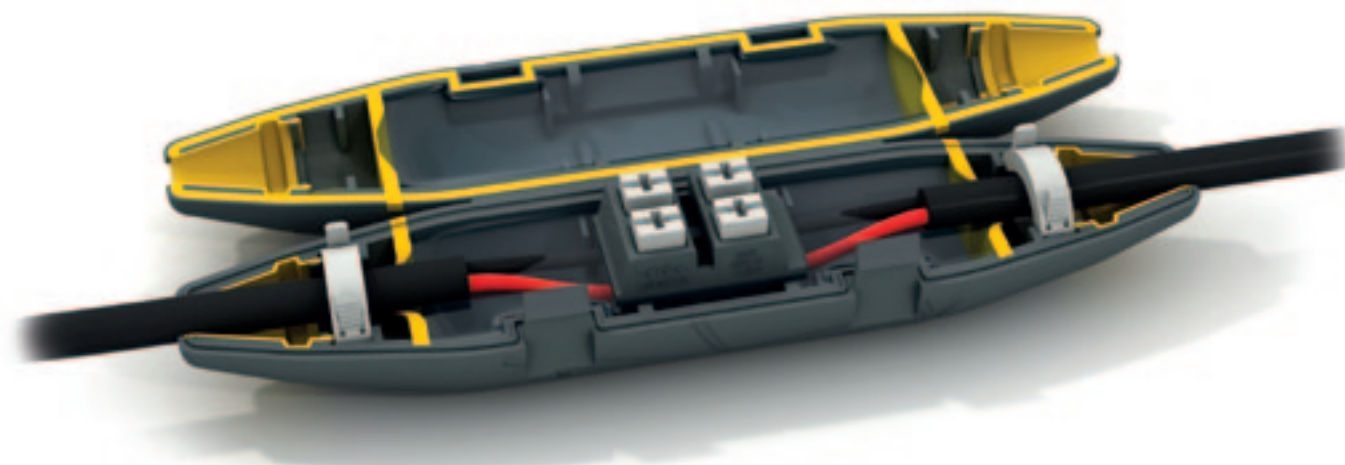
The gel inside LEDJOY® is non-toxic, and has no expiry date. Its ability to protect and insulate connections does not change with time and resists wide temperature variation (-60 / 200 °C). It is classified as a non-hazardous product under European Regulation no. 1272/2008 (CLP).



Versatility of use

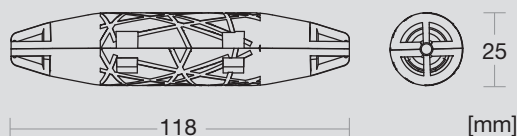
LEDJOY® is suitable for a variety of lighting applications:

- Urban lighting (street lighting systems, road and carriageway signs)
- Indoor lighting (residential, ambient, fairs)
- Outdoor civic lighting (gardens, fountains, walkover ground lighting)
- Video-surveillance systems
- Industrial and civil automation (barriers, gates, machine board systems)





- Compliant with EN 60998-2-2 standard
- **IP68 protection level** (in accordance with CEI EN 60529 standard)
- Double insulation
- Self-extinguishing (in accordance with EN 60695-2-11 standard)
- Low smoke and toxic gas emission (in accordance with CEI 20-37/2-1 and CEI 20-37/4 standards)
- Operating temperature: -20 to +90 °C
- Compliant with Directive 2011/65/UE (RoHS 2)
- Silicone gel inside the shell classified as non-hazardous product under European Regulation no. 1272/2008 (CLP)
- **Two-core spring connector**
Conductor cross-section (rigid and flexible): 0.5–2.5 mm²
Rated voltage 450 V
Rated current 24 A



Applications

- Urban lighting (street lighting systems, road and carriageway signs)
- Indoor Lighting (residential, ambient, fairs)
- Outdoor civil lighting (gardens, fountains, walkover ground lighting)
- Video-surveillance systems
- Industrial and civic automation (barriers, gates, machine board systems)



Installation
without tools



total
protection



zero
capillarity



mini
size



versatility
of use



re-enterable



eco-friendly



Led Joy



IP68 gel insulated junction device

Two-core connector with spring-loaded clamps included

Advantages

- Quick and reliable installation without tools in case of limited operating space
- Reduced number of parts to be assembled
- No cable gland or components to be pulled over the cables
- No rising of moisture along the cable due to capillary action
- Total protection from dust, water, debris, and the elements
- Installation in narrow spaces
- Compact size for installation in cable ducts, corrugated pipes, poles
- Mechanical safety securing the cable in the event of traction or external mechanical stress
- Re-enterable connection
- Versatility of use
- Halogen free
- Eco-friendly

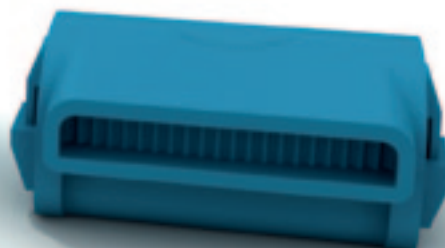
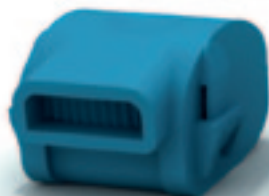
Kit contents

- Co-moulded shell with integrated gaskets and snap-shut closure
- Cable blocking system
- Two-core insulated connector with spring-loaded clamps

Table of use

item	number of cores	conductor cross-section (mm ²)	rated voltage (V)	rated current (A)
LEDJOY	2	0.5–2.5	450	24

**SHELL[®]
BOX**
mini junction box



IPX8 gel insulated connecting device with lever connectors

Shell Box[®] is an innovative series of gel insulated connecting device with Spring Box[®] lever connectors, to quickly and safely make, insulate, and protect electrical connections in any number of home and industrial applications with no need for tools.

Thanks to its silicone gel insulation, **Shell Box[®]** protects narrow cable (0.2 - 4 mm²) connections from water, moisture, and dust both indoors and outdoors and can be used for lighting fixtures, pumps, automation for windows, doors and gates, telephone and telecommunications systems, sound systems, and cable radio.

Three sizes and five versions allow low-voltage connection of up to five conductors on a single phase, and up to two conductors on two or three phases.

Protection from water and weathering

The **silicone gel** inside the minibox insulates and protects the connections from water, moisture, and weathering and guarantees an IPX8 protection level, in accordance with EN 60529 standard. The snap-shut closure and the design of the minibox prevent accidental gel leakage, except on the cable inlet side, where it ensures that the connection is properly sealed.



Re-enterable

With its soft-drying gel and Spring Box[®] technology, it is possible to re-enter the connection at any time to check the voltage thanks to the integrated test-point, or to work on any of the conductors.

Eco-friendly

The gel inside the minibox is non-toxic, has no expiry date and is classified as non-hazardous under European Regulation no. 1272/2008 (CLP).



Spring Box[®] included

Shell Box[®] kits retain the innovative features and benefits of Spring Box[®] insulated connectors with lever clamps:

- Can be used with a wide range of rigid and flexible cable cross-sections: 0.2 - 4 mm²
- Rated voltage 600 V
- Rated current 32 A
- No risk of damage to even small cross-section wires
- Compliant with Low Voltage Directive 2014/35/EU according to EN 60947-7-1 and EN 60998-2-2 standards TÜV-Rheinland certificate

SPRING[®]
lever connectors



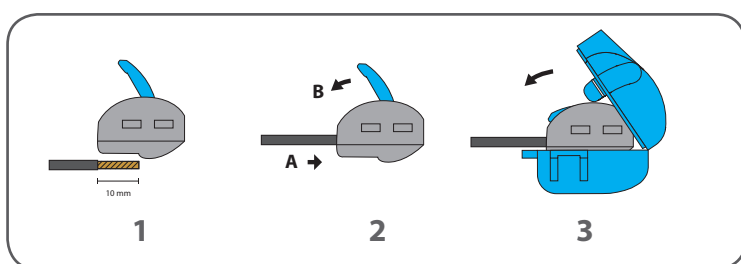
Advantages

- Compact size
- Quick and easy installation without tools
- Re-enterable
- Work on each conductor individually
- Double insulation
- No accidental gel leakage
- Versatility of use
- Reliable connections thanks to spring-loaded technology
- Use with both rigid and flexible narrow cross-section cables
- No risk of damaging wires
- Good mechanical resistance
- Eco-friendly, non-toxic with no expiry date

Applications

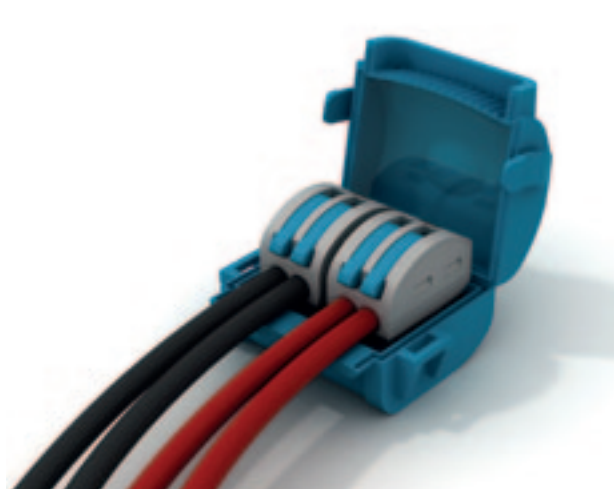
- Insulation and protection, even in contact with water, of low voltage electrical connections using narrow cross-section cables (lighting fixtures, automation for windows, doors and gates, telephone and telecommunications systems, sound systems, and cable radio)
- Wiring junction boxes for ceilings or outdoors
- Insulation and additional protection for junction box connections
- Terminal insulation for live cables
- Connection capacity:
up to five conductors on a single phase
or up to two conductors on two or three phases

Protected and secure connections in 3 simple steps



- 1** Strip the cables exposing 10 mm of core.
- 2** Insert the cable into one of the openings of the Spring Box® and lower the clamping lever with simple finger pressure. Repeat for all the cables to be connected.
- 3** Place the connector/s in the gel insulated Shell Box® and snap it shut. The gel will leak out from the cable entry openings and will seal the connector and the connection against water, moisture, and dust.

The shell + connector system is immediately ready for use.



Shell Box 222
Connecting two-core cables



Shell Box 332
Connecting three-core cables



- IPX8 protection level in accordance with EN 60529 standard (Intertek certificate No. 200018187UDI-NSR)
- **Spring Box® connectors** comply with the Low Voltage Directive 2014/35/EU in accordance with EN 60947-7-1 and EN 60998-2-2 standards TÜV-Rheinland certificate (no. R 50349910)
- Rated insulation voltage: 600 V
- Rated current: 32 A
- Conductor cross-section (rigid and flexible): 0.2 - 4 mm²
- The gel inside the shells is classified as non-hazardous according to European Regulation no. 1272/2008 (CLP) n. 1272/2008 (CLP)



Applications

- Insulation and protection, even in contact with water, of low voltage electrical connections for narrow cross-section cables (lighting fixtures, automation for windows, doors and gates, telephone and telecommunications systems, audio systems, and cable radio)
- Junction boxes for ceilings or outdoors
- Insulation and additional protection for connections in junction boxes
- Terminal insulation for live cables
- Connection capacity: up to five conductors on a single phase or up to two conductors on two or three phases

Advantages

- Compact size
- Quick and easy installation without tools
- Re-enterable
- Work on each conductor individually
- Double insulation
- No accidental gel leakage
- Versatility of use
- Reliable connections thanks to spring-loaded technology
- For use with both rigid and flexible narrow cross-section cables
- No risk of damaging wires
- Good mechanical resistance
- Eco-friendly, non-toxic with no expiry date

Features

- Pre-filled shell with silicone gel and snap-shut closure
- Compact Spring Box® lever connectors included (p. 110)

Selection table

item	shell with gel	connectors included		
		code	number	pole/connector
Shell Box 112	size 1	SBOX2	1	2
Shell Box 113	size 1	SBOX3	1	3
Shell Box 222	size 2	SBOX2	2	2
Shell Box 215	size 2	SBOX5	1	5
Shell Box 332	size 3	SBOX2	3	2

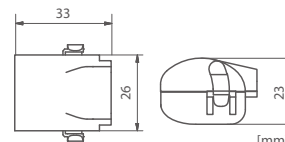
SIZE
1



Shell Box 112

cod. MJB112

Minibox size 1
gel insulated
with 1 connector
Spring Box 2



Connection and protection
1 pole - 2 conductors

Connection capacity

no. poles	no. wires/pole	cross sect. (mm ²)
1	2	0.2 - 4



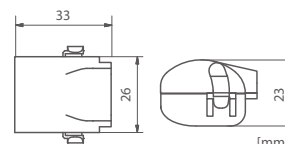
SIZE
1



Shell Box 113

cod. MJB113

Minibox size 1
gel insulated
with 1 connector
Spring Box 3



Connection and protection
1 pole - 3 conductors

Connection capacity

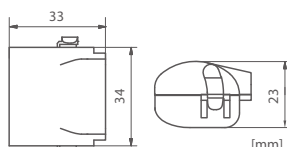
no. poles	no. wires/pole	cross sect. (mm ²)
1	3	0.2 - 4



SIZE
2


Shell Box 222

cod. MJB222

 Minibox size 2
 gel insulated
 with 2 connectors
 Spring Box 2

 Connection and protection
 2 poles - 2 conductors

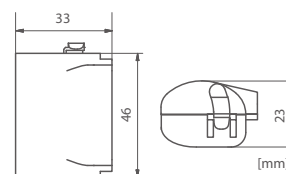
Connection capacity

no. poles	no. wires/pole	cross sect. (mm ²)
2	2	0.2 – 4


SIZE
3

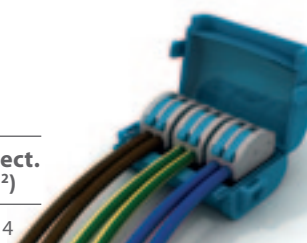

Shell Box 332

cod. MJB332

 Minibox size 3
 gel insulated
 with 3 connectors
 Spring Box 2

 Connection and protection
 3 poles - 2 conductors

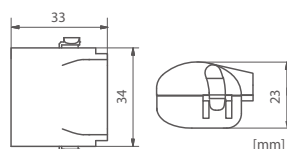
Connection capacity

no. poles	no. wires/pole	cross sect. (mm ²)
3	2	0.2 – 4


SIZE
2


Shell Box 215

cod. MJB215

 Minibox size 2
 gel insulated
 with 1 connector
 Spring Box 5

 Connection and protection
 1 pole - 5 conductors

Connection capacity

no. poles	no. wires/pole	cross sect. (mm ²)
1	5	0.2 – 4





SOLUTIONS IN RE-ENTERABLE SILICONE RESIN

01.4

SILICONE RESIN FILLERS

NEW



RESIL® - Re-enterable two-component silicone resin

01.5

SILICONE RESIN INSULATED JOINTS

NEW

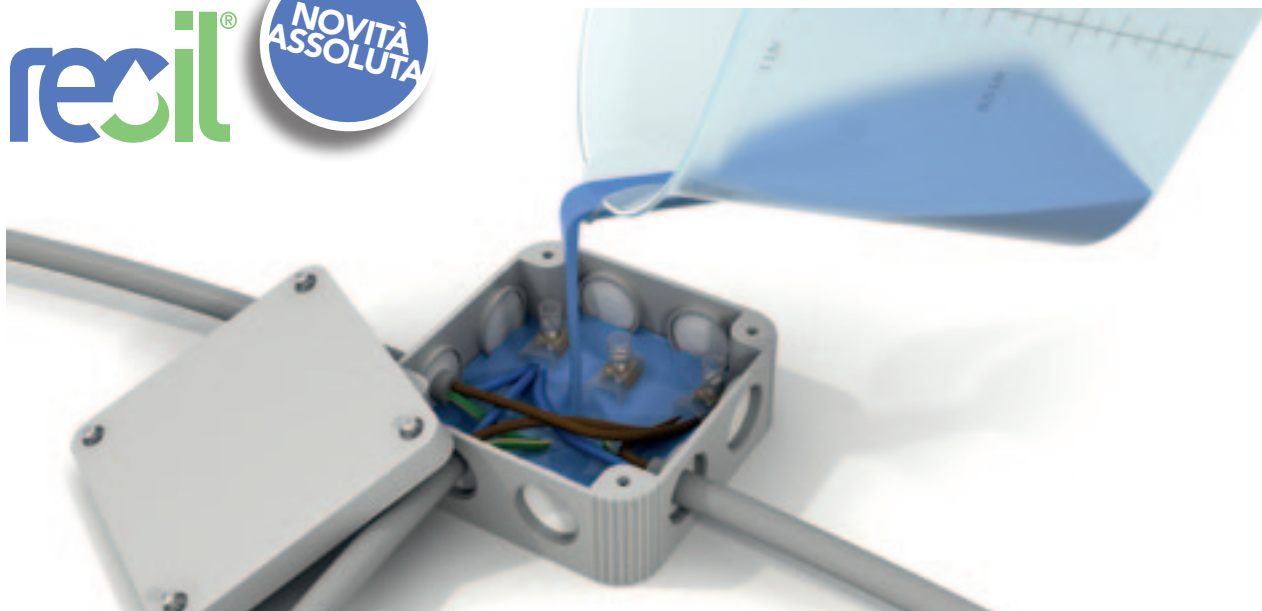


RESIL JOINT® RJA series - straight

NEW



RESIL JOINT® RJB series - Y branch



Re-enterable two-component silicone resin

Resil® is a two-component re-enterable silicone resin for filling and insulating low voltage junction casings and boxes.

The electrical and mechanical features of Resil® ensure protection and insulation from water, dust, and elements for electrical connections and components, and its high resistance to penetration makes it ideal for use as a filler for GSA and GSB series shells to make straight (RJA series) and branch (RJB series) low voltage Resil Joints® connections.



USE & REUSE

Thanks to RESIL®'s innovative formula, unlike traditional resins, **it is possible to use only the amount required**, keeping the remainder for **later use**: no waste with **maximum yield and versatility of use**.

Re-enterable

Resil®, unlike polyurethane and epoxy resins, allows re-entering long after cross-linking has taken place, and ensures good mechanical strength and protection against accidental contact with live parts.

High performance

Resil®'s fast cross-linking reduces installation and activation time, as well as labour costs. The process is non-exothermic and so it causes no damage to the components and the parts to be insulated.

High dielectric strength: 23 kV/mm.

Wide range of operating temperatures (-40 to 115° C).

Easy and waste-free

The two components used to make **Resil®** come in separate containers to ensure the correct 1:1 mixing ratio. The new 1 and 5-liter measuring jugs allow waste-free, thorough and rapid mixing, even if the silicone resin is mixed in one go.

NEW 1L and 5L MEASURING JUGS



Safe

Resil® contains no isocyanates and ensures maximum safety levels for the environment and operators. Resil® is classified as non-hazardous under European Regulation no. 1272/2008 (CLP) and can be disposed of as solid waste.



Available size

Resil® is available in 2 sizes: 1 and 4-liters bottles, both with measuring jug.



- Re-enterable
- Dielectric strength: 23 kV/mm
- Mixing ratio 1:1
- Density: 1.3 g/cm³
- Working time at 23° C: 5 min
- Cross-linking time at 23° C: 12 min
- Operating temperature: -40 to 180° C
- Color: blue
- Storage temperature: 5 to 25° C
- Self-extinguishing class V₀
- Classified as non-hazardous under European Regulation no. 1272/2008 (CLP)

Applications

- Filling junction boxes
- Insulation of 0.6-1 kV electrical connections
- Insulation of electronic boards and components
- Ideal for low voltage Resil Joint® connections: straight (RJA Series) with GSA Series shells, and branch (RJB Series) with GSB Series shells

Advantages

- Re-enterable
- May be partially used as needed
- Can be mixed in one go in the jugs provided
- Easy pouring
- Rapid and non-exothermic cross-linking
- Excellent electrical insulation
- Non-hygroscopic
- Good mechanical strength that prevents accidental contact with live parts
- Protection from elements (rain, moisture), dust, animals, insects, leaves
- Self-extinguishing class V₀
- Non-toxic (isocyanate-free)
- Eco-friendly
- Easy-to-clean reusable jug



Resil 100

Two-component silicone resin
re-enterable - 1 liter

Kits contents

- 2 transparent 500 ml bottles
- 1-liter measuring jug

item	volume (liters)	weight (kg)
RESIL 100	1.0	1.3



Resil 400

Two-component silicone resin
re-enterable - 4 liters

Kits contents

- 2 transparent 2-liters bottles
- 5-liter measuring jug

item	volume (liters)	weight (kg)
RESIL 400	4.0	5.2



Resil Joint® RJ series Silicone resin insulated joints for straight connections



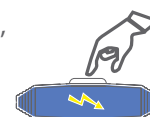
Resil joint® is a new line of silicone resin insulated joints for low-voltage (0.6/1 kV) straight connections for single and multicore cables with up to 4 cores compliant with EN 50393 standard, made using **Resil®** silicone resin as a filler for GSA series shells.

Thanks to Resil®'s USE & REUSE feature, it is possible to mix only the amount of silicone resin required, keeping the remainder for later use.

The new measuring jug supplied with Resil 100 is marked with the filling levels specific to commonly used GSA shells, thus allowing for easy, fast and precise dosage of each part.



RJA joints made in this way keep all the structural characteristics and advantages of Resil® silicone resin, allowing possible re-entering and at the same time providing protection from accidental contact with the live parts of the connection.



Unlike joints made with polyurethane and epoxy resins, Resil Joint® joints, using Resil® silicone resin, contain no isocyanates, ensuring maximum safety for the environment and operators.

RJA joints are classified as non-hazardous under European Regulation no. 1272/2008 (CLP), so any waste resulting from installation or the products themselves at the end of their life cycle can be disposed of as municipal solid waste.



Applications

- Straight connections on 0.6/1 kV single and multicore cables with up to four cores (five cores with optional terminal block)
- For installation in cable ducts, underground, overhead, or submersed
- Street lighting systems

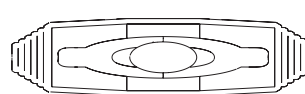
Advantages

- Re-enterable
- Flexibility of use
- Excellent electrical insulation 0.6/1 kV
- Good mechanical strength that prevents accidental contact with live parts
- Non-toxic (isocyanate-free)



Resil Joint® RJ Series • Silicone resin joints

Straight connections



L D [mm]

JOINT	GSA SHELL	RESIL® [LITERS]	DIMENSIONS (L x D) (mm)	CABLE DIAMETER MIN-MAX [mm]	SINGLE-CORE CABLES		MULTICORE CABLES		OPTIONAL CONNECTORS / TERMINAL BLOCKS
					CORE	CONDUCTOR CROSS-SECTION MIN - MAX [mm²]	MAX CORES	CONDUCTOR CROSS-SECTION MIN - MAX [mm²]	
RJA0	GSA0	0.13	190 x 45	8 – 26	⊙	6 – 35	⊗	1.5 – 10	-
RJA1	GSA1	0.20	190 x 51	7 – 30	⊙	6 – 35	⊗	1.5 – 16	-
					⊙	6 – 50	-	-	MR10
					-	-	⊗	1.5 – 10	MC510-RJ
RJA2	GSA2	0.33	240 x 62	8 – 35	⊙	25 – 185	⊗	4 – 25	-
					⊙	50 – 95	-	-	MR11
					-	-	⊗	2.5 – 25	MC525-RJ
RJA3S	GSA3S	0.55	357 x 62	23 – 35	⊙	50 – 185	⊗	25 – 50	-
					⊙	95 – 240	-	-	MR12
RJA3	GSA3	1.40	325 x 95	20 – 54	⊙	95 – 400	⊗	25 – 95	-
					⊙	150 – 300	-	-	MR13
RJA4	GSA4	2.90	520 x 100	33 – 55	⊙	240 – 500	⊗	95 – 150	-
RJA5	GSA5	6.50	670 x 120	45 – 73	⊙	400 – 630	⊗	150 – 300	-
RJA6	GSA6	9.80	870 x 200	55 – 80	-	-	⊗	185 – 400	-

Available as installation accessories:

- multi-pole insulated terminal blocks with mechanical clamping for up to 5-core cables (see MC-RJ)
- armour continuity restoration kit for armoured cables (see BEK)



Only a GSA shell + Resil® becomes an Etelec-guaranteed Resil JOINT®

TOTALLY
NEW

Resil Joint® RJB series Silicone resin insulated joints for branch connections



Resil Joint® is a new line of silicone resin insulated joints for low voltage 0.6/1 kV branch connections of single and multicore cables with up to four cores compliant with EN 50393 standard, made using **Resil®** silicone resin as a filler for GSB series shells.

Thanks to Resil®'s USE & REUSE feature, it is possible to mix only the amount of silicone resin required keeping the remainder for later use.

The new measuring jug supplied with Resil 100 is marked with the filling levels specific to commonly used GSB shells, thus allowing for easy, fast and precise dosage of both parts.



RJB joints made in this way keep all the structural characteristics and advantages of Resil® silicone resin, allowing possible re-entering and at the same time providing protection against accidental contact with the live parts of the connection.



Unlike joints made with polyurethane and epoxy resins, Resil Joint® joints, using Resil® silicone resin, contain no isocyanates, ensuring maximum safety for the environment and operators.

RJB joints are classified as non-hazardous under European Regulation no. 1272/2008 (CLP) so any waste resulting from installation or the products themselves at the end of their life cycle can be disposed of as municipal solid waste.



Applications

- Branch connections on 0.6/1 kV single-core cables and multicore cables with up to four cores (five cores with optional terminal block)
- For installation in cable ducts, underground, overhead, and submersed
- Street lighting systems

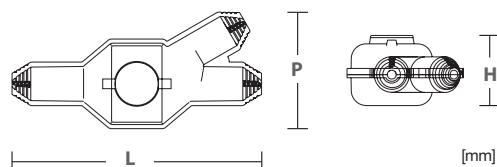
Advantages

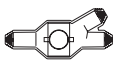












- Re-enterable
- Flexibility of use
- Excellent electrical insulation 0.6/1 kV
- Good mechanical strength that prevents accidental contact with live parts
- Non-toxic (isocyanate-free)

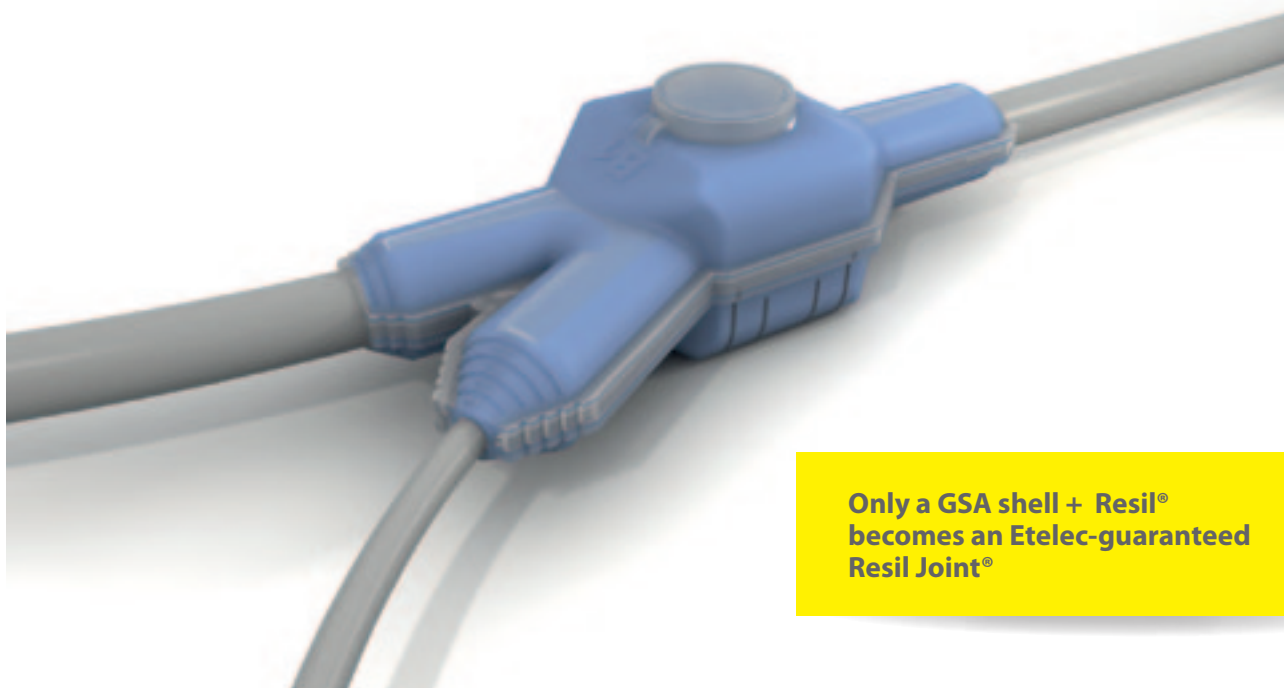


Resil Joint® RJB Series • Silicone resin joints

Y branch connections



JOINT	 GSB SHELL	 RESIL® VOLUME [liters]	DIMENSIONS (W X D X H) (MM)	CABLES DIAMETER [mm]		MAX CORES	CONDUCTOR CROSS- SECTION [mm²]				OPTIONAL TERMINAL BLOCKS
				CABLE DIAMETER MIN-MAX	BRANCH CABLE DIAMETER MIN-MAX		MIN		MAX		
							MAIN CABLE	BRANCH CABLE	MAIN CABLE	BRANCH CABLE	
RJB1	GSB1	0.25	200 × 94 × 55	7 – 23	7 – 23		4	2.5	6	6	-
							4	2.5	6	6	 MU50610-RJ
RJB2	GSB2	0.40	240 × 113 × 68	12 – 27	12 – 27		6	2.5	25	25	-
							6	2.5	16	16	 MU51635-RJ
RJB3	GSB3	1.60	360 × 155 × 90	13 – 45	13 – 45		25	2.5	95	95	-
							10	2.5	35	35	 MU51635-RJ
RJB4	GSB4	2.0	298 × 128 × 128	35 – 51	17 – 33		50	25	120	50	-
RJB5	GSB5	2.90	240 × 130 × 130	30 – 55	17 – 40		50	50	185	70	-



Only a GSA shell + Resil®
becomes an Etelec-guaranteed
Resil Joint®



RESIN SOLUTIONS

01.6 SOLID STATE POLYURETHANE RESIN



SUBMARINE® Straight Series



SUBMARINE® BRANCH Series

01.7 RESIN FILLERS



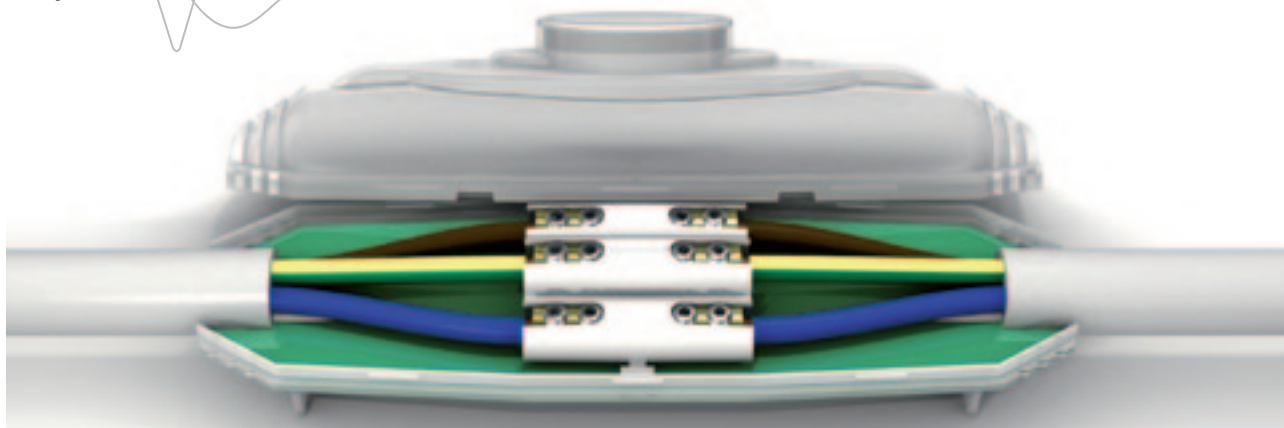
RS - final solid state polyurethane resin in bags



RS 5000 - final solid state epoxy resin in cans



RR 4500 - re-enterable hydrocarbon resin in cans

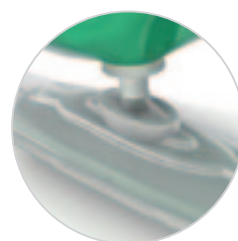


SUBMARINE® Straight Series

Cast resin joints for straight connections

The **SUBMARINE® Straight Series** kits allow 0.6/1 kV single and multicore cable connections with up to five conductors. Kits include:

- two transparent half-shells with snap-shut closure, so that the connection is visible before the resin is poured
- two-component solid state polyurethane resin, already in the correct mixing ratio
- **Direct Injection pouring system (DIPS)** allows to inject the pre-mixed resin inside the joint without contact with the external environment. No leakage and no personal contact, ensuring maximum safety for the operator and the environment
- modular separator and in some versions a pre-assembled insulated five-pole terminal block with Allen key to mechanically lock the connectors



Technical specifications

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Operating temperature: -20 to 90° C
- Double insulation (in versions with terminal block)
- Solid state polyurethane resin
- Shelf life: 3 years

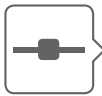


Applications

- Straight connections on 0.6/1 kV single-core cables and multicore cables with up to five cores
- For installation in cable ducts, underground, overhead, submersed
- Street lighting systems

Advantages

- Permanent installation
- Excellent resistance at great depths
- Direct Injection pouring system (DIPS)
- Transparent shell
- Integrated separator
- Excellent electrical insulation
- Good mechanical resistance
- 7 sizes for conductors with cross-section up to 630 mm²



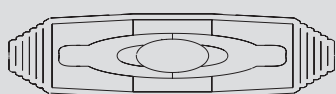
SUBMARINE® Straight Series • solid state polyurethane resin joints

Straight connections

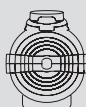
SIZE	CODE	SEPARATORS/ TERMINAL BLOCK	DIRECT INJECTION CASTING SYSTEM	CABLE DIAMETER MIN-MAX [mm]	SINGLE-CORE CABLES		MULTICORE CABLES	
					CORES	CONDUCTOR CROSS-SECTION MIN – MAX [mm²]	MAX NO. OF CORES	CONDUCTOR CROSS-SECTION MIN – MAX [mm²]
0	SKA0			8 – 26		6 – 35		1.5 – 10
1	SKA1			7 – 30		6 – 35		1.5 – 16
	A10410				–	–		1.5 – 10
2	SKA2			8 – 35		25 – 185		4 – 25
	A20425				–	–		4 – 25
3S	SKA3S			23 – 35		50 – 185		25 – 50
3	SKA3			20 – 54		95 – 400		25 – 120
								25 – 95
4	SKA4			33 – 55		240 – 500		70 – 185
								95 – 150
5	SKA5			45 – 73		400 – 630		150 – 300
6	SKA6			55 – 80	–	–		185 – 400


SIZE
0

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



190



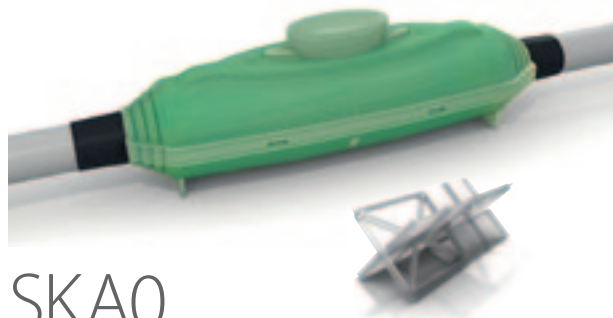
45 [mm]

Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKA0

Polyurethane resin joint
 Straight connections - cables
 up to 4 cores
 Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 0
- Four-core separator
- Bag of two-component resin
- Insulating tape

Table of use



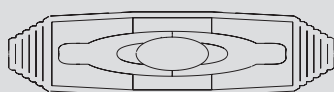
Straight connections

Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
	8 – 26	6	35
		1.5	10

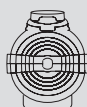


SIZE
1

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



190



51 [mm]

Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKA1



Polyurethane resin joint
Straight connections
Cables up to 4 cores
Separator included

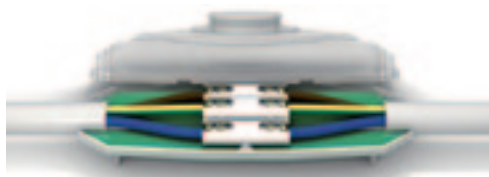
Kit contents

- Two transparent polypropylene half-shells - Size 1
- **Separator**
- Bag of two-component resin with DIPS
- Insulating tape
- Latex protective gloves



Straight connections

Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
1	7 – 30	6	35
2, 3, 4		1.5	16



A10410



Polyurethane resin joint
Straight connections - cables
up to 5 cores
Insulated five-pole terminal block included

- Double insulation

Kit contents

- Same as SKA1 kit plus:
- Pre-assembled insulated **five-pole terminal block**
- Allen key for the terminal block

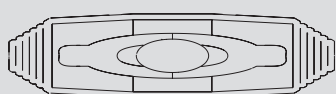


Straight connections

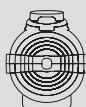
Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
1	7 – 30	1.5	10


SIZE
2

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



240



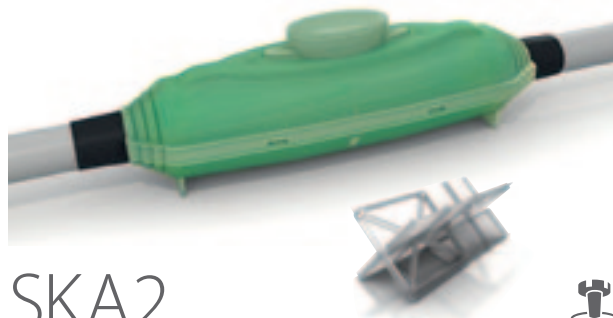
62 [mm]

Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKA2



Polyurethane resin joint
 Straight connections
 Cables up to 4 cores
 Separator included

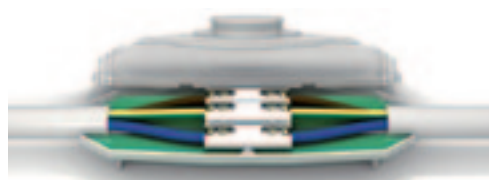
Kit contents

- Two transparent polypropylene half-shells - Size 2
- Separator
- Bag of two-component resin with DIPS
- Insulating tape
- Latex protective gloves



Straight connections

Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
●	8 – 35	25	185
●●●●		4	25



A20425



Polyurethane resin joint
 Straight connections
 Cables up to 5 cores
 Insulated five-pole terminal block included

- Double insulation

Kit contentst

- Same as SKA2 kit plus:
- Pre-assembled insulated **five-pole terminal block**
- Allen key for the terminal block



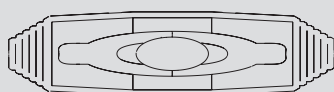
Straight connections

Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
●●●●●	8 – 35	4	25

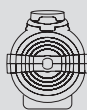


SIZE
3S

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



357



62 [mm]

Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKA3S



Polyurethane resin joint
Straight connections - cables
up to 4 cores
Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 3S
- Four-pole separator
- Bag of two-component resin
- Direct Injection pouring system (DIPS)
- Insulating tape
- Latex protective gloves

Table of use

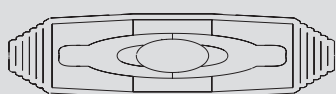


Straight connections

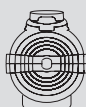
Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
	23 – 35	50	185
		25	50


**SIZE
3**

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



325



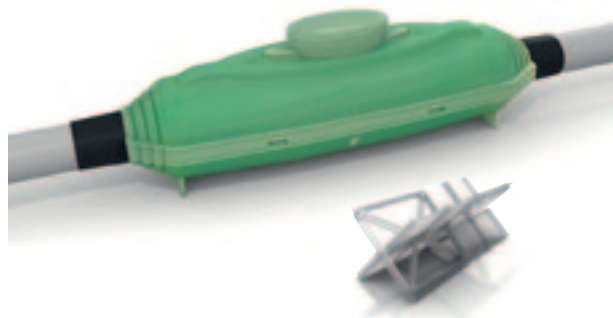
95 [mm]

Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKA3



Polyurethane resin joint
Straight connections - cables
up to 4 cores
Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 3
- Four-pole separator
- Bag of two-component resin
- Direct Injection pouring system (DIPS)
- Insulating tape
- Latex protective gloves

Table of use



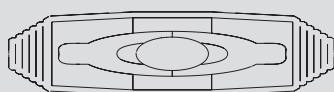
Straight connections

Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
	20 – 54	95	400
		25	120
		25	95
		25	95

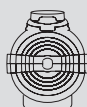


SIZE
4

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



520



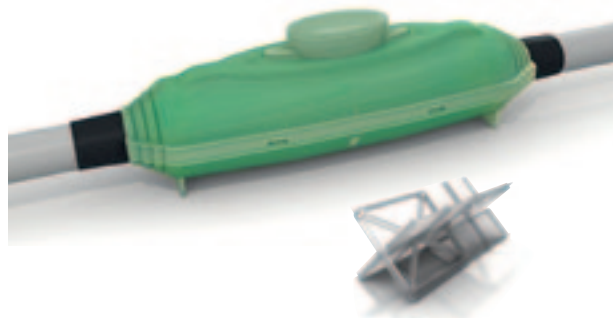
100 [mm]

Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKA4



Polyurethane resin joint
Straight connections - cables
up to 4 cores
Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 4
- Four-pole separator
- Bag of two-component resin
- Direct Injection pouring system (DIPS)
- Insulating tape
- Latex protective gloves

Table of use

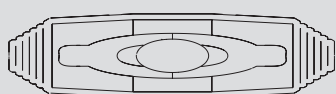


Straight connections

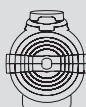
Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
	33 – 55	240	500
		70	185
		95	150


**SIZE
5**

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



870



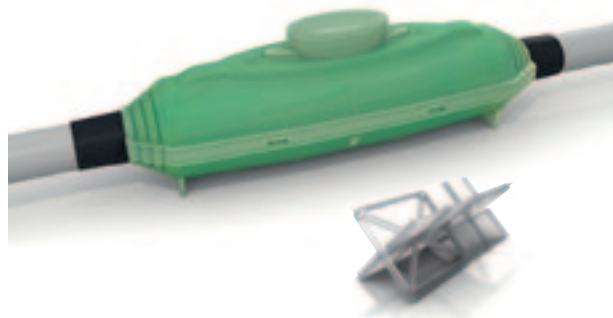
200 [mm]

Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKA5



Polyurethane resin joint
Straight connections - cables
up to 4 cores
Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 5
- Four-pole separator
- Bag of two-component resin
- Direct Injection pouring system (DIPS)
- Insulating tape
- Latex protective gloves
- Instructions

Table of use



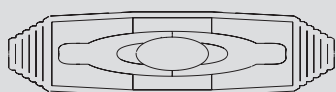
Straight connections

Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
	45 – 73	400	630
		150	300

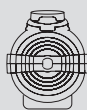


SIZE
6

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



190



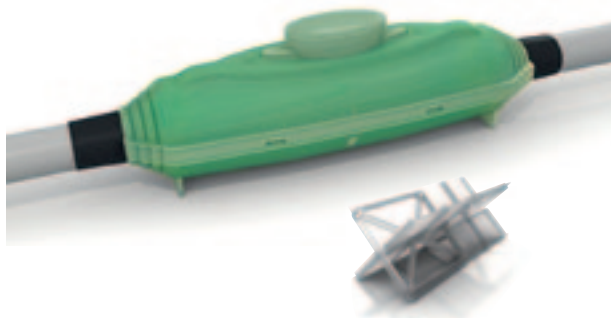
51 [mm]

Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKA6



Polyurethane resin joint
Straight connections - cables
up to 4 cores
Separator included

Kit contents

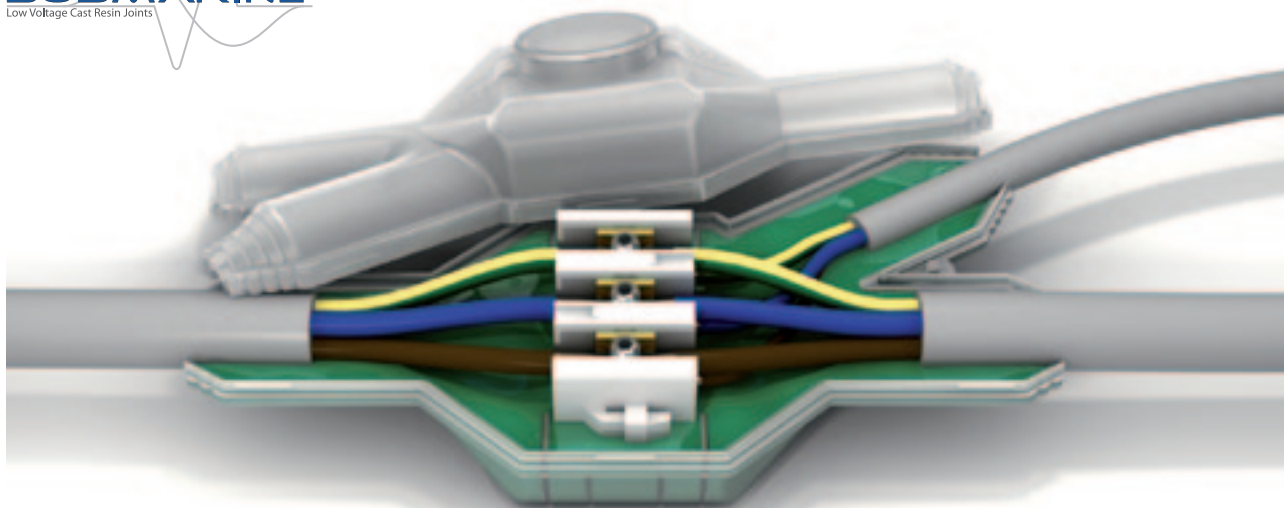
- Two transparent polypropylene half-shells - Size 6
- Four-pole separator
- Bag of two-component resin
- Direct Injection pouring system (DIPS)
- Insulating tape
- Latex protective gloves
- Instructions

Table of use



Straight connections

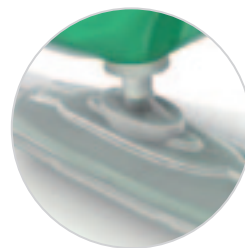
Cores	Cable diameter Ø (mm)	Conductor cross-section (mm ²)	
		min	max
1	55 – 80	185	400
2			
3			
4			



SUBMARINE® Branch Series Cast resin joints for Y branch connections

The **SUBMARINE® Branch Series** kits allow 0.6/1 kV single and multicore cable connections with up to five conductors. Kits include:

- two transparent half-shells with snap-shut closure and a 30° branch connector, so that the connection is visible before the resin is poured
- two-component solid state polyurethane resin, already in the correct mixing ratio
- **Direct Injection Pouring System (DIPS)** allows to inject the pre-mixed resin inside the joint, without contact with the external environment. No leakage and no personal contact, ensuring maximum safety for the operator and the environment
- Separator and in some versions an insulated five-pole terminal block with Allen key to mechanically lock the connectors, which enables connection without interrupting the main cable



Technical specifications

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one metre (CEI EN 50393 par. 8.6.3)
- Operating temperature: -20 to 90° C
- Double insulation (in the version with terminal block)
- Solid state polyurethane resin (green colour)
- Shelf life: 3 years

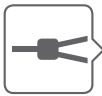


Applications

- Y branch connections for single and multicore 0.6/1 kV cables with up to five cores
- For installation in cable ducts, underground, overhead, and underwater
- Street lighting systems

Advantages

- Permanent installation
- Excellent resistance at great depths
- Direct injection pouring system (DIPS)
- Transparent shell
- Integrated separator
- Excellent electrical insulation
- Good mechanical resistance
- 5 sizes for conductors with cross-section up to 630 mm²



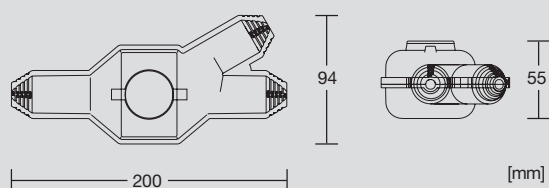
SUBMARINE® Branch Series • resin joints

Y branch connections

SIZE	CODE	SEPARATORS / TERMINAL BLOCK	DIRECT INJECTION CASTING SYSTEM	CORES	MAIN CABLE DIAMETER MIN-MAX [mm]	BRANCH CABLE DIAMETER MIN-MAX [mm]
1	SKB1				7 – 23	7 – 23
	B10406					
2	SKB2				12 – 27	12 – 27
	B20416					
3	SKB3				13 – 45	13 – 45
	B30435					
4	SKB4				35 – 51	17 – 33
5	SKB5				30 – 55	17 – 40


SIZE
1

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKB1

Polyurethane resin joint

Branch connections - cables up to 4 cores

Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 1
- Separator
- Bag of two-component resin with DIPS
- Insulating tape
- Latex protective gloves



Branch connections

Cores	Cable diameter Ø (mm)		Conductor cross-section (mm ²)			
			min		max	
	main.	branch	main cable	branch cable	main cable	branch cable
1			4	4	50	50
2	7 - 23	7 - 23	4	2,5	16	16
3			4	2,5	6	6



B10406



Polyurethane resin joint

Branch connections - cables up to 5 cores

Insulated five-pole terminal block included

- Double insulation
- Connection without interrupting the main cable

Kit contents

- Same as SKB1 kit plus:
- Pre-assembled insulated five-pole terminal block with Allen key



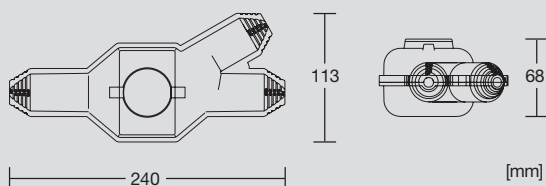
Branch connections

Cores	Cable diameter Ø (mm)		Conductor cross-section (mm ²)			
			min		max	
	main.	branch	main cable	branch cable	main cable	branch cable
5	7 - 23	7 - 23	4	2,5	6	6



SIZE
2

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included

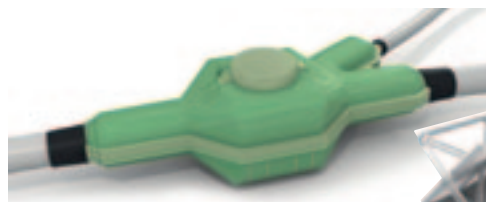


Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKB2



Polyurethane resin joint

Branch connections - cables up to 4 cores

Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 2
- Separator
- Bag of two-component resin with DIPS
- Insulating tape
- Latex protective gloves



Branch connections

Cores	Cable diameter Ø (mm)		Conductor cross-section (mm ²)			
			min		max	
	main.	branch	main cable	branch cable	main cable	branch cable
1	12 - 27	12 - 27	35	35	150	150
2			6	6	25	25
3			6	6	25	25
4			6	2.5	25	25



B20416



Polyurethane resin joint

Branch connections - cables up to 5 cores

Insulated five-pole terminal block included

- Double insulation
- Connection without interrupting the main cable

Kit contents

- Same as SKB2 kit plus:
- Pre-assembled insulated five-pole terminal block with Allen key

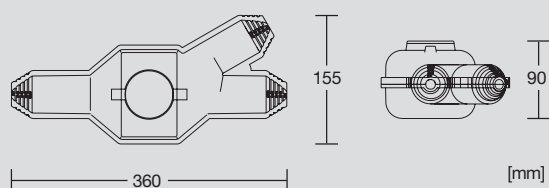


Branch connections

Cores	Cable diameter Ø (mm)		Conductor cross-section (mm ²)			
			min		max	
	main.	branch	main cable	branch cable	main cable	branch cable
5	12 - 27	12 - 27	6	2.5	16	16


**SIZE
3**

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKB3

Polyurethane resin joint
Branch connections - cables up to 4 cores
Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 3
- Separator
- Bag of two-component resin with DIPS
- Insulating tape
- Latex protective gloves



Branch connections

Cores	Cable diameter Ø (mm)		Conductor cross-section (mm²)			
			min		max	
	main.	branch	main cable	branch cable	main cable	branch cable
1	13 – 45	13 – 45	50	50	400	400
2			25	25	150	150
3			25	25	120	120
4			25	25	95	95



B30435



Polyurethane resin joint
Branch connections - cables up to 5 cores
Insulated five-pole terminal block included

- Double insulation
- **Connection without interrupting the main cable**

Kit contents

- Same as SKB3 kit plus:
- Pre-assembled insulated **five-pole terminal block** with Allen key



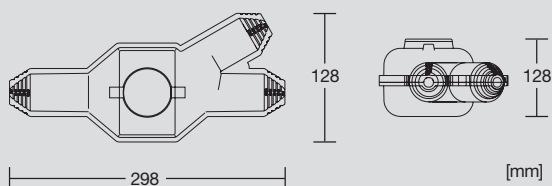
Branch connections

Cores	Cable diameter Ø (mm)		Conductor cross-section (mm²)			
			min		max	
	main.	branch	main cable	branch cable	main cable	branch cable
5	13 – 45	13 – 45	10	2.5	35	35



SIZE
4

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKB4

Polyurethane resin joint
Branch connections
Cables up to 4 cores
Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 4
- Separator
- Bag of two-component resin with Direct Injection pouring system (DIPS)
- Insulating tape
- Latex protective gloves

Table of use

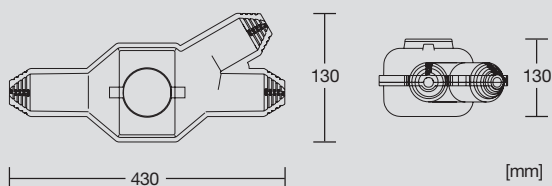


Branch connections

Cores	Cable diameter Ø (mm)		Conductor cross-section (mm ²)			
			min		max	
	main.	branch	main cable	branch cable	main cable	branch cable
	35 – 51	17 – 33	300	300	500	400
			50	50	240	50
			50	50	150	50
			50	25	120	50


**SIZE
5**

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- Protection level: equivalent to IPX8 (CEI EN 60529) tested in water at a depth of one meter (CEI 50393 par. 8.6.3)
- Solid state polyurethane resin
- Operating temperature: -20 to 90° C
- Shelf life: 3 years
- Separator included



Applications

- Underground installation
- Submersed installation
- Overhead installation

Advantages

- Excellent electrical insulation
- Watertight sealing of the connection
- Excellent protection against corrosion
- Excellent mechanical resistance



SKB5



Polyurethane resin joint
Branch connections
Cables up to 4 cores
Separator included

Kit contents

- Two transparent polypropylene half-shells - Size 5
- Separator
- Bag of two-component resin with Direct Injection pouring system (DIPS)
- Insulating tape
- Latex protective gloves
- Instructions

Tabella di impiego



Branch connections

Cores	Cable diameter Ø (mm)		Conductor cross-section (mm ²)			
			min		max	
	main.	branch	main cable	branch cable	main cable	branch cable
	30 – 55	17 – 40	300	300	630	400
			120	120	300	120
			70	70	185	95
			50	50	185	70

Final solid state polyurethane resin

TECHNICAL SPECIFICATIONS

NORMAL VALUE

colour	green
dielectric strength	>20 kV/mm
working time at 23° C	15 min
cross-linking time at 23° C	25 min
density	1.37 g/cm ³
SHORE D hardness	55
storage temperature	5 - 40 °C
shelf life	3 years

Applications

- All types of filling and insulation of electrical junction boxes with operating voltages of up to 1 kV

Advantages

- Watertight sealing of casing and/or connection
- Excellent mechanical protection thanks to the final solid state
- Fluid and even pouring without accidental spillage, thanks to the **Perforation Pouring System (PPS)**



RS



Two-component polyurethane resin
Final solid state
in bags

Contents of Package

- Bag with removable baffle
- **Perforation Pouring System (PPS)**
- Instructions

Available size

item	weight (g)	volume (l)
RS-150	150	0.110
RS-300	300	0.220
RS-400	400	0.290
RS-550	550	0.400
RS-650	650	0.470
RS-1650	1650	1.200

Final solid state epoxy resin

TECHNICAL SPECIFICATIONS

NORMAL VALUE

colour	grey
dielectric strength	>20 kV/mm
working time at 25° C	15 min.
cross-linking time at 25° C	50 min.
density	1.14 g/cm ³
SHORE D hardness	85
shelf life	2 years



RS 5000

Three-part epoxy resin
quartz-loaded
final solid state

Applications

- All types of filling and insulation of electrical junction boxes with operating voltages of up to 1 kV
- Ideal for filling even large spaces (thanks to quartz aggregate)

Advantages

- Watertight sealing of casing and/or connection
- Excellent mechanical protection thanks to the final solid state

Contents of Package

- Can of resin
- Can of hardener
- Bag of powdered quartz
- Stirring stick

Available size

item	weight (kg)	volume (liters)
RS 5000	5	4.4

HEAT SHRINK SOLUTIONS

01.8

HEAT SHRINK JOINTS

**NEW**

GBT-C - straight with connectors



GBT /GBT-S - straight

01.9

HEAT SHRINK TERMINATIONS



TTBT - heat shrink terminations

01.10

PREFORMED HEAT SHRINK PARTS



CTC - sealing caps



TBT - sealing breakout boots

01.11

HEAT SHRINK TUBING

THIN WALL



GTUC - black and coloured spools
GTGV - yellow-green spool



ROLLBOX - dispenser box



TUBINGS - 1 meter length

MEDIUM WALL



GTMS -spool / bars with sealant

WITH WRAP-AROUND SLEEVE



GTCR - with wrap-around sleeve and sealant

ANTICORROSIVE FOR POLE PROTECTION



GTPA - sleeves for pole installation
RJS - spools for already installed poles

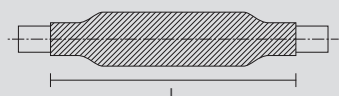


NEW

Installation tools for heat shrink tubing

GBT

Heat shrink joints



Applications

- Installation underwater, underground, in cable ducts
- **Ideal for submersed pipe joints**

Advantages

- Small footprint
- Available for a wide range of conductor cross-sections
- Resistance to chemicals and weathering
- Excellent electrical insulation
- Excellent sealing
- Good mechanical resistance
- UV resistant
- No expiry date



GBT-C

Heat shrink joint for power cables

Connectors with mechanical clamping included

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- No crimping tool needed
- For up to 4-core extruded insulation cables

Kit contents

- Sheaths for insulating each core
- Sleeve with sealant for reconstructing the outer jacket of the cable
- **Connectors in tin-plated aluminium** with shear head bolts suitable for copper-copper, aluminum-aluminum, and copper-aluminum connections

Table of use



Straight connections

item	max number of cores	cable conductor cross-section (mm ²)		joint length L (mm)
		min	max	
GBT-0416-C		10	16	330
GBT-0435-C		25	35	500
GBT-0470-C		50	70	500
GBT-4150-C		95	150	750
GBT-4300-C		185	300	750



GBT

Heat shrink joint
for power cables

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)
- For up to 4-core extruded insulation cables
- Metal connectors not included
- Available on request for three-core concentric neutral cables (GBT-N series) or armoured cables (GBT-A series)

Kit contents

- Sheaths for insulating each core
- Sleeve with sealant for reconstructing the outer jacket of the cable
- Tin-plated copper braid for concentric neutral connection (**GBT-N kit only**) or armouring continuity elements (**GBT-A kit only**)

Table of use

Straight connections

item	max number of cores	cable conductor cross-section (mm ²)		joint length L (mm)
		min	max	
GBT-1016	⊙	10	16	250
GBT-1070	⊙	25	70	250
GBT-1150	⊙	95	150	330
GBT-1300	⊙	185	300	330
GBT-0406	⊗	1,5	6	200
GBT-0416	⊗	10	16	330
GBT-0435	⊗	25	35	500
GBT-0470	⊗	50	70	500
GBT-4150	⊗	95	150	750
GBT-4300	⊗	185	300	750

GBT-S

Heat shrink joint
for signal and control cables

- Compliant with the standard for 0.6/1 kV low voltage joints (CEI EN 50393)

Kit contents

- Sleeve with sealant for reconstructing the outer jacket of the cable
- Pre-insulated compression connectors to insulate each conductor

Table of use

Straight connections

item	number of conductors	cable conductor cross-section min – max (mm ²)	joint length L (mm)
GBT-007-S	4 – 7		330
GBT-014-S	10 – 14	1.5 – 2.5	330
GBT-030-S	16 – 30		375

Heat shrink terminations for low voltage

TECHNICAL SPECIFICATIONS	NORMAL VALUE	TESTING METHOD
tensile strength	10.5 MPa (min)	ISO 37
maximum stretch	300% (min)	ISO 37
density	1.0-1.3 g/cm ³	ISO 1183 Method A
hardness	40-60 SHORE D	ISO 868
accelerated aging		7 days at 150° C ISO 188
- tensile strength	8.5 MPa (min)	ISO 37
- maximum stretch	100% (min)	ISO 37
low temperature flexibility	nessuna cricca	4 h at -40° C ASTM D2671
dielectric strength	100 kV/cm	IEC 60243
volume resistivity	1×10 ¹² Ω cm	IEC 60093
water absorption	0.5% (max) after 14 days at 23° C	ISO 62 Method 1

Applications

- Termination for LV 3, 4, and 5-cores cable heads up to 0.6/1 kV
- Suitable for use on copper and aluminium cables

Advantages

- Excellent mechanical protection
- Resistance to chemicals and weathering
- Excellent electrical insulation
- Excellent sealing
- UV resistant



TTBT

Heat shrink terminations kit for low voltage 0.6/1 kV
cables up to 3, 4, and 5-cores

Kit contents

- Heat shrink sheath cable lug protection
- TBT preformed polyolefin heat shrink component with hot melt sealant

Metal cable lugs not included

Versions for armoured cables or with longer sleeves available on request

Selection table

item	max conductor cross-section (mm ²)	
	min	max
TTBT-3 Terminations for three-core cables		
TTBT-3/16	4	16
TTBT-3/50	25	50
TTBT-3/150	70	150
TTBT-3/300	185	300
TTBT-4 Terminations for four-core cables		
TTBT-4/16	4	16
TTBT-4/50	25	50
TTBT-4/150	70	150
TTBT-4/300	185	300
TTBT-5 Terminations for five-core cables		
TTBT-5/10	4	10
TTBT-5/50	16	50
TTBT-5/95	70	95
TTBT-5/240	120	240

Preformed heat shrink parts

TECHNICAL SPECIFICATIONS	TYPICAL VALUES	TESTING METHOD
tensile strength	12 MPa (min)	ISO 37
maximum stretch	200% (min)	ISO 37
density	0.9-1.2 g/cm ³	ISO 1183 Method A
hardnes	50-70 SHORE D	ISO 868
accelerated aging		7 days at 150° C ISO 188
- tensile strength	12 MPa (min)	ISO 37
- maximum stretch	200% (min)	ISO 37
low temperature flexibility	no cracks	4 h at -40° C [ASTM D2671]
dielectric strength	100 kV/cm	IEC 60243
volume resistivity	1×10 ¹² Ω cm	IEC 60093
water absorption	0.5% (max) after 24 h at 23° C	ISO 62 Method 1

Advantages

- Excellent mechanical protection
- Resistance to chemicals and weathering
- Excellent electrical insulation
- Excellent sealing
- UV resistant



CTC

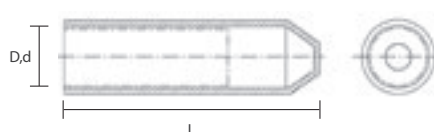
Preformed heat shrink cap for polyolefin single-core cable terminations up to 1 kv in polyolefin with hot melt sealant

Applications

- Insulation of single-core cable heads up to 0.6/1 kV
- Sealing and protection of cable terminations during transport or installation

Selection table

item	dimensions (mm)		max cable diameter (mm ²)	
	D/d (mm/mm)	L (mm)	min (mm)	max (mm)
CTC-10/4	10/4	35	4.0	8.0
CTC-20/7,5	20/7.5	55	8.0	17.0
CTC-35/15	35/15	90	17.0	30.0
CTC-55/25	55/25	125	30.0	45.0
CTC-75/32	75/32	140	45.0	65.0
CTC-100/45	100/45	160	65.0	95.0
CTC-120/70	120/70	160	95.0	115.0



D Diameter **before** shrinkage
d Diameter **after** shrinkage
L Supply length

Preformed heat shrink parts

TECHNICAL SPECIFICATIONS	TYPICAL VALUES	TESTING METHO
tensile strength	10.5 MPa (min)	ISO 37
maximum stretch	300% (min)	ISO 37
density	1.0-1.3 g/cm ³	ISO 1183 Method A
hardness	40-60 SHORE D	ISO 868
accelerated aging		7 days at 150° C ISO 188
- tensile strength	8.5 MPa (min)	ISO 37
- maximum stretch	100% (min)	ISO 37
low temperature flexibility	no cracks	4 hours at -40° C ASTM D2671
dielectric strength	100 kV/cm	IEC 60243
volume resistivity	1×10 ¹² Ω cm	IEC 60093
water absorption	0.5% (max) after 14 days at 23° C	ISO 62 Method 1

Advantages

- Excellent mechanical protection
- Resistance to chemicals and weathering
- Excellent electrical insulation
- Excellent sealing
- UV resistant



TBT/B

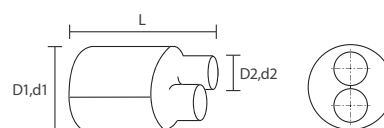
Preformed heat shrink
two-core cables breakout boot
up to 1 kV
in polyolefin with hot melt sealant

Applications

- Insulation of two-core cable heads up to 0.6/1 kV
- Sealing and protection of two-core LV cable division points

Selection table

item	dimensions (mm)			max conductor cross-section (mm ²)	
	D1/d1	D2/d2	L	min	max
TBT/B-25	32/10	14/4	70	5	25
TBT/B-150	48/32	22/7	172	35	150
TBT/B-300	86/42	40/16	200	185	300



D1, D2 Diameter **before** shrinkage
d1, d2 Diameter **after** shrinkage
L Supply length



TBT/T

Preformed heat shrink
three-core cables breakout boot
up to 1 kV

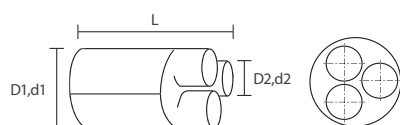
in polyolefin with hot melt sealant

Applications

- Insulation of three-core cable heads up to 0.6/1 kV
- Sealing and protection of three-core LV cable division points

Selection table

item	dimensions (mm)			max conductor cross-section (mm ²)	
	D1/d1	D2/d2	L	min	max
TBT/T-35	38/13	15/4	85	4	35
TBT/T-150	53/20	25/8	160	50	150
TBT/T-300	79/33	39/12	200	185	300
TBT/T-500	110/48	55/18	215	185	500
TBT/T-630	140/56	70/27	245	400	630



D Diameter before shrinkage
d Diameter after shrinkage
L Supply length



TBT/Q

Preformed heat shrink
four-core cables breakout boot
up to 1 kV

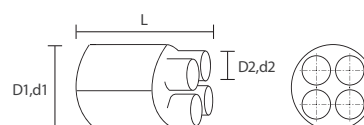
in polyolefin with hot melt sealant

Applications

- Insulation of four-core cable heads up to 0.6/1 kV
- Sealing and protection of four-core LV cable division points

Selection table

item	dimensions (mm)			max conductor cross-section (mm ²)	
	D1/d1	D2/d2	L	min	max
TBT/Q-35	41/16	14/4	80	4	35
TBT/Q-70	50/17	15/4	80	50	70
TBT/Q-150	58/26	21/7	140	95	150
TBT/Q-300	110/43	41/14	180	185	300



D Diameter before shrinkage
d Diameter after shrinkage
L Supply length

Heat shrink tubing in thin wall polyolefin for general use

TECHNICAL SPECIFICATIONS	TYPICAL VALUES	TESTING METHOD
tensile strength	14.8 MPa	-
% stretch	460 %	-
tensile strength after aging	14.5 MPa	UL 224
% stretch after aging	480 %	UL 224
dielectric strength	17 kV/mm	UL 224
flammability	VW-1	UL 224
working temperature	-55 a +125°C	-
minimum shrinkage temperature	70 °C	-



- D** Diameter *before* shrinkage
d Diameter *after* shrinkage
t Thickness *after* free shrinkage
L Length

Applications

- Electrical insulation up to 0.6/1 kV
- Protection of electrical cables and conductors from abrasion and corrosion
- Reconstruction of LV cable insulation
- Identification of cables and electrical conductors

Advantages

- Excellent mechanical protection
- Resistance to weathering
- Excellent electrical insulation
- High tensile strength
- UV resistant
- Can replace adhesive insulating and self-amalgamating tapes

Features

- Cross-linked polyolefin
- Thin walls
- Shrink ratio 2:1
- Halogen-free
- Flame retardant
- Good flexibility
- Compliant with directive 2011/65/UE (RoHS 2)



GTUC GTGV



Heat shrink tubing in spool

GTUC - black and coloured

item	tubing parameters			max cable diameter	
	D/d (mm)	t (mm)	L (m)	min (mm)	max (mm)
GTUC-1.2/0.6	1.2/0.6	0,45	300	0.7	0,9
GTUC-1.6/0.8	1.6/0.8	0,45	300	0.9	1.4
GTUC-2.4/1.2	2.4/1.2	0,50	150	1.4	1.8
GTUC-3.2/1.6	3.2/1.6	0,50	150	1.8	2.7
GTUC-4.8/2.4	4.8/2.4	0,50	150	2.7	3.6
GTUC-6.4/3.2	6.4/3.2	0,65	75	3.6	5.7
GTUC-9.5/4.8	9.5/4.8	0,65	75	5.7	8.5
GTUC-12.7/6.4	12.7/6.4	0,65	75	8.5	11.4
GTUC-19/9.5	19/9.5	0,75	75	11.4	18.0
GTUC-25.4/12.7	25.4/12.7	0,90	30	18.0	23.0
GTUC-38/19	38/19	1,00	30	23.0	35.0
GTUC-51/25.4	51/25.4	1,15	30	35.0	47.0
GTUC-76/38	76/38	1,27	15	47.0	70
GTUC-102/51	102/51	1,40	15	70	95

Available colours

0 2 4 5 6 9 X

To complete the item reference, add the colour code at the end (eg. GTUC-1.2/0.6-0)

GTGV - yellow-green

item	tubing parameters			max cable diameter	
	D/d (mm)	t (mm)	L (m)	min (mm)	max (mm)
GTGV-3/1.5	3/1.5	0.51	150	1.7	2.8
GTGV-6/3	6/3	0.58	75	3.2	5.6
GTGV-8/4	8/4	0.64	75	4.5	7.6
GTGV-10/5	10/5	0.64	75	5.5	9.5
GTGV-12/6	12/6	0.64	75	6.5	11.5
GTGV-19/9	19/9	0.76	75	9.8	18.3
GTGV-26/13	26/13	0.89	30	14.0	25.0
GTGV-38/19	38/19	1.00	30	23.0	35.0

Colour



ROLLBOX



Heat shrink tubing in dispenser box
black · red · blue

item	tubing parameters			max cable diameter	
	D/d (mm)	t (mm)	L (m)	min (mm)	max (mm)
ROLLBOX 1.6	1.6/0.8	0.45	10	0.9	1.4
ROLLBOX 2.4	2.4/1.2	0.50	10	1.4	1.8
ROLLBOX 3.2	3.2/1.6	0.50	10	1.8	2.7
ROLLBOX 4.8	4.8/2.4	0.50	10	2.7	3.6
ROLLBOX 6.4	6.4/3.2	0.65	8	3.6	5.7
ROLLBOX 9.5	9.5/4.8	0.65	6	5.7	8.5
ROLLBOX 12.7	12.7/6.4	0.65	5	8.5	11.4
ROLLBOX 19	19/9.5	0.75	5	11.4	18.0
ROLLBOX 25.4	25.4/12.7	0.90	4	18.0	23.0

Available colours



To complete the item reference, add the colour code at the end (eg. ROLLBOX 1.6 BK)

TUBINGS



Heat shrink tubing in 1 metre length
TUBINGS

item	tubing parameters			max cable diameter	
	D/d (mm)	t (mm)	L (m)	min (mm)	max (mm)
GTUC/B-2.4/1.2	2.4/1.2	0.50	1.0	1.4	1.8
GTUC/B-3.2/1.6	3.2/1.6	0.50	1.0	1.8	2.7
GTUC/B-4.8/2.4	4.8/2.4	0.50	1.0	2.7	3.6
GTUC/B-6.4/3.2	6.4/3.2	0.65	1.0	3.6	5.7
GTUC/B-9.5/4.8	9.5/4.8	0.65	1.0	5.7	8.5
GTUC/B-12.7/6.4	12.7/6.4	0.65	1.0	8.5	11.4
GTUC/B-19/9.5	19/9.5	0.75	1.0	11.4	18.0
GTUC/B-25.4/12.7	25.4/12.7	0.90	1.0	18.0	23.0
GTUC/B-38/19	38/19	1.00	1.0	23.0	35.0
GTUC/B-51/25.4	51/25.4	1.15	1.0	35.0	47.0

Available colours



To complete the item reference, add the colour code at the end (eg. GTUC/B-2.4/1.2-BK)

yellow-green

item	tubing parameters			max cable diameter	
	D/d (mm)	t (mm)	L (m)	min (mm)	max (mm)
ROLLBOX 6.4 YG	6.4/3.2	0.65	5	3.6	5.7
ROLLBOX 9.5 YG	9.5/4.8	0.65	3	5.7	8.5
ROLLBOX 12.7 YG	12.7/6.4	0.65	3	8.5	11.4
ROLLBOX 19 YG	19/9.5	0.75	2	11.4	18.0
ROLLBOX 25.4 YG	25.4/12.7	0.90	1.5	18.0	23.0

Colour



TECHNICAL SPECIFICATIONS	TYPICAL VALUES	TESTING METHOD
tensile strength	14 MPa	ISO 37
elongation at break	350 %	ISO 37
hardness	50-70 SHORE D	ISO 868
dielectric strength	20 kV/mm	IEC 60243
water absorption	0.25% max after 14 days at 23° C	ISO/R 62
working temperature	-55° C to 125° C	
minimum shrinkage temperature	70 °C	
resistance to weathering	GTMS sleeves contain carbon black for UV protection	



- D** Diameter *before* shrinkage
T Thickness *before* shrinkage
d Diameter *after* shrinkage
t Thickness *after* free shrinkage
L Length

Applications

- Electrical insulation up to 0.6/1 kV
- Protection of electrical cables and conductors from abrasion and corrosion
- Reconstruction of LV cable insulation
- Permanent installation under water (for 1 meter bars with sealant)

Advantages

- Excellent mechanical protection
- Resistance to weathering
- Excellent electrical insulation
- High tensile strength
- UV resistant
- Can replace adhesive and self-amalgamating insulating tapes

Features

- Cross-linked polyolefin
- Medium wall
- High shrink ratio (3:1)
- Halogen-free
- Flame retardant
- Colour black
- Compliant with directive 2011/65/UE (RoHS 2)



GTMS

Heat shrink tubing
in bars with sealant
and in spool without sealant
Medium wall polyolefin

Tubing bars with sealant

item	tubing parameters				max cable diameter	
	D/d (mm/mm)	T (mm)	t (mm)	L (m)	min (mm)	max (mm)
GTMS-10/3-1000/S	10/3	0.3	1.0	1.0	3.5	9.0
GTMS-16/5-1000/S	16/5	0.3	1.4	1.0	5.5	14.0
GTMS-25/8-1000/S	25/8	0.4	2.0	1.0	8.5	22.0
GTMS-35/12-1000/S	35/12	0.4	2.0	1.0	13.0	32.0
GTMS-50/16-1000/S	50/16	0.5	2.0	1.0	17.5	45.0
GTMS-63/19-1000/S	63/19	0.6	2.4	1.0	21.0	57.0
GTMS-75/22-1000/S	75/22	0.6	2.7	1.0	24.0	68.0
GTMS-85/25-1000/S	85/25	0.6	2.8	1.0	28.0	77.0
GTMS-95/29-1000/S	95/29	0.7	3.1	1.0	32.0	86.0
GTMS-115/34-1000/S	115/34	0.7	3.1	1.0	37.0	104.0
GTMS-140/42-1000/S	140/42	0.7	3.1	1.0	46.0	126.0
GTMS-160/50-1000/S	160/50	0.7	3.2	1.0	55.0	144.0
GTMS-180/60-1000/S	180/60	0.7	3.2	1.0	66.0	162.0

Tubing spool without sealant

item	tubing parameters				max cable diameter	
	D/d (mm/mm)	T (mm)	t (mm)	L (m)	min (mm)	max (mm)
GTMS-10/3-A/U	10/3	0.3	1.0	40	3.5	9.0
GTMS-16/5-A/U	16/5	0.3	1.4	40	5.5	14.0
GTMS-25/8-A/U	25/8	0.4	2.0	40	8.5	22.0
GTMS-35/12-A/U	35/12	0.4	2.0	30	13.0	32.0
GTMS-50/16-A/U	50/16	0.5	2.0	25	17.5	45.0
GTMS-63/19-A/U	63/19	0.6	2.4	15	21.0	57.0
GTMS-75/22-A/U	75/22	0.6	2.7	10	24.0	68.0

TECHNICAL SPECIFICATIONS	TYPICAL VALUES	TESTING METHOD
tensile strength	17 MPa [min]	ISO 37
maximum stretch	350 % [min]	ISO 37
density	1.0-1.2 g/cm ³	ISO 1183 Metodo A
hardness	50-70 SHORE D	ISO 868
accelerated aging		ISO 188 [7 giorni a 150 °C]
- tensile strength	14 MPa [min]	ISO 37
- maximum stretch	300% [min]	ISO 37
thermal endurance	120 °C	IEC 60216
low temperature flexibility	No cracks	ASTM D2671 [4 ore a -40 °C]
dielectric strength	180 kV/cm (1 mm wall) 120 kV/cm (3.5 mm wall)	IEC 60243
volume resistivity	$1 \times 10^{12} \Omega \text{ cm}$	IEC 60093
water absorption	0.5% max after 14 days at 23° C	ISO 62 Method 1
resistance to fluids	certified	ISO 1817 [7 days in transformer oil]
fungus-resistant	certified	ASTM G21

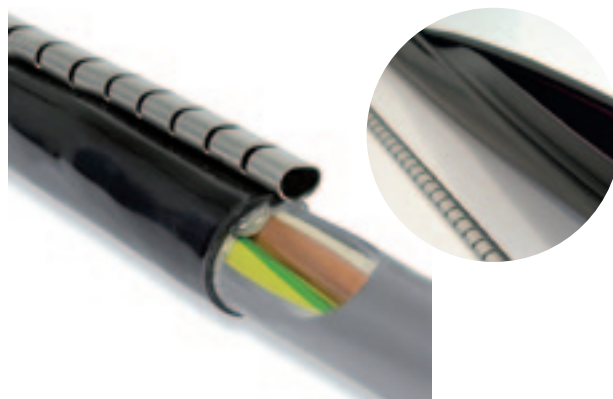


D = Diameter before shrinkage

d = Diameter after shrinkage

Advantages

- High resistance to abrasion and impact
- High resistance to weathering and UV rays
- Can replace adhesive and self-amalgamating insulating tapes



GTCR

Heat shrink wrap-around zip sleeve

Thick wall polyolefin - with sealant
1 meter bars

Applications

- Electrical insulation up to 0.6/1 kV
- Suitable for repairs to the outer sleeve of installed cables

Features

- Thick wall cross-linked polyolefin with hot melt sealant
- Shrink ratio 3:1
- Halogen-free
- Supplied in 1 meter bars
- Colour black

Selection table

item	tubing parameters				max cable diameter	
	D/d (mm/ mm)	T (mm)	t (mm)	L (m)	min (mm)	max (mm)
GTCR-34/10-1000/S	34/10	0.3	2.4	1.0	11	21
GTCR-53/13-1000/S	53/13	0.3	2.0	1.0	17	32
GTCR-84/20-1000/S	84/20	0.3	2.0	1.0	24	50
GTCR-107/29-1000/S	107/29	0.3	2.0	1.0	31	65
GTCR-143/36-1000/S	143/36	0.3	1.8	1.0	33	86
GTCR-198/55-1000/S	198/55	0.3	2.1	1.0	56	120
GTCR-250/98-1000/S	250/98	0.4	1.7	1.0	103	150

TECHNICAL SPECIFICATIONS	TYPICAL VALUES	TESTING METHOD
dielectric strength	25 kV/mm	ASTM D149
maximum stretch	500 %	ASTM D638
water absorption	0.5% max after 14 days at 23° C	ASTM D570
impact resistance	> 15 J	DIN 30672
puncture voltage	40 kV	ASTM D149
thickness	1.5 mm [max]	-



- D** Diameter before shrinkage
d Diameter after shrinkage
L Length

Applications

- Corrosion protection for metal poles
- Street lighting
- Electric traction
- Traffic lights
- Signs and signals

Features

- Cross-linked polyolefin
- Thick wall
- With hot melt sealant
- Colour black
- Supplied in 450 mm sleeves (GTPA series) or in 430 mm spools (RJS series)

Advantages

- Anticorrosive
- Perfect seal against moisture



GTPA

Anticorrosive heat shrink sleeve for pole protection
Tubular sleeve for pole installation

Selection table

item	tubing parameters		pole diameter min – max (mm)
	D/d (mm/mm)	L (mm)	
GTPA-90/50-450	90/50	450	60 – 80
GTPA-125/60-450	125/60		85 – 110
GTPA-150/60-450	150/60		115 – 140
GTPA-200/75-450	200/75		145 – 190
GTPA-252/95-450	252/95		175 – 245

RJS

Anticorrosive heat shrink sleeve for pole protection
Spool for installed poles

item	Spool size	
	length (m)	height (mm)
RJS-430X30M/C	30	430

WPCP

Anticorrosive heat shrink sleeve for pole protection
Closure for open-end RJS

item	tubing parameters	
	length (mm)	height (mm)
WPCP-IV-100X438	100	430

Installation tools for heat shrink tubing



AB 76 BR

cod. AB76BR

Portable gas heat gun

Advantages

- Portable, affordable, lightweight, and safe

Applications

- Installation of sleeves and heat shrink accessories

Features

- Autonomy: 1 hour and 30 minutes
- Maximum burner outlet temperature: 750° C
- 340 gram replaceable gas bottle (item **AC 19 BP**)



Air-on



cod. HL1606

Portable electric heat gun
with adjustable temperature

Advantages

- Temperature adjustable air flow
- Also suitable for working on small sheaths, thanks to its adjustable temperature and air flow

Applications

- All-purpose electric air gun, suitable for installing heat shrink sleeves and accessories

Features

- Temperature adjustment knob
- Air flow temperature: 50-400/550° C
- 2-level adjustable air flow: 190 or 350 l/min
- Reduction nozzle included
- Power 1800 W



Air-on display



cod. HL1610

Portable electric heat gun
with temperature control and display

Advantages

- Fast and precise air flow temperature control
- Also suitable for working on small sheaths, thanks to its adjustable temperature and air flow

Applications

- All-purpose electric air gun, suitable for installing heat shrink sleeves and accessories

Features

- Button and LCD temperature control display
- Air flow temperature: 50-450/650° C
- 2-level adjustable air flow: 250 or 550 l/min
- Reduction nozzle included
- Power 2000 W



Button and LCD
temperature control
display



02.1

CONNECTORS

NEW



SPRING BOX® - compact insulated lever connectors

NEW



TBOX® - insulated terminal with screw clamping



MU - U connector with hex grub screw

NEW



MU-RJ - insulated terminal block with hex grub screw for Resil Joint® RJB branch joints



MC - cylindrical connector with hex grub screw

NEW



MC-RJ - insulated terminal block with hex grub screw for Resil Joint® RJA straight joints



MR - cylindrical connector with shear head bolts



CTT - pre-insulated compression connector

02.2

ARMOURING RESTORE KIT



BEK - cable armouring restore kit

BOX
SPRING
lever connectors

NEW

- Compliant with Low Voltage Directive 2014/35/EU in accordance with EN 60947-7-1 and EN 60998-2-2 standards
- TÜV-Rheinland certificate (n. R 50349910)
- Rated insulation voltage: 600 V
- Rated current: 32 A
- Core cross-section (rigid and flexible): 0.2 - 4 mm²
- IP20 protection grade
- With voltage test point



Spring Box[®]

Insulated lever connectors

Applications

- Connecting low voltage small cross-section cables (lighting fixtures, automation for windows, doors, and gates)
- Connecting telephone and telecommunications systems
- Connecting audio systems and cable radio
- Terminal insulation for live cables

Advantages

- Compact size
- Quick and easy installation without tools
- Reliable connections thanks to spring-loaded technology
- For use with both rigid and flexible small cross-section cables
- No risk of damaging the conductors
- Connect and disconnect each conductor without shutting off the line
- Ideal for connecting conductors of different sized cross-sections
- Voltage test point

Selection table

item	number of ways	rated cross-section (mm ²)	dimensions (mm)		
			width	depth	height
Spring Box 2	2		12.4		
Spring Box 3	3	0.2-4	17.0	20.5	14.5
Spring Box 5	5		26.6		

Spring Box 2

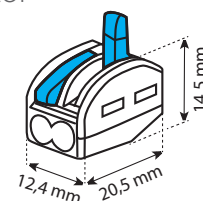


cod. SBOX2

2-way insulated lever connector

Connection capacity

poles	cables/pole	cross-section (mm ²)
1	2	0.2 - 4



Spring Box 3

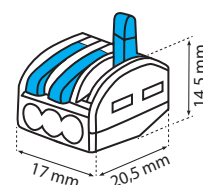


cod. SBOX3

3-way insulated lever connector

Connection capacity

poles	cables/pole	cross-section (mm ²)
1	3	0.2 - 4



Spring Box 5

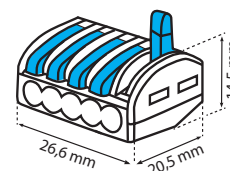


cod. SBOX5

5-way insulated lever connector

Connection capacity

poles	cables/pole	cross-section (mm ²)
1	5	0.2 - 4



TBOX

WIRE CONNECTORS

NEW

- Transparent polycarbonate casing
- Brass conductor element
- IP20 protection grade
- CE marking
- IMQ approved

Applications

- Low voltage 0.6/1 kV cable connections inside junction boxes or for overhead connections (e.g., lighting fixtures, ceilings)
- Suitable for use in the home and in residential environments

Features

- Transparent polycarbonate casing
- Brass conductor element
- IP20 protection grade
- CE marking
- IMQ approved

Connection capacity

item	max conductor cross-section (mm ²)		
	2 conductors (rated cross-section)	3 conductors	4 conductors
TBOX 015	1.5	1	0.75
TBOX 025	2.5	1.5	1
TBOX 040	4	2.5	1.5
TBOX 060	6	4	2.5
TBOX 100	10	6	4
TBOX 160	16	10	6
TBOX 250	25	16	10
TBOX 350	35	25	16



TBOX



Insulated terminal block with screw clamping
10-pole strip

- Galvanized steel screws with slotted head (from TBOX 15 to TBOX 100) or Phillips head (TBOX 160)

Selection table

item	number of poles	rated cross-section (mm ²)	rated voltage (V)	rated current (A)
TBOX 15	10	1.5	450	24
TBOX 25		2.5		24
TBOX 40		4		32
TBOX 60		6	500	41
TBOX 100		10		57
TBOX 160		16		76



TBOX



Insulated terminal block with hex screw grub
Single pole

- Galvanized steel hex grub screw

Selection table

item	number of poles	rated cross-section (mm ²)	rated voltage (V)	rated current (A)
TBOX 250	1	25	500	101
TBOX 350		35		125



MU

U connector
with hex grub screw

Applications

- Connection of electrical conductors up to 0.6/1 kV

Advantages

- Multi-section
- Allows connection on a main cable without interruption
- Can be installed without the use of crimping tools

Features

- Brass connector
- Steel hex grub screw

Selection table

item	Max conductor cross-section (mm ²)	
	main cable	branch cable
MU 6/10	25	10
MU 16/35	50	6



MU-RJ

Insulated 5-core terminal block
with hex grub screw
for Resil Joint® RJB
silicone resin branch joints

Applications

- Resil Joint® silicone resin joints for branch connections (RJB Series, p. 66)

Advantages

- Allows connection on a main cable without interruption
- Can be installed without the use of crimping tools

Features

- PA insulating body
- Brass connectors
- Steel hex grub screw

Selection table

item	cores	conductor cross-section (mm²)				Terminal block length (mm)
		min		max		
		main cable	branch cable	main cable	branch cable	
MU50610-RJ	5	6	2.5	16	16	32
MU51635-RJ	5	10	2.5	35	35	38



MC

Cylindrical connector
with hex screw grub

Applications

- Straight connection of electrical conductors up to 0.6/1 kV

Advantages

- Can be installed without the use of crimping tools

Features

- Brass connector
- Steel hex grub screw

Selection table

item	Min-max conductor cross-section (mm ²)	Connector length (mm)
MC10	1.5 – 10	30
MC25	2.5 – 25	40



MC-RJ

Insulated 3- or 5-core terminal block
with hex grub screw
for Resil Joint® RJA
silicone resin straight joints

Applications

- Resil JOINT® silicone resin joints for straight connections (RJA Series)

Advantages

- Can be installed without the use of crimping tools

Features

- PA insulating body
- Brass connectors
- Steel hex grub screw
- Available with tin-plated aluminium connectors for copper-copper, aluminium-aluminum, and copper-aluminium connections on request

Selection table

item	cores	Conductor cross-section min - max (mm ²)	Terminal block length (mm)
MC306-RJ	3	1.5 – 10	40
MC510-RJ	5	1.5 – 10	40
MC525-RJ	5	2.5 – 25	50



MR

Cylindrical connector
with shear head bolts

Applications

- Straight connection of electrical conductors up to 0.6/1 kV

Advantages

- Can be installed without the use of crimping tools

Features

- Tin-plated aluminium connector
- Steel shear head bolts

Selection table

item	Min-max conductor cross-section (mm ²)	Connector length (mm)
MR10	6 – 50	30
MR11	50 – 95	58
MR12	95 – 240	119
MR13	150 – 300	130



CTT

Pre-insulated heat shrink compression
connectors
with internal hot melt sealant

Applications

- Straight connection and insulation of electrical conductors up to 0.6/1 kV

Advantages

- Multi-section
- Easy, fast, and secure
- Sealing and protection against abrasion and corrosion
- Vibration protection
- The finished connection can be inspected through the transparent sheath

Features

- Insulating polyolefin
- Internal hot melt sealant
- Operating temperature: –55 to 125° C

Selection table

item	Conductor cross- section min – max (mm ²)	Connector colour
CTT 0.5/1.5	0.5 – 1.5	red
CTT 1.5/2.5	1.5 – 2.5	light blue
CTT 3/6	3 – 6	yellow



BEK

Cable armouring restore kit






Applications

- Restoring electrical continuity in low voltage cable connection armouring up to 0.6/1 kV

Kit contents

- 2 steel constant force contact springs
- Tin-plated copper braid

Selection table

item	application on diameters (mm)	Conductor cross-section min - max (mm ²)				
		number of cores				
						
BEKA1	12 – 20	10 - 25	1.5 - 10	1.5 - 10	1.5 - 10	1.5 - 6
BEKA2	17 – 28	16 - 150	-	10 - 35	6 - 25	4 - 16
BEKA3	40 – 60	95 - 300	-	25 - 95	25 - 95	25 - 95
BEKA4	40 – 60	240 - 400	-	70 - 150	70 - 150	95 - 120
BEKA5	50 – 75	400 - 500	-	150 - 300	150 - 300	150 - 300

TAPES > LUBRICANTS FOR CABLE PULLING



03.1

INSULATING TAPES



ISOEL® 8900 - PVC IMQ certified



ISOEL® 633 - PVC for professional use



ISOEL® EPR - self-amalgamating EPR



ISOFIL 626 - filler


03.2

LUBRICANTS FOR CABLE PULLING



FLO 950 - lubricant gel for cable pulling
FLO 350 - fluid lubricant emulsion for cable pulling

ISOEL® PVC

TECHNICAL SPECIFICATIONS	NOMINAL VALUES	TESTING METHOD
tensile strength	30 N/cm	CEI EN 60454
maximum stretch	180 - 170 %	CEI EN 60454
adhesion	1,8 N/cm ²	CEI EN 60454
dielectric strength	40 kV/mm	CEI EN 60454
flammability	self-extinguishing	CEI EN 60454
operating temperature	0 / 105 °C	-
certified	IMQ 	-

Applications

- Insulation, protection, and identification of electrical connections, joints, and Low Voltage cables up to 0.6/1 kV
- For use in all areas of civil and industrial electrical systems

Advantages

- Excellent electrical insulation
- High conformability
- High resistance to abrasion, corrosion, and moisture



ISOEL 8900



PVC insulating tape for general use

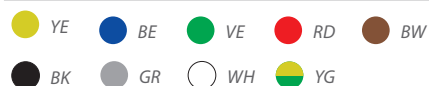
Features

- Self-extinguishing
- Compliant with CEI EN 60454-3-1 standard
- IMQ approved

Selection table

item	width (mm)	length (m)	thickness (mm)
ISOEL 15	15	10	0.15
ISOEL 19	19	25	0.15
ISOEL 25	25	25	0.15


Available colours



* To complete the item reference, add the colour code at the end (e.g., ISOEL 15 BK)



ISOEL[®] PROFESSIONAL

TECHNICAL SPECIFICATIONS	NOMINAL VALUES	TESTING METHOD
tensile strength	35 N/cm	CEI EN 60454
maximum stretch	180 %	CEI EN 60454
adhesion	1.8 N/cm ²	CEI EN 60454
dielectric strength	40 kV/mm	CEI EN 60454
flammability	self-extinguishing	CEI EN 60454
operating temperature	-18 / 105 °C	-
certified	CSA 	-

Applications

- Suitable for use in all kinds of industrial electrical and electromechanical installations
- Insulation of electrical connections
- Protection of low voltage joints and cable connections up to 0.6/1 kV
- **Suitable for use at low temperatures**
- **Suitable for use as primary insulation on branches up to 600 V**

Advantages

- Excellent electrical insulation
- High conformability
- High elasticity
- Flame retardant
- High resistance to abrasion, corrosion, and moisture
- Supplied in plastic protective case



ISOEL 633



PVC insulating tape
for professional use

Features

- Operating temperature: -18 to 105° C
- Self-extinguishing
- Compliant with CEI EN 60454-3-1 standard
- Colour black
- **CSA approved** (Certificate no. 2714884)
- **Compliant with ASTM D3005 standard**

Selection table

item	width (mm)	length (m)	thickness (mm)
ISOEL 633	19	20	0.18

ISOEL® EPR

TECHNICAL SPECIFICATIONS	NOMINAL VALUES		TESTING METHOD
	623	723/823 923/1023	
maximum operating voltage	132 kV	69 kV	-
tensile strength	3 MPa	3 MPa	BS 903
maximum stretch	800 %	800 %	BS 903
volume resistivity	$2 \times 10^{13} \Omega \text{ m}$	$1 \times 10^{13} \Omega \text{ m}$	ASTM D257
dielectric strength	42 kV/mm	44 kV/mm	ASTM D150
operating temperature	-40 / 100 °C	-40 / 100 °C	-
compliant with	EDF HN 26-S-04 UTEC 33-011		-

Applications

- Insulation and protection of conductors, surfaces, cables, and electrical connections in general up to 132 kV
- Compatible with a wide range of rubbers and plastics used in cable insulation (Polyethylene, PVC, butyl, neoprene, ...)

Advantages

- Excellent electrical and mechanical properties
- High stability under all conditions of use
- The tape quickly amalgamates without the use of heat or external pressure after application
- High resistance to abrasion, corrosion, and moisture



ISOEL EPR

Self-amalgamating
EPR insulating tape

Features

- Self-amalgamating
- Colour black

up to 132 kV

item	width (mm)	length (m)	thickness (mm)
ISOEL 623	19	9.1	0.50

up to 69 kV

item	width (mm)	length (m)	thickness (mm)
ISOEL 723	19	9.1	0.75
ISOEL 823	25		
ISOEL 923	38		
ISOEL 1023	51		

ISOFIL

TECHNICAL SPECIFICATIONS	NOMINAL VALUES	TESTING METHOD
dielectric strength	23 kV/mm	ASTM D149
volume resistivity	$1 \times 10^{12} \Omega \text{ m}$	ASTM D257
tensile strength	0.1 MPa	BS 903

Applications

- Sealing and reconstruction of all types of electrical insulation coating

Advantages

- Excellent electrical and mechanical properties
- High stability under all conditions of use
- Resistant to water and ozone



ISOFIL 626

Insulating filler
tape in butyl rubber

Features

- Operating temperature: -30 to 80° C
- Supplied in plastic protective box

Selection table

item	width (mm)	length (m)	thickness (mm)
ISOFIL 626	38	1.5	3.2



FLO 950

Lubricant gel
for high-performance cable pulling

Applications

- Suitable for all types of electrical and telecommunications cables
- Installation in pipes and sleeves, even with curves and difficult ascents
- Suitable for vertical cables

Advantages

- Excellent adhesion onto the cable
- Easy manual application
- Excellent friction reduction
- Slow drying
- Compatible with all types of cable coating
- Non-toxic
- Non-hazardous
- No stains or residue after drying
- Chemically inert
- Odourless

Features

- Operating temperature: -5 / 50° C
- Friction coefficient with PVC cables: 0.11
- Colour pale blue
- Storage temperature: +5 to +30 °C

Available sizes

item	volume
FLO 950	0.95 litre bottle
FLO 1890	18.90 litre drum

FLO 350

Silicone fluid emulsion
for cable pulling

Applications

- Suitable for all types of electrical and telecommunications cables
- Installation in pipes and sleeves, even with curves and difficult ascents
- Suitable for vertical cables

Advantages

- Eliminates 70% of friction
- Easy application
- Compatible with all types of cable coating
- Non-hazardous
- Chemically inert
- Odourless

Features

- Operating temperature: -5 / 50° C
- pH value: from 6 to 7
- Colour: milky white

Available size

item	volume
FLO 350	1 liter bottle



04.1

CABLE TIES, CLIPS AND COLLARS



FB / FN - Nylon cable ties



UFF-8 - Pliers for applying cable ties



BB/BN - Nylon adhesive anchor clips



CL - Nylon fixing collars



UFC-9 - Pliers for applying collars

04.2

BRAIDED SLEEVES



COBRABOX - Braided sleeve in dispenser



RHB - Braided sleeve spool

Nylon cable ties

TECHNICAL SPECIFICATIONS NOMINAL VALUES

colour	White
operating temperature	−40 / 85 °C
self-extinguishing	V2 according to UL 94
water absorption	2.5% [at 23 °C and 50% RH]
elastic modulus	2750 MPa
elongation at break	70 %
impact strength	16 kJ/m ²
chemical resistance	Solvents, gasoline, hydrocarbons at low temperatures and low concentration

FB



Nylon cable ties
Colour white

Applications

- Wiring and fixing of cables, hoses and pipes

Features

- Nylon 6.6
- Colour white
- Self-extinguishing capacity: V2 according to UL 94

Selection table

Item	Dimensions		Max bundle diameter (mm)	Average opening load (daN)
	length (mm)	width (mm)		
FB07525	75	2,5	16	11
FB10025	100		24	11
FB13525	135		35	11
FB16025	160		40	11
FB20025	200		55	11
FB14035	140	3,5	36	20
FB20035	200		55	20
FB28035	280		80	20
FB36035	360		103	20
FB16045	160	4,5	38	28
FB18045	180		45	28
FB20045	200		51	28
FB25045	250		68	28
FB28045	280		76	28
FB36045	360	7,5	101	28
FB38045	380		110	28
FB43045	430		123	28
FB20075	200		48	65
FB24075	240		62	65
FB28075	280	7,5	76	65
FB36075	360		101	65
FB45075	450		130	65
FB54075	540		160	65
FB75075	750		220	65

Nylon cable ties

TECHNICAL SPECIFICATIONS NOMINAL VALUES

colour	Black
operating temperature	−40 / 85 °C
self-extinguishing	V2 according to UL 94
water absorption	2.5% [at 23 °C and 50% RH]
elastic modulus	2750 MPa
elongation at break	70 %
impact strength	16 kJ/m ²
chemical resistance	Solvents, gasoline, hydrocarbons at low temperatures and low concentration

FN



Nylon cable ties
Colour black

Applications

- Wiring and fixing of cables, hoses and pipes
- Also suitable for outdoor installations

Features

- Nylon 6.6
- Colour black
- Additive of carbon black
- Self-extinguishing capacity: V2 according to UL 94

Selection table

Item	Dimensions		Max bundle diameter (mm)	Average opening load (daN)
	length (mm)	width (mm)		
FN07525	75	2,5	16	11
FN10025	100		24	11
FN13525	135		35	11
FN16025	160		40	11
FN20025	200		55	11
FN14035	140	3,5	36	20
FN20035	200		55	20
FN28035	280		80	20
FN36035	360		103	20
FN16045	160	4,5	38	28
FN18045	180		45	28
FN20045	200		51	28
FN25045	250		68	28
FN28045	280		76	28
FN36045	360		101	28
FN38045	380	7,5	110	28
FN43045	430		123	28
FN20075	200		48	65
FN24075	240		62	65
FN28075	280		76	65
FN36075	360		101	65
FN45075	450		130	65
FN54075	540	7,5	160	65
FN75075	750		220	65



BB

Nylon adhesive anchor clips
4-way - colour white

Features

- Nylon 6.6
- colour white
- self-extinguishing capacity: V2 according to UL 94

Applications

- Anchorage of FB series cable ties to flat surfaces

Selection table

item	Dimensions (mm)	Max applicable width of cable tie (mm)	Load at break (daN)
BB19194	19 x 19	4	10
BB27276	27 x 27	6	16



BN

Nylon adhesive anchor clips
4-way - colour black

Features

- Nylon 6.6
- Colour black
- Additive of carbon black
- Self-extinguishing capacity: V2 according to UL 94

Applications

- Anchorage of FN series cable ties to flat surfaces
- Also suitable for outdoor installations

Selection table

item	Dimensions (mm)	Max applicable width of cable tie (mm)	Load at break (daN)
BN19194	19 x 19	4	10
BN27276	27 x 27	6	16



UFF-8

Cable tie gun

Applications

- For the installation of cable ties up to a maximum width of 8 mm

Features

- Tension adjustment from 2.5 to 14 kg
- Cutting of the exceeding cable tie

TECHNICAL SPECIFICATIONS	NOMINAL VALUES
colour	black
Operating temperature	-40 / 65 °C
Fire-resistance	HB secondo UL 94
water absorption	2,2% [a 23°C e 50% U.R.]
elastic modulus	2000 MPa
elongation at break	100 %
impact strength	45 kJ/m ²
chemical resistance	solvents, gasoline, hydrocarbons at low temperatures and low concentration

Applications

- Wiring and fixing of cables, hoses and pipes
- Also suitable for outdoor installations and in marine environments

Advantages

- High mechanical strength



CL

Nylon fixing collars

colour black

Features

- Nylon
- Black
- Double locking tab

Selection table

item	Dimension		Max diameter	load at break
	length (mm)	width (mm)	(mm)	(daN)
CL1809	180	9	45	50
CL2659	265		70	
CL3609	360		95	
CL5009	500		140	



UFC-9

Cable tie installation tool

Applications

- For the installation of collars up to a maximum width of 9 mm

Polyester braided sleeve

TECHNICAL SPECIFICATIONS	NOMINAL VALUE	TESTING METHOD
Tensile strength	4,80 kg/mm ²	ISO 37
elongation at break	28–35 %	ISO 37
specific weight	1,38 g/cm ³	ISO R1183
water absorption	0,5% max	ASTM D570
self-extinguishing quality	HB	UL 94

Applications

- Protection and assembly of electrical, electronic and telephone cables
- Civil, industrial and automotive wiring

Advantages

- Good mechanical resistance
- High tensile strength
- Removable
- Good resistance to chemicals
- Good resistance to UV rays

Features

- Tubular braided sleeve
- Premium quality single thread polyester
- Self-extinguishing Hb according to UL 94
- Operating temperature; -50 / 170 C
- Melting point: 260 C
- Non-toxic
- Halogen-free



COBRABOX

Polyester braided sleeve
in dispenser

- Handy package
- Colour: grey

Selection table

item	rated diameter (mm)	bundle diameter (mm)		Reel length (m)
		min	max	
COBRABOX 03	3	2	8	25
COBRABOX 04	4	3	9	25
COBRABOX 05	5	4	11	25
COBRABOX 06	6	5	15	25
COBRABOX 08	8	6	18	20
COBRABOX 10	10	8	21	20
COBRABOX 12	12	10	20	10
COBRABOX 15	15	12	29	10
COBRABOX 20	20	15	33	10
COBRABOX 25	25	20	45	10
COBRABOX 30	30	25	48	5
COBRABOX 40	40	35	60	3
COBRABOX 50	50	45	75	3

Polyester braided sleeve

TECHNICAL SPECIFICATIONS	NOMINAL VALUE	TESTING METHOD
Tensile strength	4,80 kg/mm ²	ISO 37
elongation at break	28-35 %	ISO 37
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Applications

- Protection and assembly of electrical, electronic and telephone cables
- Civil, industrial and automotive wiring

Advantages

- Good mechanical resistance
- High tensile strength
- Removable
- Good resistance to chemicals
- Good resistance to UV rays

Features

- Tubular braided sleeve
- Premium quality single thread polyester
- Self-extinguishing Hb according to UL 94
- Operating temperature; -50 / 170 C
- Melting point: 260 C
- Non-toxic
- Halogen-free



RHB

Polyester braided sleeve spool

- Available in grey and black

Selection table

item*	rated diameter (mm)	diameter of ligation (mm)		Reel length (m)
		min	max	
RHB 03	3	2	8	200
RHB 04	4	3	9	200
RHB 05	5	4	11	100
RHB 06	6	5	15	100
RHB 08	8	6	18	100
RHB 10	10	8	21	100
RHB 12	12	10	20	100
RHB 15	15	12	29	100
RHB 20	20	15	33	50
RHB 25	25	20	45	50
RHB 30	30	25	48	50
RHB 40	40	35	60	50
RHB 50	50	45	75	50

Available colours:



BK - Black



GR - Grey

*To complete the item reference, add the colour code at the end (eg. RHB-03-BK for the black sleeve RHB-03)

05 HEATING CABLES



051

TRACE HEATING FOR PIPES



EASY TRACE - constant power heating cable

05.2

TRACE HEATING FOR RAMPS AND PAVEMENTS



HOT TRACE - constant power heating mat

TECHNICAL SPECIFICATIONS	VALUES
heating cable type	shielded constant power
unit power	15 W/m
supply voltage	230 V AC
protection level	IPX7
thermostat ignition	+3 / +13 °C
cable size (cross-section)	8 × 5.5 mm

Applications

- Freeze protection for iron or plastic pipes up to 38 mm diameter

Advantages

- Ready to use
- Very simple installation



EASY TRACE

Pre-assembled constant power heating cable kit
Trace heating of pipes

Features

- Pre-assembled constant power heating cable kit with:
 - power cable (length 2 m)
 - plug
 - thermostat
- PVC outer jacket

Selection table

code	heating cable length (m)	total power (W)	resistance (Ω)
EASY02	2	35	1500
EASY04	4	71	750
EASY08	8	117	450
EASY12	12	187	283
EASY18	18	275	189



Example of application of the EASY TRACE kit to protect a water meter from freezing

EASY TRACE

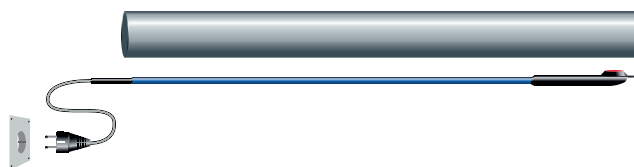
Installation

1.

Before installing the heating cable, ensure that the area around the cable is free of sharp objects and combustible materials.

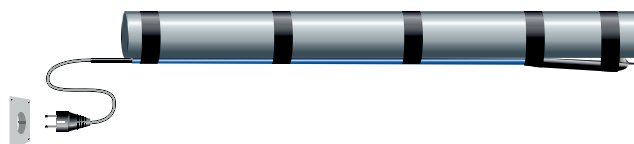
If the heating cable is installed on plastic pipes, we recommend covering the pipe with aluminium tape (ISOALL type) before installing the cable, in order to improve thermal conductivity.

Stretch the cable along the bottom of the pipe, ensuring that the end with the plug is nearest to the power outlet.



2

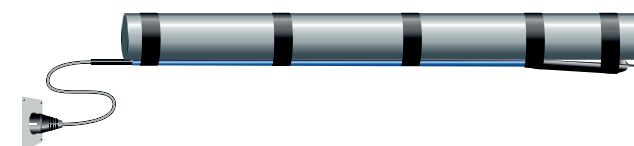
Begin fixing the thermostat, with the side marked with a red dot in contact with the pipe, using PVC insulation tape (ISOEL type). It is best to position the thermostat on the coldest end of the pipe, which is more exposed to low temperatures. Continue fixing the heating cable on the pipe at intervals of approximately 300 mm, using the PVC insulating tape.



3.

It is advisable to fit a layer of insulation material round the pipe and the heating cable to improve the performance of the cable and reduce energy consumption.

When installation is complete, plug the power cord into the 230 V electrical outlet.



Example of application of the EASY TRACE kit to protect pipes from freezing

TECHNICAL SPECIFICATIONS	HEATING MAT HOT TRACE
heating mat type	shielded constant power
specific power	225 W/m ²
supply voltage	230 V AC
standard	CEI EN 60800
UV resistance	excellent
cable size (cross-section)	8 × 5.5 mm
max temperature resistance	270 °C

Applications

- Defrosting and melting snow and ice on access ramps and external surfaces used by pedestrians or vehicles
- Can be installed under concrete, brick paving, porphyry
- **Also suitable for direct installation under asphalt surfaces**

Advantages

- Ready to use
- Very simple installation



HOT TRACE

Pre-assembled constant power heating mat kit
Trace heating of ramps and pavements

Features

- Heating mats comprising a pre-assembled constant power heating cable arranged in a zigzag pattern on a matrix of fiberglass reinforced tape
- Tin-plated copper conductors
- PVC outer jacket
- 7 mm shielding
- Connection to the power supply via cold cable (5 m length) already connected to the heating cable, with connection point identification

Selection table

item	mat dimensions		surface (m ²)	total power (W)
	length (m)	width (m)		
HOT TRACE 4	4	0.5	2	450
HOT TRACE 8	8		4	900
HOT TRACE 12	12		6	1350
HOT TRACE 14	14		7	1575
HOT TRACE 20	20		10	2250

Notes

Notes

02-1706

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