

# POWER CABLE ACCESSORIES CATALOGUE



CABLE JOINTING – TERMINATING – SHEATH REPAIR – SEALING – BUSBAR INSULATION – HEAT SHRINK – CABLE BREAKOUTS – CABLE END CAPS – PHASE IDENTIFICATION – CABLE ABANDONMENT – COLD SHRINK – CABLE LOOPS – SEPARABLE CONNECTORS – CABLE GLANDS – PUSH ON PREMOULDED – MASTICS – TUBING – TAPES – SMART ACCESSORIES – JOINTING



The products shown in this catalogue represent our standard product ranges.

REPL flexible manufacturing capabilities mean we can adapt for special products to suit particular applications if required. Please contact your local REPL sales office to discuss any application.



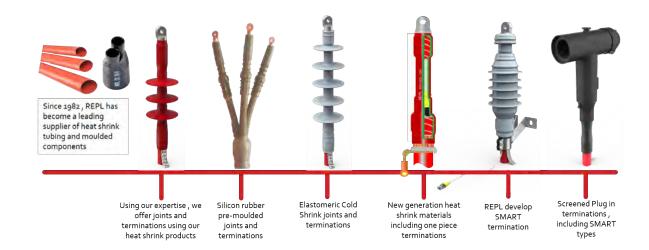
REPL have been designing and manufacturing CABLE ACCESSORIES for use on Energy Cables for over 35 years.

Our products are in daily use on every continent around the world.



EVERYDAY, we push the boundaries of technology to deliver the very best products

### Over 35 years of continued product development ...





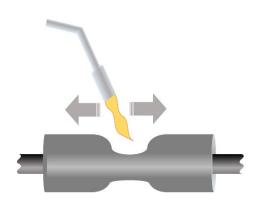
REPL offer products using three main methods of installation technology.

Each technology has specific advantages depending on the needs of the user.

We can offer impartial advice on the selection of product to ensure it meets the requirements in terms of suitability for application, environment and total cost of ownership.



### Heat Shrink



Well established for use on low and medium voltage cables, heat shrinkable products are usually made from polyolefin type plastics which have been modified to give additional properties such as improved weathering and enhanced insulation levels.

Delivered as an expanded product, once the correct amount of heat is applied they recover to their original shape.

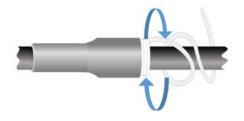
Heat Shrink is very versatile and the products can be made to enhance properties such as weathering or increase resistance to electrical tracking and control of electrical field.

Heat Shrink is resistant to most chemicals and will become rigid once it has been recovered making it a good option for mechanical protection. However, the rigidity prevents the product from flexing with the cable during normal operation meaning an effective environmental seal cannot be maintained without the aid of hot-melt adhesives or mastic tapes.

When stored correctly, there is unlimited shelf life for the product.



### **Cold Shrink**



Cold shrinkable products are made from elastomeric materials such as Silicon or EPDM rubbers, which are pre-stretched onto a tubular hold-out made from plastic tape in a tight spiral.

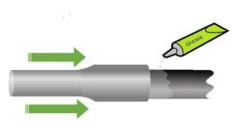
By unwinding the spiral tube, the material recovers to its original size.

The obvious advantage of Cold Shrink is the elimination of any heat source required for installation. In addition the rubber material will follow the normal expansion and contraction of cables without need for additional adhesives or mastics.

Care is needed to store product and there is a finite shelf life to ensure.



### Premoulded (Push On or Slip On)



Similar to cold shrink, these products are made of elastomeric material. Since these are supplied in unexpanded form the shelf life is unlimited.

The products are applied by sliding onto cores without use of any tool up to 36kV application. Sliding is easily done manually by using silicone grease as a lubricant, without use of any tools.





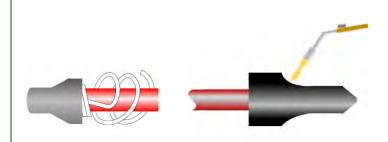
# Cable Terminating & Switchgear Connection



### **Cable Jointing**



# Tube, Sleeves and Tape components



# Moulded Components



# Cable Dimension Data





#### REPL cable terminations are established in power networks worldwide up to 42kV.

Using our expertise in materials technology combined with deep working knowledge of cable systems, our designers have developed a range of products for terminating power cables on to equipment and overhead lines.

The installer has the choice of Heat Shrinkable, Cold Shrinkable or Push On systems for medium voltage cables from 3.8/6.6(7.2)kV up to 20.8/38(42)kV.

We offer both standard unscreened cable terminations for conventional installations together with screened separable connectors for use in modern gas insulated switchgears and equipment fitted with bushing profiles to IEC standards.

	Technology	Voltage Range	Part Code	Description	Page
	Heat Shrink	<3.6kV	RHT-1-3	Low Voltage Cable Terminations	6
	Heat Shrink	>6.6 - 42kV	RHT-6-42	Medium Voltage Heat Shrinkable Cable Termination System	10
	Cold Shrink	>6.6 - 36kV	RCST-6-36	Medium Voltage Cold Shrinkable Cable Termination System	20
A	Push On	>6.6 - 36kV	RPMT-12-36	Medium Voltage Push On Cable Termination System	24
A	Push On	>12 - 24kV	RPAE/RPAS	Screened Elbow/Straight connector for Interface A	30
A A	Push On	>12 - 24kV	RPCT-24C	Screened T body connector for interface C1	32
A A	Push On	>12 - 36kV	RPCT-36A	Screened T body connector for interface C1	34
A A	Push On	>12 - 42kV	RPCT-42A	Screened T body connector for interface C1 & C2	36

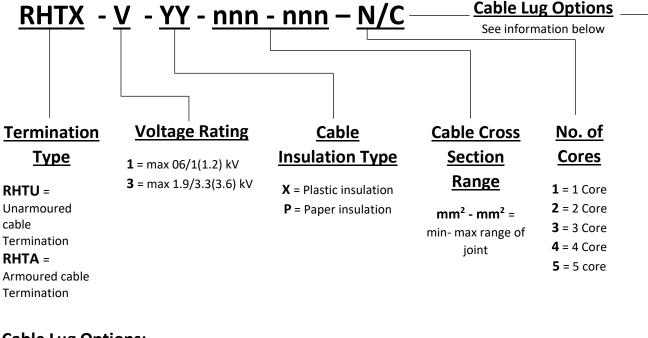
Accessories for use with Cable Termination Kits					
Part Code	Description	Page			
RUSK	Unscreened termination for interface C 630A bushing	39			
RFCB	Flexible insulating bushing boot	40			
RHRB/RHSB	Heat Shrinkable insulating boots ( straight/right-angled)	41			
RBG	Bolted cable gland for SWA or AWA cables	42			
RHSCG	Heat Shrink Cable Glands	43			
RSEK	Solderless Earth Kit for copper tape screens	44			
RSAK	Earth connection kit for SWA/AWA cables	44			
RINS/RBRK	Pole mounted termination support bracket and insulators	46			



Using our established Heat Shrinkable tubing and mastics materials, RHT cable termination kits provide a flexible method to connect and seal power cables constructed without insulation screen (<3.6kV).



The coding system below allows installer to specify correct termination based on application and cable type. The termination code is made up of 5 elements as follows:



### Cable Lug Options:

Standard termination kits are supplied without cable lugs included.

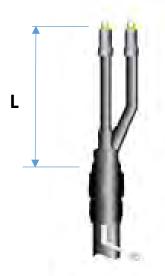
They can be included in the kits by adding the following suffix to the product code:-

- /MC = Electro-tinned aluminium mechanical lugs supplied in kit
- /CC = Copper compression lugs supplied in kit
- /AC = Aluminium compression lugs supplied in kit

#### **Examples:**

RHTA – 1X 95-185-4/ML – Heat Shrinkable cable termination for a 4 core 0.6/1 kV armoured XLPE or PVC insulated cable between 95 and 185mm<sup>2</sup>, supplied with mechanical lugs.





## Unarmoured Cable Termination for 1-5 cores cables to 1.2kV

Utilising REPL Heat Shrinkable tubes, these kits are suitable for terminating voltage unarmoured fixed or flexible cables with XLPE, PVC or EPR insulation up to 1.2kV, e.g. NYY, H07RN-F types without metallic screen.

They can also be used on cables with copper wire concentric screens, or for armoured cables when a separate glanding of the armour wires arrangement is used.



#### **Features:**

- Designed to comply with EN50393, CENELEC HD 623 S1, ENATS 09-11
- Unlimited shelf life
- For use indoor or outdoor environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression cable lugs (available as an option)
- Voltage Level: U<sub>0</sub>/U (U<sub>max</sub>) = 0.6/1kV (1.2kV)
- Cable Range : up to 5 core unarmoured cables 25 to 400mm<sup>2</sup>

#### **Kit Contents:**

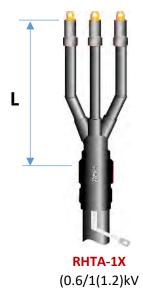
- Heat Shrinkable cable breakout
- Medium Wall core insulation tubes
- Medium Wall adhesive lined tubing for lug sealing<sup>1</sup>
- Thin Wall tube for screen wire take off<sup>2</sup>
- Mastic sealant tapes
- Full Installation Instructions
- Option to include mechanical or compression connectors in kit

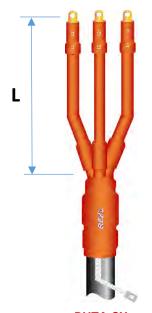
<sup>1</sup> = Lug sealing tubing can be colour coded or printed for phase identification

<sup>2</sup>= For cables with concentric wire screen, a thin wall tube in black or green/yellow can be supplied

Product Code	No. of Cores	Cable Range	Standard Tail Length	
	Х	mm²	L mm	
RHTU – 1X 25-50-X	1 - 5	25 - 50	300	
RHTU – 1X 70-120-X	1 - 5	70 - 120	300	
RHTU – 1X 120-185-X	1 - 5	120 - 185	500	
RHTU – 1X 240-400-X	1 - 5	240 - 400	500	







RHTA-3X (1.9/3.3(3.6)kV

## Armoured Cable Termination for 1-5 core polymeric insulated cables up to 3.6kV

Utilising REPL Heat Shrinkable tubes, these termination kits are suitable for jointing armoured cables with XLPE or PVC insulation.

For cables up to 0.6/1(1.2)kV voltage level, the sealing is with standard insulating type Heat Shrinkable product.

For cables up to 1.9/3.3(3.6)kV voltage level, an anti-tracking red material is used for the cable breakout and core sealing.

0.6/1 (1.2)kV SWA cables 2-5 core	No. of Cores	Cable Range	Standard Tail Length	
Product Code	x	mm²	L mm	
RHTA – 1X 25-50-X	2 - 5	25 - 50	500	
RHTA – 1X 70-120-X	2 - 5	70 - 120	500	
RHTA- 1X 120-185-X	2 - 5	120 - 185	600	
RHTA – 1X 240-400-X	2 - 5	240 - 400	600	
RHTA – 1X 400-630	1	400 - 630	300	



#### **Features:**

- Designed to comply to EN50393, CENELEC HD 623 S1,ENATS 09-11
- Unlimited shelf life
- For use indoor or outdoor environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression cable lugs (available as an option)
- Voltage Level: U<sub>0</sub>/U (U max) = 0.6/1kV (1.2kV)
   Cable Range: 2-5 core Armoured cables 25 to 400mm<sup>2</sup>: 1 core Armoured cables 50 to 630mm<sup>2</sup>

#### **Kit Contents**:

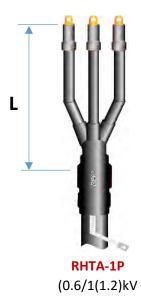
- Heat Shrinkable cable breakout
- Medium Wall core insulation tubes
- Medium Wall adhesive lined tubing for lug sealing<sup>1</sup>
- Mastic sealant tapes
- Armour & lead sheath take off connection (braid, support ring and clamp)<sup>2</sup>
- Installation instructions
- Option to include mechanical or compression connectors in kit

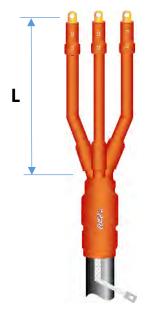
<sup>1</sup> = Lug sealing tubing can be colour coded or printed for phase identification

<sup>2</sup>= If Armoured cable is installed using a separate earthing gland, then the armour take off connection is unnecessary and a unarmoured cable termination can be used.

1.9/3.3 (3.6)kV SWA cables 3 core Product Code	No. of Cores	Cable Range	Standard Tail Length	
	Х	mm²	L mm	
RHTA – 3X-16-70-3	3	16-70	600	
RHTA – 3X-95-185-3	3	95-185	600	
RHTA – 3X-240-400-3	3	240-400	800	







RHTA-3P (1.9/3.3(3.6)kV

## Armoured Cable Termination for 1-4 core paper insulated cables up to 3.6kV

Utilising REPL Heat Shrinkable tubes, these termination kits are suitable for jointing armoured cables with paper insulation.

For cables up to 0.6/1(1.2)kV voltage level, the sealing is with standard insulating type Heat Shrinkable product.

For cables up to 1.9/3.3(3.6)kV voltage level, an anti-tracking red material is used for the cable breakout and core sealing.

## RHTA-(1-3)P

#### **Features:**

- Designed to comply to CENELEC HD 623 S1, ENATS 09-11
- Unlimited shelf life
- For use indoor or outdoor environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression cable lugs (available as an option)
- Voltage Level :  $U_0/U$  ( $U_{max}$ ) = 0.6/1kV (1.2kV)
- Cable Range : up to 5 core Armoured cables
   25 to 400mm<sup>2</sup>

#### **Kit Contents:**

- Heat Shrinkable cable breakout
- Medium Wall core insulation tubes
- Medium Wall adhesive lined tubing for lug sealing<sup>1</sup>
- Mastic sealant tapes
- Armour take off connection (braid, support ring and clamp)<sup>2</sup>
- Installation instructions
- Option to include mechanical or compression connectors in kit

<sup>1</sup> = Lug sealing tubing can be colour coded or printed for phase identification

<sup>2</sup>= If Armoured cable is installed using a separate earthing gland, then the armour take off connection is unnecessary and a unarmoured cable termination can be used

0.6/1 (1.2)kV PILC / SWA cables 2-4 core	No. of Cores	Cable Range	Standard Tail Length
<b>Product Code</b>	Х	mm²	L mm
RHTA – 1P 25-50-X	2 - 4	25 - 50	500
RHTA – 1P 70-120-X	2 - 4	70 - 120	500
RHTA – 1P 120-185-X	2 - 4	120 -185	600
RHTA – 1P 240-400-X	2 - 4	240 - 400	600
RHTA - 1P 400-630	1	400 - 630	300

1.9/3.3 (3.6)kV PILC/SWA cables 3 core Product Code	No. of Cores	Cable Range	Standard Tail Length
110ddet eode	Х	mm²	L mm
RHTA - 3P-16-70-3	3	16 - 70	800
RHTA - 3P-95-185-3	3	95 - 185	600
RHTA – 3P-240-400-3	3	240 - 400	800

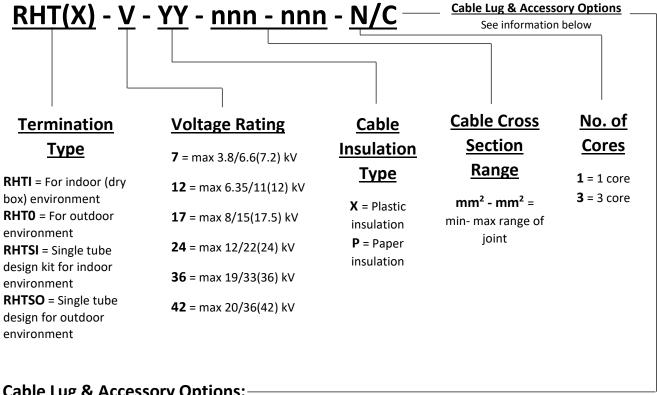
#### Medium Voltage Heat Shrinkable Cable Termination

REPL RHT range of medium voltage cable termination kits have been successfully installed on thousands of networks across the world. Using our established heat shrinkable tubing and mastics materials.

RHT cable termination kits provide a flexible method to connect and seal power cables from 7kV up to 42kV.



The coding system below allows installer to specify correct termination based on application and cable type. The termination code is made up of 5 elements as follows:



#### Cable Lug & Accessory Options:

Standard termination kits are supplied without cable lugs included.

They can be included in the kits by adding the following suffix to the product code:-

- /MC = Electro-tinned aluminium mechanical lugs supplied in kit
- /CC = Copper compression lugs supplied in kit
- /AC = Aluminium compression lugs supplied in kit

In addition, accessories can be included into the kits by adding the following suffix to the product code:-

- /e = Earthing connections for tape and armouring included
- **/FB** = Set of cold applied flexible insulating boots (indoor termination)
- /RAB = Heat shrinkable right angle insulating boot (indoor termination)
- /SAB = Straight heat shrinkable insulating boot (indoor termination)
- /BG = Bolted gland kit for armour wires (indoor termination)
- /IB = Bracket & support insulator set (outdoor termination)
- /EK = Remote Armour Earth Kit (outdoor termination
- /TF = Trifurcating set (to seal 3 core armoured cables)





Single core kit for Outdoor 7kV unarmoured cable, supplied with mechanical lugs

Example code: RHTO 7X 95-185-1/MC



Single core kit for Indoor 11kV unarmoured cable using one piece tube, supplied with mechanical lugs Example code: RHTSI 12X 95-185-1/MC



Three core kit for Indoor 11kV Armoured cable, supplied with copper compression lugs

Example code: RHTI 12X 35-95-3/E/CC



## Cable Terminations for 1/3 core cables from 7kV to 42kV

REPL Heat Shrinkable Cable Termination Kits are extensively tested and used worldwide for reliable cable junctions in the voltage range from kV to 42kV.

The kits are designed for either indoor or outdoor applications and be used with polymeric or paper insulated cables using either compression or mechanical type lugs (which can be supplied in the kit if specified).

The termination kits combine the antitracking external tubing for excellent weathering and electrical properties together with internal stress control for field control at the insulation screen cut achieved by either a separate stress control tube (RHT type, or using a special coating on the anti-track tube (single tube RHTS types).

Where applicable, sheds are included for extending the creepage distance – kits can be tailored with extra sheds for areas with high pollution or for coastal installations. For cables with armouring, a solderless earth kit is included to create a consistent connection from the cable screen and armour.

#### **Technical Details for RHT/RHTS Heat Shrinkable Cable Termination System**

Voltage Class:	7.2kV	12kV	17.5kV	24kV	36kV	42kV
Cross Section Range (mm²)	25 - 630	25 - 1000	35 - 1000	35 - 1000	50 - 1000	50 - 1000
Cable Insulation Diameter (mm)	13 - 36	15 - 46	17 - 48	18 - 50	24 - 55	25 - 56
Voltage Rating U₀/U (Um) kV	3.8/6.6 (7.2)	6.35/11 (12)	8.7/15 (17.5)	12.7/22 (24)	19/33 (36)	20.8/35 (42)
Basic Impulse Level (BIL) kV	60	95	95	125	194	200
Partial Discharge at 1.73U <sup>0</sup> (pC)	<10	<10	<10	<10	<10	<10
AC Voltage Withstand , 5 min (kV)	>17	>28.5	>39	>57	>85.5	>93.5
DC Voltage Withstand , 15min (kV)	>23	>38	>52	>76	>114	>125



- Designed to comply with CENELEC HD 629.S1, IEC 60502-4
- Unlimited shelf life
- For use indoor or outdoor environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression cable lugs (available as an option)

## Cable Terminations for 1 core polymeric insulated cables from 7kV to 42kV

RHT-(7-42)X-1



**OUTDOOR** 



#### **Kit Contents:**

#### Standard Kits for un-armoured cables:

- Cable phase lug (optional supplied only if specified)
- 2. Sealing mastic for top seal / metallic screen
- 3. Anti-tracking Heat Shrinkable tube
- Creepage Extension Sheds based on voltage/type
- 5. Stress control Heat Shrinkable tube
- 6. Stress control / void filling mastic

### Additional screen earthing components for armoured cables (specify - /e at end of termination kit part number)

- 7. Constant force spring for copper tape screen
- 8. Tinned copper braid
- 9. Constant force spring for armour
- 10. Black sealing mastic for armours

**Single Core Polymeric** 

**Termination Kits** 

#### Conductor Tail Tail Cable **Product Code Product Code Cross Section** Length Length Construction (mm<sup>2</sup>)L mm L mm Cable Termination for Polymeric Insulated cables rated at Um= 7.2kV RHTI 7X 25-70-1 RHTO 7X 25-70-1 No armour 25 - 70 450 600 RHTI 7X 25-70-1/E RHTO 7X 25-70-1/E Armoured RHTI 7X 95-185-1 RHTO 7X 95-185-1 No armour 95 - 185 450 600 Armoured RHTI 7X 95-185-1/E RHTO 7X 95-185-1/E No armour RHTI 7X 185-300-1 RHTO 7X 185-300-1 185 - 300 450 600 Armoured RHTI 7X 185-300-1/E RHTO 7X 185-300-1/E No armour RHTI 7X 300-630-1 RHTO 7X 300-630-1 300 - 630 450 600 RHTO 7X 300-630-1/E Armoured RHTI 7X 300-630-1/E Cable Termination for Polymeric Insulated cables rated at Um= 12kV No armour RHTI 12X 25-70-1 RHTO 12X 25-70-1 25 - 70 450 600 RHTO 12X 25-70-1/E Armoured RHTI 12X 25-70-1/E RHTI 12X 95-185-1 RHTO 12X 95-185-1 No armour 95 - 185 450 600 Armoured RHTI 12X 95-185-1/E RHTO 12X 95-185-1/E No armour RHTI 12X 185-300-1 RHTO 12X 185-300-1 185 - 300 450 600 Armoured RHTI 12X 185-300-1/E RHTO 12X 185-300-1/E No armour RHTI 12X 300-630-1 RHTO 12X 300-630-1 300 - 630 450 600 RHTI 12X 300-630-1/E RHTO 12X 300-630-1/E Armoured No armour RHTI 12X 630-1000-1 RHTO 12X 630-1000-1 630 - 1000 450 600 Armoured RHTI 12X 630-1000-1/E RHTO 12X 630-1000-1/E

**INDOOR** 





	Single Core Polymeric		INDOOR		OUTDOOR	
		ation Kits				
	Conductor	Cable	Product Code	Tail	Product Code	Tail
	Cross Section (mm <sup>2</sup> )	Construction		Length		Length
		tion for Dolumo	via luculated cables vated	L mm	A/	L mm
	Cable Termina	-	ric Insulated cables rated	at Um= 17.5k		
>	25 - 70 ·	No armour	RHTI 17X 25-70-1	— 450 —	RHTO 17X 25-70-1	600
<b>Y</b>		Armoured	RHTI 17X 25-70-1/E		RHTO 17X 25-70-1/E	
	95 - 185	No armour	RHTI 17X 95-185-1	— 450 —	RHTO 17X 95-185-1	600
ப		Armoured	RHTI 17X 95-185-1/E		RHTO 17X 95-185-1/E	
	185 - 300	No armour	RHTI 17X 185-300-1	— 450 —	RHTO 17X 185-300-1	- 600
17.5		Armoured	RHTI 17X 185-300-1/E		RHTO 17X 185-300-1/E	
	300 - 630	No armour	RHTI 17X 300-630-1	— 450 —	RHTO 17X 300-630-1	600
		Armoured	RHTI 17X 300-630-1/E	04114	RHTO 17X 300-630-1/E	
	Cable Termina		ric Insulated cables rated	at Um= 24kV		
	25 - 70 -	No armour	RHTI 24X 25-70-1	<u> </u>	RHTO 24X 25-70-1	550
		Armoured	RHTI 24X 25-70-1/E		RHTO 24X 25-70-1/E	
	95 - 185	No armour	RHTI 24X 95-185-1	— 500 —	RHTO 24X 95-185-1	550
$\geq$		Armoured	RHTI 24X 95-185-1/E		RHTO 24X 95-185-1/E	
	185 - 300 —	No armour	RHTI 24X 185-300-1	— 500 —	RHTO 24X 185-300-1	- 550
_		Armoured	RHTI 24X 185-300-1/E		RHTO 24X 185-300-1/E	
24	300 - 630 —	No armour	RHTI 24X 300-630-1	— 500 —	RHTO 24X 300-630-1	- 550
7		Armoured	RHTI 24X 300-630-1/E		RHTO 24X 300-630-1/E	
	630 - 1000	No armour	RHTI 24X 630-1000-1	— 500 —	RHTO 24X 630-1000-1	- 550
		Armoured	RHTI 24X 630-1000-1/E		RHTO 24X 630-1000-1/E	
	Cable Termina		ric Insulated cables rated	at Um= 36kV		
	25 - 70	No armour	RHTI 36X 25-70-1	— 650 —	RHTO 36X 25-70-1	- 750 
		Armoured	RHTI 36X 25-70-1/E		RHTO 36X 25-70-1/E	
>	95 - 185	No armour	RHTI 36X 95-185-1	— 650 —	RHTO 36X 95-185-1	750
_		Armoured	RHTI 36X 95-185-1/E		RHTO 36X 95-185-1/E	
10	185 - 300	No armour	RHTI 36X 185-300-1	— 650 —	RHTO 36X 185-300-1	750
9		Armoured	RHTI 36X 185-300-1/E		RHTO 36X 185-300-1/E	
$\mathcal{C}$	300 - 630 -	No armour	RHTI 36X 300-630-1	— 650 —	RHTO 36X 300-630-1	- 750
		Armoured	RHTI 36X 300-630-1/E		RHTO 36X 300-630-1/E	
	630 - 1000	No armour	RHTI 36X 630-1000-1	— 650 —	RHTO 36X 630-1000-1	- 750
		Armoured	RHTI 36X 630-1000-1/E		RHTO 36X 630-1000-1/E	
	Cable Termina	ation for Polyme	ric Insulated cables rated	at Um= 42kV	'	
	25 - 70	No armour	RHTI 42X 25-70-1	— 700 —	RHTO 42X 25-70-1	- 800
		Armoured	RHTI 42x 25-70-1/E		RHTO 42X 25-70-1/E	
42 kV	95 - 185	No armour	RHTI 42X 95-185-1	— 700 —	RHTO 42X 95-185-1	- 800
		Armoured	RHTI 42X 95-185-1/E	,,,,	RHTO 42X 95-185-1/E	
$\bigcirc$ I	185 - 300	No armour	RHTI 42X 185-300-1	— 700 —	RHTO 42X 185-300-1	- 800
<u>''</u>		Armoured	RHTI 42X 185-300-1/E	700	RHTO 42X 185-300-1/E	
7	300 - 630	No armour	RHTI 42X 300-630-1	— 700 —	RHTO 42X 300-630-1	- 800
		Armoured	RHTI 42X 300-630-1/E	, 50	RHTO 42X 300-630-1/E	
	630 - 1000	No armour	RHTI 42X 630-1000-1	— 700 —	RHTO 42X 630-1000-1	- 800
		Armoured	RHTI 42X 630-1000-1/E	,,,,	RHTO 42X 630-1000-1/E	

#### Kits are normally supplied in sets of Three phases

On Outdoor Version, the Specific creepage is > 31mm/kV = Class IV Heavy Pollution If required, a longer tail length and/or additional creepage sheds can be offered



- Designed to comply with CENELEC HD 629.S1, IEC 60502-4
- Unlimited shelf life
- For use indoor or outdoor environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression cable lugs (available as an option)

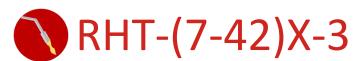
#### **Kit Contents:**

#### Standard Kits for un-armoured cables:

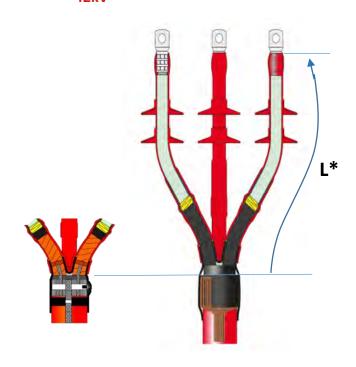
- Cable phase lug (optional supplied only if specified)
- 2. Sealing mastic for top seal / metallic screen
- 3. Anti-tracking Heat Shrinkable tube
- 4. Creepage Extension Sheds based on voltage/type
- 5. Stress Control Heat Shrinkable tube
- 6. Stress control / void filling mastic
- 7. Heat Shrinkable 3 core breakout

Additional screen earthing components for armoured cables (specify - /e at end of termination kit part number)

- 8. Constant force spring for copper tape screen
- 9. Tinned copper braid
- 10. Constant force spring for armour
- 11. Black sealing mastic for armours



Cable Terminations for 3 core polymeric insulated cables from 7kV to 42kV



Three Core Polymeric Termination Kits		INDOOR		OUTDOOR					
Conductor Cross Section (mm²)	Cable Construction	Product Code	Tail Length L mm	Product Code	Tail Length L mm				
Cable Termina	Cable Termination for Polymeric Insulated cables rated at Um= 7.2kV								
25-70	No armour	RHTI 7X 25-70-3	— 600 —	RHTO 7X 25-70-3	- 650				
25-70	Armoured	RHTI 7X 25-70-3/E	000	RHTO 7X 25-70-3/E	- 650				
95-185	No armour	RHTI 7X 95-185-3	— 600 —	RHTO 7X 95-185-3	- 650				
33-163	Armoured	RHTI 7X 95-185-3/E		RHTO 7X 95-185-3/E	030				
185-300	No armour	RHTI 7X 185-300-3	600 —	RHTO 7X 185-300-3	- 650				
165-500	Armoured	RHTI 7X 185-300-3/E		RHTO 7X 185-300-3/E	030				
300 – 630	No armour	RHTI 7X 300-630-3	— 600 —	RHTO 7X 300-630-3	- 650				
300 - 030	Armoured	RHTI 7X 300-630-3/E		RHTO 7X 300-630-3/E					
Cable Termina	ation for Polyme	eric Insulated cables rated	at Um= 12kV	1					
25-70	No armour	RHTI 12X 25-70-3	500	RHTO 12X 25-70-3	- 650				
25-70	Armoured	RHTI 12X 25-70-3/E	— 600 –	RHTO 12X 25-70-3/E	- 650				
95-185	No armour	RHTI 12X 95-185-3	600	RHTO 12X 95-185-3	- 650				
32-103	Armoured	RHTI 12X 95-185-3/E	000	RHTO 12X 95-185-3/E	650				
185-300	No armour	RHTI 12X 185-300-3	— 600 —	RHTO 12X 185-300-3	- 650				
105-300	Armoured	RHTI 12X 185-300-3/E	- 600 -	RHTO 12X 185-300-3/E	650				
300-630	No armour	RHTI 12X 300-630-3	— 600 —	RHTO 12X 300-630-3	- 650				
300-030	Armoured	RHTI 12X 300-630-3/E	000 -	RHTO 12X 300-630-3/E	050				
630-1000	No armour	RHTI 12X 630-1000-3		RHTO 12X 630-1000-3	- 650				
020-1000	Armoured	RHTI 12X 630-1000-3/E	— 600 –	RHTO 12X 630-1000-3/E	טכט				

12 kV





	Three Core Polymeric Termination Kits		INDOOR		OUTDOOR	OUTDOOR			
	Conductor Cross Section (mm²)	Cable Construction	Kit Number	Tail Length L mm	Kit Number	Tail Length L mm			
	Cable Termina	ation for Polyme	eric Insulated cables rated	at Um= 17.5k	V				
	25 - 70	No armour	RHTI 17X 25-70-3	600	RHTO 17X 25-70-3	- 650			
	25 - 70	Armoured	RHTI 17X 25-70-3/E	600	RHTO 17X 25-70-3/E	650			
	95 - 185	No armour	RHTI 17X 95-185-3	— 600 —	RHTO 17X 95-185-3	- 650			
17.5		Armoured	RHTI 17X 95-185-3/E		RHTO 17X 95-185-3/E				
	185 - 300	No armour	RHTI 17X 185-300-3	— 600 —	RHTO 17X 185-300-3	- 650			
		Armoured	RHTI 17X 185-300-3/E		RHTO 17X 185-300-3/E				
	300 - 630	No armour	RHTI 17X 300-630-3	— 600 —	RHTO 17X 300-630-3	- 650			
	011.7	Armoured	RHTI 17X 300-630-3/E		RHTO 17X 300-630-3/E				
	Cable Termina		eric Insulated cables rated	at Um= 24kV					
	25 - 70	No armour	RHTI 24X 25-70-3	— 650 —	RHTO 24X 25-70-3	- 850			
		Armoured	RHTI 24X 25-70-3/E		RHTO 24X 25-70-3/E				
	95 - 185	No armour	RHTI 24X 95-185-3	— 650 —	RHTO 24X 95-185-3	850			
		Armoured	RHTI 24X 95-185-3/E		RHTO 24X 95-185-3/E				
24 kV	185 - 300	No armour	RHTI 24X 185-300-3	— 650 —	RHTO 24X 185-300-3	850 850			
		Armoured	RHTI 24X 185-300-3/E		RHTO 24X 185-300-3/E				
	300 - 630 -	No armour	RHTI 24X 300-630-3	— 650 —	RHTO 24X 300-630-3				
		Armoured	RHTI 24X 300-630-3/E		RHTO 24X 300-630-3/E				
	630 - 1000 -	No armour	RHTI 24X 630-1000-3	— 650 —	RHTO 24X 630-1000-3	- 850			
		Armoured	RHTI 24X 630-1000-3/E		RHTO 24X 630-1000-3/E				
	Cable Termination for Polymeric Insulated cables rated at Um= 36kV								
	25 - 70	No armour	RHTI 36X 25-70-3	— 650 —	RHTO 36X 25-70-3	1000			
		Armoured	RHTI 36X 25-70-3/E		RHTO 36X 25-70-3/E				
	95 - 185	No armour	RHTI 36X 95-185-3	— 650 —	RHTO 36X 95-185-3	- 1000			
>		Armoured	RHTI 36X 95-185-3/E		RHTO 36X 95-185-3/E	1000			
<u> </u>	185 - 300	No armour	RHTI 36X 185-300-3	— 650 —	RHTO 36X 185-300-3	1000			
	183 - 300	Armoured	RHTI 36X 185-300-3/E	030	RHTO 36X 185-300-3/E	1000			
36 kV	300 - 630	No armour	RHTI 36X 300-630-3	— 650 —	RHTO 36X 300-630-3	- 1000			
$\mathbf{C}$	300 - 630	Armoured	RHTI 36X 300-630-3/E	650	RHTO 36X 300-630-3/E	1000			
	620 1000	No armour	RHTI 36X 630-1000-3	650	RHTO 36X 630-1000-3	1000			
	630 - 1000	Armoured	RHTI 36X 630-1000-3/E	— 650 —	RHTO 36X 630-1000-3/E	- 1000			
	Cable Termina	ation for Polyme	eric Insulated cables rated	at Um= 42kV					
	25 70	No armour	RHTI 42X 25-70-3	700	RHTO 42X 25-70-3	4200			
	25 - 70	Armoured	RHTI 42x 25-70-3/E	— 700 —	RHTO 42X 25-70-3/E	- 1200			
	05 405	No armour	RHTI 42X 95-185-3	700	RHTO 42X 95-185-3	4200			
	95 - 185	Armoured	RHTI 42X 95-185-3/E	— 700 —	RHTO 42X 95-185-3/E	1200			
42 kV	405 222	No armour	RHTI 42X 185-300-3	700	RHTO 42X 185-300-3	4000			
	185 - 300	Armoured	RHTI 42X 185-300-3/E	— 700 —	RHTO 42X 185-300-3/E	1200			
Ņ		No armour	RHTI 42X 300-630-3	700	RHTO 42X 300-630-3	4000			
4	300 - 630	Armoured	RHTI 42X 300-630-3/E	— 700 —	RHTO 42X 300-630-3/E	- 1200			
		No armour	RHTI 42X 630-1000-3		RHTO 42X 630-1000-3				
	630 - 1000	Armoured	RHTI 42X 630-1000-3/E	— 700 —	RHTO 42X 630-1000-3/E	- 1200			

<sup>\*</sup>On Outdoor Version, the Specific creepage is > 31mm/kV = Class IV Heavy Pollution If required, a longer tail length and/or additional creepage sheds can be offered





- Designed to comply to CENELEC HD 629.S2
- Unlimited shelf life
- For use indoor or outdoor environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression cable lugs (available as an option)

#### **Kit Contents:**

#### Standard Kits for un-armoured cables:

- Cable phase lug (optional – supplied only if specified)
- 2. Red sealing mastic for top seal
- 3. Lug Seal
- 4. Anti-tracking Heat Shrinkable tube
- 5. Clear insulating oil barrier tube
- 6. Stress Control Heat Shrinkable tube
- 7. Stress control / void filling yellow mastic
- 8. Conductive breakout (3 core version)
- 9. Creepage extension sheds (based on voltage/type)

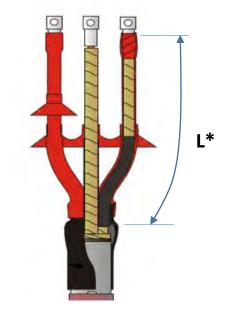
**Paper Insulation** 

- 10. Constant force spring
- 11. Sealant mastic for metallic screen connection
- 12. Armour earthing materials (if specified)

## Cable Terminations for 1 or 3 core paper insulated cables from 7kV to 36kV

The kits are designed for either indoor or outdoor applications for cables with paper insulation and lead sheaths.

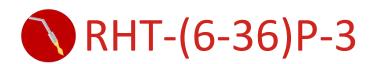
The termination kits combine the antitracking external tubing for excellent weathering and electrical properties together with an internal stress control tube for field control with oil barrier tubing over the paper insulation.



Termination Kits		INDOOR		OUTDOOR	
Conductor Cross Section (mm²)	Cable Construction	Product Code	Tail Length L mm	Product Code	Tail Length L mm
Cable Termi	nation for PILC	cables rated at Um= 7.2	kV		
25 - 70	1 core PILC	RHTI 7P 25-70-1	450	RHTO 7P 25-70-1	450
25 - 70	3c PILC/SWA	RHTI 7P 25-70-3/E	600	RHTO 7P 25-70-3/E	650
95 - 185	1 core PILC	RHTI 7P 95-185-1	450	RHTO 7P 95-185-1	450
33 - 103	3c PILC/SWA	RHTI 7P 95-185-3/E	600	RHTO 7P 95-185-3/E	650
185 - 300	1 core PILC	RHTI 7P 185-300-1	450	RHTO 7P 185-300-1	450
103 - 300	3c PILC/SWA	RHTI 7P 185-300-3/E	600	RHTO 7P 185-300-3/E	650
300 - 630	1 core PILC	RHTI 7P 300-630-1	450	RHTO 7P 300-630-1	450
300 - 630	3c PILC/SWA	RHTI 7P 300-630-3/E	600	RHTO 7P 300-630-3/E	650







	Paper Insulation Termination Kits		INDOOR		OUTDOOR	
	Conductor Cross Section (mm²)	Cable Construction	Kit Number	Tail Length L mm	Kit Number	Tail Length L mm
		ation for PILC c	ables rated at Um= 12kV			
	Cable Termini	1 core PILC	RHTI 12P 25-70-1	500	RHTO 12P 25-70-1	500
	25 - 70	3c PILC/SWA	RHTI 12P 25-70-3/E	600	RHTO 12P 25-70-3/E	650
<b>&gt;</b>		1 core PILC	RHTI 12P 95-185-1	500	RHTO 12P 95-185-1	500
_	95 - 185	3c PILC/SWA	RHTI 12P 95-185-3/E	600	RHTO 12P 95-185-3/E	650
		1 core PILC	RHTI 12P 185-300-1	500	RHTO 12P 185-300-1	500
(	185 - 300	3c PILC/SWA	RHTI 12P 185-300-3/E	600	RHTO 12P 185-300-3/E	650
$\overline{}$		1 core PILC	RHTI 12P 400-630-1	500	RHTO 12P 400-630-1	500
	400 - 630	3c PILC/SWA	RHTI 12P 400-630-3/E	600	RHTO 12P 400-630-3/E	650
	Cable Termin		ables rated at Um= 17.5k			
		1 core PILC	RHTI 17P 25-70-1	500	RHTO 17P 25-70-1	500
17.5 kV	25 - 70	3c PILC/SWA	RHTI 17P 25-70-3/E	600	RHTO 17P 25-70-3/E	600
$\boldsymbol{\succeq}$		1 core PILC	RHTI 17P 95-185-1	500	RHTO 17P 95-185-1	500
	95 - 185	3c PILC/SWA	RHTI 17P 95-185-3/E	600	RHTO 17P 95-185-3/E	600
ш <u>;</u>		1 core PILC	RHTI 17P 185-300-1	500	RHTO 17P 185-300-1	500
<u> </u>	185 - 300	3c PILC/SWA	RHTI 17P 185-300-3/E	600	RHTO 17P 185-300-3/E	600
	400 - 630	1 core PILC	RHTI 17P 400-630-1	500	RHTO 17P 400-630-1	500
$\overline{}$		3c PILC/SWA	RHTI 17P 400-630-3/E	600	RHTO 17P 400-630-3/E	600
	Cable Termin		ables rated at Um= 24kV		•	
		1 core PILC	RHTI 24P 25-70-1	600	RHTO 24P 25-70-1	650
	25 - 70	3c PILC/SWA	RHTI 24P 25-70-3/E	650	RHTO 24P 25-70-3/E	850
		1 core PILC	RHTI 24P 95-185-1	600	RHTO 24P 95-185-1	650
	95 - 185	3c PILC/SWA	RHTI 24P 95-185-3/E	650	RHTO 24P 95-185-3/E	850
$\leq$		1 core PILC	RHTI 24P 185-300-1	600	RHTO 24P 185-300-1	650
	185 - 300	3c PILC/SWA	RHTI 24P 185-300-3/E	650	RHTO 24P 185-300-3/E	850
24		1 core PILC	RHTI 24P 400-630-1	600	RHTO 24P 400-630-1	650
~	400 - 630	3c PILC/SWA	RHTI 24P 400-630-3/E	650	RHTO 24P 400-630-3/E	850
( )		1 core PILC	RHTI 24P 630-1000-1	600	RHTO 24P 630-1000-1	650
	630 - 1000	3c PILC/SWA	RHTI 24P 630-1000-3/E	650	RHTO 24P 630-1000-3/E	850
	Cable Termin	ation for PILC c	ables rated at Um= 36kV			
		1 core PILC	RHTI 36P 25-70-1	650	RHTO 36P 25-70-1	750
	25 - 70	3c PILC/SWA	RHTI 36P 25-70-3/E	800	RHTO 36P 25-70-3/E	1000
		1 core PILC	RHTI 36P 95-185-1	650	RHTO 36P 95-185-1	750
	95 - 185	3c PILC/SWA	RHTI 36P 95-185-3/E	800	RHTO 36P 95-185-3/E	1000
		1 core PILC	RHTI 36P 185-300-1	650	RHTO 36P 185-300-1	750
36 kV	185 - 300	3c PILC/SWA	RHTI 36P 185-300-3/E	800	RHTO 36P 185-300-3/E	1000
36		1 core PILC	RHTI 36P 300-630-1	650	RHTO 36P 300-630-1	750
(Y)	400 - 630	3c PILC/SWA	RHTI 36P 300-630-3/E	800	RHTO 36P 300-630-3/E	1000
		1 core PILC	RHTI 36P 630-1000-1	650	RHTO 36P 630-1000-1	750
	630 - 1000	3c PILC/SWA	RHTI 36P 630-1000-3/E	800	RHTO 36P 630-1000-3/E	1000
		<u> </u>	<u> </u>		-	

 $<sup>*</sup>On\ Outdoor\ Version$ , the Specific creepage is > 31mm/kV = Class IV Heavy Pollution If required, a longer tail length and/or additional creepage sheds can be offered



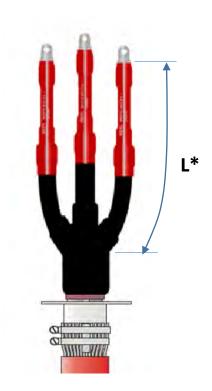
- Designed to comply to CENELEC HD 629.S1, IEC 60502-4
- Unlimited shelf life
- Single Heat Shrink anti-tracking tube with internal surface coated with metal oxide layer for stress control
- For use indoor or outdoor environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression cable lugs (available as an option)

#### **Kit Contents:**

#### Standard Kits for un-armoured cables:

- Cable phase lug (optional supplied only if specified)
- 2. Sealing mastic for top seal / metallic screen
- 3. Single piece Anti-tracking Heat Shrinkable tube with internal stress control coating
- 4. Creepage extension sheds based on voltage/type
- 5. Stress control / void filling mastic
- Conductive breakout & core tubes (for 3 core versions)

For cables with tape screen and armours, additional earth kits required – see termination accessories



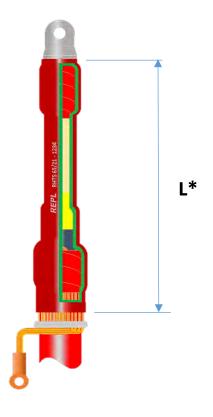


## Single Tube Cable Terminations for 1 or 3 core polymeric insulated cables from 7kV to 24kV

REPL range of RHTS Heat Shrinkable Terminations are suitable for installations on medium voltage extruded insulated cables (e.g. XLPE, EPR, PE...) with maximum system voltage of 24kV.

The termination has a one piece heat shrink tube with excellent electrical antitracking and weathering properties, and an internal coating of metal oxide material to provide void filling and electrical stress control around the screen cut area.

Kits are available for both indoor and outdoor environments using either single core or three core designs. Both compression and mechanical bolted cable lugs can be used.







_	Termination its	INDOOR		OUTDOOR	
Conductor Cross Section (mm²)	Cable Construction	Product Code	Tail Length L mm	Product Code	Tail Length L mm
Single Tube Ca	able Terminatio	n for Polymeric cables ra	ted at Um= 7.2	2kV	
35 - 95	1 core	RHTSI 7X 35-95-1	300	RHTSO 7X 35-95-1	350
	3 core	RHTSI 7X 35-95-3	600	RHTSO 7X 35-95-3	650
95 - 240	1 core	RHTSI 7X 95-240-1	300	RHTSO 7X 95-240-1	350
	3 core	RHTSI 7X 95-240-3	600	RHTSO 7X 95-240-3	650
120 - 300	1 core	RHTSI 7X 120-300-1	300	RHTSO 7X 120-300-1	350
	3 core	RHTSI 7X 120-300-3	600	RHTSO 7X 120-300-3	650
400 - 630	1 core	RHTSI 7X 400-630-1	330	RHTSO 7X 400-630-1	400
	3 core	RHTSI 7X 400-630-3	600	RHTSO 7X 400-630-3	650
Single Tube Ca	able Terminatio	n for Polymeric cables ra	ted at Um= 12	kV	
35 - 95	1 core	RHTSI 12X 35-95-1	300	RHTSO 12X 35-95-1	350
	3 core	RHTSI 12X 35-95-3	600	RHTSO 12X 35-95-3	650
95 - 240	1 core	RHTSI 12X 95-240-1	300	RHTSO 12X 95-240-1	350
	3 core	RHTSI 12X 95-240-3	600	RHTSO 12X 95-240-3	650
120 - 300	1 core	RHTSI 12X 120-300-1	300	RHTSO 12X 120-300-1	350
120 - 300	3 core	RHTSI 12X 120-300-3	600	RHTSO 12X 120-300-3	650
400 - 630	1 core	RHTSI 12X 400-630-1	330	RHTSO 12X 400-630-1	400
400 - 030	3 core	RHTSI 12X 400-630-3	600	RHTSO 12X 400-630-3	650
Single Tube Ca	able Terminatio	n for Polymeric cables ra	ted at Um= 17	.5kV	
FO. 420	1 core	RHTSI 17X 50-120-1	350	RHTSO 17X 50-120-1	400
50 - 120	3 core	RHTSI 17X 50-120-3	600	RHTSO 17X 50-120-3	650
450 040	1 core	RHTSI 17X 150-240-1	350	RHTSO 17X 150-240-1	400
150 - 240	3 core	RHTSI 17X 150-240-3	600	RHTSO 17X 150-240-3	650
200 500	1 core	RHTSI 17X 300-630-1	400	RHTSO 17X 300-630-1	450
300 - 630	3 core	RHTSI 17X 300-630-3	600	RHTSO 17X 300-630-3	650
Single Tube Ca	able Terminatio	n for Polymeric cables ra	ted at Um= 24	kV	
	1 core	RHTSI 24X 50-95-1	400	RHTSO 24X 50-95-1	450
50 - 95	3 core	RHTSI 24X 50-95-3	600	RHTSO 24X 50-95-3	750
	1 core	RHTSI 24X 120-300-1	400	RHTSO 24X 120-300-1	450
120 - 300	3 core	RHTSI 24X 120-300-3	600	RHTSO 24X 120-300-3	750
	1 core	RHTSI 24X 400-630-1	400	RHTSO 24X 400-630-1	450
400 - 630	3 core	RHTSI 24X 400-630-3	600	RHTSO 24X 400-630-3	750

 $<sup>*</sup>On\ Outdoor\ Version$ , the Specific creepage is > 31mm/kV = Class IV Heavy Pollution If required, a longer tail length and/or additional creepage sheds can be offered

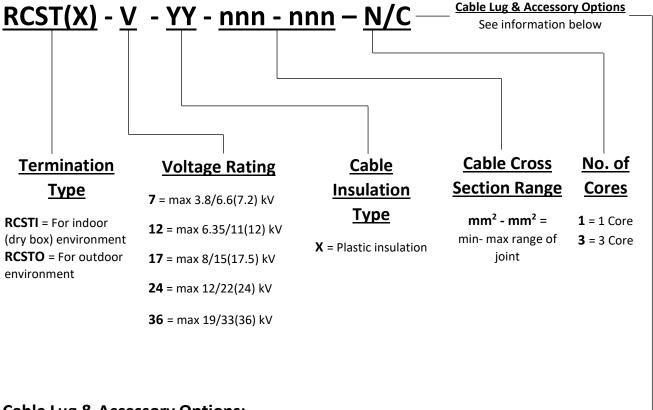


REPL RCST range of medium voltage cable termination kits use moulded rubber body with integrated stress control and creepage extension sheds.

They offer an "all cold" method of installation.



The coding system below allows installer to specify correct termination based on application and cable type. The termination code is made up of 5 elements as follows:



#### Cable Lug & Accessory Options:

Standard termination kits are supplied without cable lugs included.

They can be included in the kits by adding the following suffix to the product code:-

- /MC = Electro-tinned aluminium mechanical lugs supplied in kit
- /CC = Copper compression lugs supplied in kit
- /AC = Aluminium compression lugs supplied in kit

In addition, accessories can be included into the kits by adding the following suffix to the product code:-

- /e = Earthing connections for tape and armouring included
- **/FB** = Set of cold applied flexible insulating boots (indoor termination)
- /BG = Bolted gland kit for armour wires (indoor termination)
- /IB = Bracket & support insulator set (outdoor termination)
- /EK = Remote Armour Earth Kit (outdoor termination)





Moulded body with integrated creepage sheds

Moulded body without creepage sheds for indoor dry box

#### Cable Terminations for 1/3 core cables from 7kV to 36kV

REPL range of Cold Shrinkable Terminations are suitable for installations on medium voltage cables with polymeric insulation up to 36kV. The termination is a one piece moulded design with

an outer layer of highly track resistant silicone rubber and integrated conductive geometric stress cone.

The termination bodies are pre-expanded onto a spiral former providing a suitable diameter to allow easy locating over cables and lugs. Once correctly located the body is collapsed by simply pulling out the spiral tape.

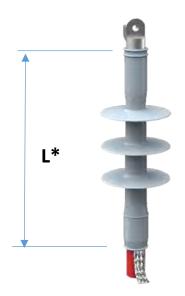
After installation, the termination provides a reliable, void free and flexible termination suitable for both indoor and outdoor environments.

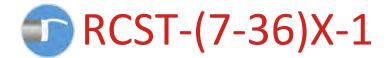
Because the RCST requires no special tools or heat source for installation, it is ideal for areas where heat tools are not allowed or accessible.

There is a range of bodies in various lengths and moulded shed arrangements to cover indoor and outdoor terminations from 7.2kV to 36kV in single core and three core designs

Technical Details for RCST Cold Shrinkable Cable Termination System									
Voltage Class:	7.2kV	12kV	17.5kV	24kV	36kV				
Cross Section Range (mm²)	25 - 630	25 - 1000	35 - 1000	35 - 1000	50 - 1000				
Cable Insulation Diameter (mm)	13 - 36	15 - 46	17 - 48	18 - 50	24 - 55				
Voltage Rating U₀/U	3.8/6.6	6.35/11	8.7/15	12.7/22	19/33				
(U <sub>m</sub> ) kV	(7.2)	(12)	(17.5)	(24)	(36)				
Basic Impulse Level (BIL) kV	60	95	95	125	194				
Partial Discharge at 1.73U <sup>0</sup> (pC)	<10	<10	<10	<10	<10				
AC Voltage Withstand , 5 min (kV)	>17	>28.5	>39	>57	>85.5				
DC Voltage Withstand , 15min (kV)	>23	>38	>52	>76	>114				







## Cable Terminations for 1 core cables from 6kV to 36kV

- Tested to CENELEC HD 629.1.S2
- Quick and easy installation using no heat source or tools
- One piece design with integrated stress control
- Silicon Rubber material for excellent electrical insulation and weathering properties
- Can be combined with gland or earth kit for armoured cables

	Conductor	Insulation	Maximum	Product Code	Tail	Product Code	Tail
	<b>Cross Section</b>	Diameter	overall	Single Core	Length	Single Core	Length
	(See Note 1)	Range	diameter of cable sheath	INDOOR		OUTDOOR	
	(mm²)	Ø mm	Ø mm	Termination	L mm	Termination	L mm
	Cold Shrinkable	e Terminatio	n for Polymeric	Insulated single core ca	ables rated a	it Um= 7.2kV	
$\geq$	95 - 150	17 - 24	30	RCSTI 7X 95-150-1	320	RCSTO 7X 95-150-1	370
7	185 - 300	19 - 32	42	RCSTI 7X 185-400-1	320	RCSTO 7X 185-400-1	370
/	400 - 630	30 - 42	65	RCSTI 7X 500-630-1	320	RCSTO 7X 500-630-1	370
	Cold Shrinkable	e Terminatio	n for Polymeric	Insulated single core ca	bles rated at	t Um= 12kV	
$\geq$	50 - 95	17 - 24	30	RCSTI 12X 50-95-1	320	RCSTO 12X 50-95-1	370
7	95 - 300	19 - 32	42	RCSTI 12X 95-300-1	320	RCSTO 12X 95-300-1	370
Π.	400 - 800	30 - 42	65	RCSTI 12X 400-800-1	320	RCSTO 12X 400-800-1	370
	Cold Shrinkable	e Termination	n for Polymeric	Insulated single core ca	bles rated a	t Um= 17.5kV	
≥	35 - 95	17 - 24	30	RCSTI 17X 35-95-1	320	RCSTO 17X 35-95-1	370
.5	120 - 240	19 - 32	42	RCSTI 17X 120-240-1	320	RCSTO 17X 120-240-1	370
17	300 - 630	30 - 42	65	RCSTI 17X 300-630-1	320	RCSTO 17X 300-630-1	370
	Cold Shrinkable	e Terminatio	n for Polymeric	Insulated single core ca	bles rated a	t Um= 24kV	
$\geq$	35 - 70	17 - 24	30	RCSTI 24X 35-70-1	350	RCSTO 24X 35-70-1	370
24	95 - 150	19 - 32	42	RCSTI 24X 95-185-1	350	RCSTO 24X 95-185-1	370
7	240 - 500	30 - 42	65	RCSTI 24X 240-500-1	350	RCSTO 24X 240-500-1	370
	Cold Shrinkable	e Terminatio	n for Polymeric	Insulated single core ca	bles rated a	t Um= 36kV	
$\geq$	50 - 120	19 - 32	42	RCSTI 36X 50-120-1	370	RCSTO 36X 50-120-1	500
36	150 - 400	30 - 42	65	RCSTI 36X 150-400-1	370	RCSTO 36X 150-400-1	500
(1)	500 - 1000	40 - 60	78	RCSTI 36X 500-1000-1	370	RCSTO 36X 500-1000-1	500
-							

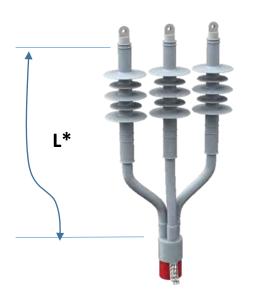
<sup>\*</sup>Tail length is linear length of termination body at fully recovered state.

The creepage length on outdoor termination is dictated by number of sheds and normally represents >31mm /kV ⇔ Class IV very Heavy according to IEC 60071-2

Note 1 = Cross section is a guide only based on standard IEC designs- the cable insulation diameter is more critical dimension to ensure body fits the cable to be terminated.

For cables with tape screen and armour, additional earth kits are required.







## Cable Terminations for 3 core cables from 7kV to 36kV

- Utilising Cold Shrinkable termination body combines with additional Cold Shrinkable tubing and breakout
- Adjustable tail length
- All cold installation
- Can be combined with gland or earth kit for armoured cables

	Conductor	Insulation	Maximum	Product Code	Tail	Product Code	Tail
	Cross Section	Diameter	overall	Three Core	Length	Three Core	Length
	(See Note 1)	Range	diameter of cable sheath	INDOOR		OUTDOOR	
	(mm²)	Ø mm	Ø mm	Termination	L mm	Termination	L mm
	Cold Shrinkable	e Termination	n for Polymeric	Insulated single core c	ables rated a	t Um= 7.2kV	
$\geq$	95 - 150	17 - 24	30	RCSTI 7X 95-150-3	450	RCSTO 7X 95-150-3	600
7	185 - 300	19 - 32	42	RCSTI 7X 185-400-3	450	RCSTO 7X 185-400-3	600
<b>'</b>	400 - 630	30 - 42	65	RCSTI 7X 500-630-3	450	RCSTO 7X 500-630-3	600
	Cold Shrinkable	e Termination	n for Polymeric	Insulated single core c	ables rated a	t Um= 12kV	
<u>≥</u>	50 - 95	17 - 24	30	RCSTI 12X 50-95-3	600	RCSTO 12X 50-95-3	600
7	95 - 300	19 - 32	42	RCSTI 12X 95-300-3	600	RCSTO 12X 95-300-3	600
7	400 - 630	30 - 42	65	RCSTI 12X 400-630-3	600	RCSTO 12X 400-630-3	600
	Cold Shrinkable	e Termination	n for Polymeric	Insulated single core c	ables rated a	t Um= 17.5kV	
≥ .	35 - 95	17 - 24	30	RCSTI 17X 35-95-3	600	RCSTO 17X 35-95-3	600
5.	120 - 240	19 - 32	42	RCSTI 17X 120-240-3	600	RCSTO 17X 120-240-3	600
17	300 - 630	30 - 42	65	RCSTI 17X 300-630-3	600	RCSTO 17X 300-630-3	600
	Cold Shrinkable	e Termination	n for Polymeric	Insulated single core c	ables rated a	t Um= 24kV	
>	35 - 70	17 - 24	30	RCSTI 24X 35-70-3	600	RCSTO 24X 35-70-3	750
24 kV	95 - 185	19 - 32	42	RCSTI 24X 95-185-3	600	RCSTO 24X 95-185-3	750
7	240 - 500	30 - 42	65	RCSTI 24X 240-500-3	600	RCSTO 24X 240-500-3	750
	Cold Shrinkable	e Termination	n for Polymeric	Insulated single core c	ables rated a	t Um= 36kV	
<u>≥</u>	50 - 120	19 - 32	42	RCSTI 36X 50-120-3	600	RCSTO 36X 50-120-3	800
36	150 - 400	30 - 42	65	RCSTI 36X 150-400-3	600	RCSTO 36X 150-400-3	800
$\mathcal{C}$	500 - 630	40 - 60	78	RCSTI 36X 500-630-3	600	RCSTO 36X 500-630-3	800
-							

Tail length is linear length of termination body at fully recovered state.

The creepage length on outdoor termination is dictated by number of sheds and normally represents >31mm /kV  $\Leftrightarrow$  Class IV very Heavy according to IEC 60071-2

Note 1 = Cross section is a guide only based on standard IEC designs- the cable insulation diameter is more critical dimension to ensure body fits the cable to be terminated.

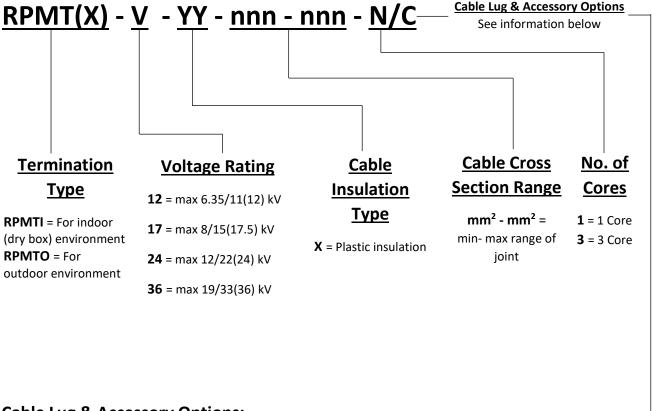
For cables with tape screen and armour, additional earth kits are required.



REPL RPMT range of medium voltage cable termination kits have been successfully installed on thousands of networks across the world. Using our established Heat Shrinkable tubing and mastics materials.



The coding system below allows installer to specify correct termination based on application and cable type. The termination code is made up of 5 elements as follows:



#### **Cable Lug & Accessory Options:**

Standard termination kits are supplied without cable lugs included.

They can be included in the kits by adding the following suffix to the product code:-

- /MC = Electro-tinned aluminium mechanical lugs supplied in kit
- /CC = Copper compression lugs supplied in kit
- /AC = Aluminium compression lugs supplied in kit

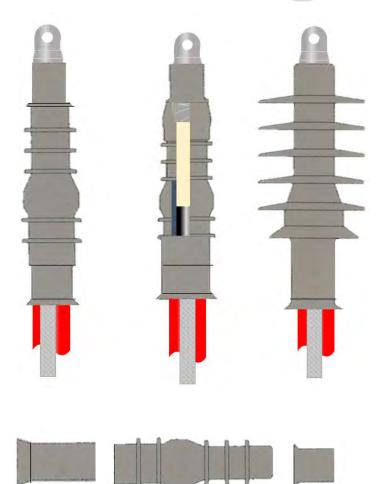
In addition, accessories can be included into the kits by adding the following suffix to the product code:-

- /e = Earthing connections for tape and armouring included
- /FB = Set of cold applied flexible insulating boots (indoor termination)
- /BG = Bolted gland kit for armour wires (indoor termination)
- /IB = Bracket & support insulator set (outdoor termination)
- /EK = Remote Armour Earth Kit (outdoor termination)





## RPMT-(12-36)X



#### Push-on Cable Terminations for 1 or 3 core cables from 12kV to 36kV

REPL range of Push On Terminations are suitable for installations on medium voltage cables with polymeric insulation up to 36kV. The termination body has an integrated capacitive stress control system, with an outer layer of highly track resistant silicone rubber.

The termination also includes a silicon rubber lug sealing tube and core protection and for single core versions, an earthing connection sealing tube to seal the top and bottom of the completed termination.

Three core versions include core protection tubes and a cold shrink breakout for cable crutch sealing.

The moulded bodies are available in low profile sheds for indoor, and larger diameter moulded integrated shed versions for use in outdoor environments.

Installation is quick and easy by sliding the tubes over the core using grease as a lubricant.

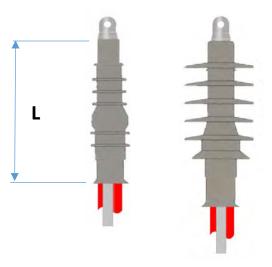
The kits can be used with compression or mechanical type cable lugs.

Technical Details for RPMT Premoulded Push On Cable Termination System								
Voltage Class:	7.2kV	12kV	17.5kV	24kV	36kV			
Cross Section Range (mm²)	25 - 630	25 - 1000	35 - 1000	35 - 1000	50 - 1000			
Cable Insulation Diameter (mm)	13 - 36	15 - 46	17 - 48	18 - 50	24 - 55			
Voltage Rating U₀/U	3.8/6.6	6.35/11	8.7/15	12.7/22	19/33			
(U <sub>m</sub> ) kV	(7.2)	(12)	(17.5)	(24)	(36)			
Basic Impulse Level (BIL) kV	60	75	95	125	194			
Partial Discharge at 1.73U <sup>0</sup> (pC)	<10	<10	<10	<10	<10			
AC Voltage Withstand , 5 min (kV)	>17	>27	>39	>57	>85.5			
DC Voltage Withstand , 15min (kV)	>23	>36	>52	>76	>114			





## RPMT-(12-36)X-1



## Push On Cable Terminations for 1 core cables from 12kV to 36kV

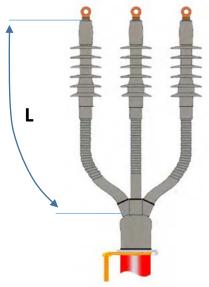
- Conforms to CENELEC HD 629.1.S2 & IEC 60502-4
- Quick and easy installation using no heat source or tools
- One piece termination body with integrated capacitive stress control
- Silicon Rubber material for excellent electrical insulation and weathering properties
- Can be combined with gland or earth kit for armoured cables
- Unlimited shelf life when stored correctly

Conductor	Product Code Single Core	Tail length	Product Code	Tail length
Cross Section	<u> </u>		Single Core	
(mm²)	INDOOR Termination	L mm	OUTDOOR  Termination	L mm
Push on Termina	ation for Polymeric Insulated	l single core cables ra		
25 - 70	RPMTI-12X 25-70-1	320	RPMTO-12X 25-70-1	370
95 - 150	RPMTI-12X 95-150-1	320	RPMTO-12X 95-150-1	370
185 - 300	RPMTI-12X 185-300-1	320	RPMTO-12X 185-300-1	370
400 - 500	RPMTI-12X 400-500-1	320	RPMTO-12X 400-500-1	370
Push on Termina	ation for Polymeric Insulated	single core cables r	ated at Um= 17.5kV	
35 - 70	RPMTI-17X 35-70-1	320	RPMTO-17X 35-70-1	370
95 - 150	RPMTI-17X 95-150-1	320	RPMTO-17X 95-150-1	370
185 - 300	RPMTI-17X 185-300-1	320	RPMTO-17X 185-300-1	370
400 - 500	RPMTI-17X 400-500-1	320	RPMTO-17X 400-500-1	370
Push on Termina	ation for Polymeric Insulated	single core cables r	ated at Um= 24kV	
25 - 70	RPMTI-24X 35-70-1	370	RPMTO-24X 35-70-1	450
95 - 150	RPMTI-24X 95-150-1	370	RPMTO-24X 95-150-1	450
150 - 240	RPMTI-24X 185-300-1	370	RPMTO-24X 185-300-1	450
300 - 400	RPMTI-24X 400-500-1	370	RPMTO-24X 400-500-1	450
500 - 630	RPMTI-24X 500-630-1	370	RPMTO-24X 500-630-1	450
Push on Termina	ation for Polymeric Insulated	single core cables ra	ated at Um= 36kV	
25 - 70	RPMTI-36X 25-70-1	380	RPMTO-36X 25-70-1	500
95 - 150	RPMTI-36 95-150-1	380	RPMTO-36 95-150-1	500
150 - 240	RPMTI-36X 185-300-1	380	RPMTO-36X 185-300-1	500
300 - 400	RPMTI-36X 400-500-1	380	RPMTO-36X 400-500-1	500
500 - 630	RPMTI-36X 500-630-1	380	RPMTO-36X 500-630-1	500





## RPMT-(12-36)X-3



#### **Push On Cable Terminations for 3 core** cables from 12kV to 36kV

- Conforms to CENELEC HD 629.1.S2 & IEC 60502-4
- Quick and easy installation using no heat source or tools
- One piece termination body with integrated capacitive stress control
- Silicon rubber core tubing and Cold Shrinkable breakout
- Can be combined with gland or earth kit for armoured cables

Conductor Cross Section	Product Code Three Core	Tail Length	Product Code Three Core	Tail Length					
0.000 000.00	INDOOR		OUTDOOR						
(mm²)	Termination	L mm	Termination	L mm					
Push on Termination for Polymeric Insulated single core cables rated at Um= 12kV									
25 - 70	RPMTI-12X 25-70-3	600	RPMTO-12X 25-70-3	800					
95 - 150	RPMTI-12X 95-150-3	600	RPMTO-12X 95-150-3	800					
185 - 300	RPMTI-12X 185-300-3	600	RPMTO-12X 185-300-3	800					
400 - 500	RPMTI-12X 400-500-3	600	RPMTO-12X 400-500-3	800					
Push on Termination for Polymeric Insulated single core cables rated at Um= 17.5kV									
35 - 70	RPMTI-17X 35-70-3	600	RPMTO-17X 35-70-3	800					
95 - 150	RPMTI-17X 95-150-3	600	RPMTO-17X 95-150-3	800					
185 - 300	RPMTI-17X 185-300-3	600	RPMTO-17X 185-300-3	800					
400 - 500	RPMTI-17X 400-500-3	600	RPMTO-17X 400-500-3	800					
Push on Termina	tion for Polymeric Insulated	d single core cables ra	ated at Um= 24kV						
25 - 70	RPMTI-24X 35-70-3	600	RPMTO-24X 35-70-3	800					
95 - 150	RPMTI-24X 95-150-3	600	RPMTO-24X 95-150-3	800					
150 - 240	RPMTI-24X 185-300-3	600	RPMTO-24X 185-300-3	800					
300 - 400	RPMTI-24X 400-500-3	600	RPMTO-24X 400-500-3	800					
Push on Termina	tion for Polymeric Insulated	d single core cables ra	ated at Um= 36kV						
25 - 70	RPMTI-36X 25-70-3	600	RPMTO-36X 25-70-3	800					
95 - 150	RPMTI-36 95-150-3	600	RPMTO-36 95-150-3	800					
150 - 240	RPMTI-36X 185-300-3	600	RPMTO-36X 185-300-3	800					
300 - 400	RPMTI-36X 400-500-3	600	RPMTO-36X 400-500-3	800					



REPL range of medium voltage screened outer cone cable termination kits are designed for connecting polymeric insulated cables to equipment with standard bushing profiles according to the standards CENELEC EN 50180 / EN 50181.



### **RP** – Outer Cone Cable Termination Designer for cables 12kV - 42kV

The coding system below allows installer to specify correct outer cone termination based on application and cable type.

Bushing Type (acc. To EN 50180/50181)	Max Current A	Voltage Range kV	Description	Cable Range mm <sup>2</sup>	Product Code	Product Code for Branch Connector
A	250	12 - 24	Screened Elbow Connector	16 - 120	RPAE	N/A
	250	12 - 24	Screened Straight Connector	16 - 120	RPAS	N/A
C <sub>1</sub>	630	12 - 24	Screened Compact Asymmetric Connector & Branch Connector	70 - 300	RPCT-24C	RPCBT-24C
	630	12 - 36	Screened Asymmetric Connector & Branch Connector	70 - 300	RPCT-36A	RPCBT-36A
C <sub>2</sub>	1250	12 - 42	Screened Asymmetric Connector & Branch Connector	300 - 630	RPCT-42A	RPCBT-42A







## Outer Cone Cable Terminations for 1/3 core cables from 12kV to 42kV

REPL range of RP Outer Cone Terminations are suitable for installations on medium voltage cables with polymeric insulation up to 42kV. The termination is a fully screened version suitable for connection to equipment which has bushing profiles according to the CENELEC standard EN 50180/50181.

The EPDM moulded body has an outer conductive layer which is connected to the system earth. The inner layer has a Faraday Cage around the conductor lug.

A range of cable adaptors which are parked over the end of the cable screen provide the field control at the end of the insulation screen.

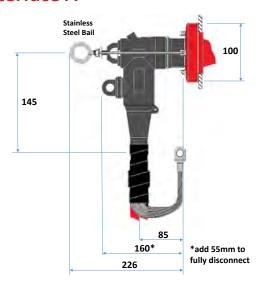
The range has connectors suitable for the following bushings:

- Interface A (250A spring contact pin)
- Interface C1 (630A M16 bolted contact)
- Interface C2 (1250A M16 bolted contact)

Technical Details for RP Outer Cone Cable Termination System									
Voltage Class: 12kV 17.5kV 24kV 36kV 42kV									
Cross Section Range (mm²)	16 - 630	16 - 630	16 - 630	70 - 630	70 - 630				
Cable Insulation Diameter (mm)	15 - 46	17 - 48	18 - 50	24 - 55	25 - 56				
Voltage Rating U₀/U	6.35/11	8.7/15	12.7/22	19/33	20.8/35				
(U <sub>m</sub> ) kV	(12)	(17.5)	(24)	(36)	(42)				
Basic Impulse Level (BIL) kV	95	95	125	194	200				
Partial Discharge at 1.73U <sup>0</sup> (pC)	<10	<10	<10	<10	<10				
AC Voltage Withstand , 5 min (kV)	>28.5	>39	>57	>85.5	>93.5				
DC Voltage Withstand . 15min (kV)	>38	>52	>76	>114	>125				



## Screened Elbow 250A up to 24kV Interface A



All dimensions in mm

#### **Standard Kit Contents:**

- Set of 3 separable elbow connector bodies
- Set of 3 cable lugs and connecting pin
- Set of 3 stainless steel wire retaining bails
- Earthing connections and mastic sealants
- Installation materials and instructions



## Suitable for connecting all types of polymeric insulated cables to equipment with bushings Type A according to EN 50180 and EN 50181.

- For Voltage Range up to 12/20 (24)kV
- Impulse Voltage 125kV
- Continuous current 250 A (300 A overload for 8 hours)
- Meets the requirements of IEC 60502-4 and CENELEC HD 629.1 S2
- No minimum phase clearance requirements
- Suitable for Copper or Aluminium Conductors from 25-120mm<sup>2</sup>
- Conductor connection by bimetallic compression type lug or mechanical lug
- EPDM moulded body with semi-conductive outer layer
- Built-in capacitive test point to determine the circuit status
- Easy to install with comprehensive instructions included in each kit
- Each connector body is factory tested for partial discharge and AC withstand to ensure 100% reliability
- Unlimited shelf life at normal storage temperatures

RPAE – Selection Table using bimetallic compression lug									
Cable Insulation		Adaptor Code	Cable Cross	<b>Bimetallic Compression</b>					
Diameter Range	Body Code		Section	Lug Code					
Ø mm		Α	mm²	L					
13.5 - 17.4	RPAE - B	Not needed	25	CDE250-025U					
16.3 - 20.8	RPAE - D	Not needed	35	CDE250-035U					
19.6 - 24.1	RPAE - F	Not needed	50	CDE250-050U					
23.1 - 28.7	RPAE - H	Not needed	70	CDE250-070U					
27.9 - 33.5	RPAE - J	Not needed	95	CDE250-095U					
27.3 - 33.3	RPAE - J	Not needed	120	CDE250-120U					

RPAE – Selection Table using mechanical lug									
Cable Insulation Diameter Range	Body Code	Adaptor Code	Cable Cross Section	Mechanical Lug Code					
Ø mm		Α	mm²	L					
16.3 - 20.8	RPAE – J	D	25 - 50	RMVL-A250 25-50					
19.6 - 24.1	RPAE – J	F	25 - 50	RIVIVE-A250 25-50					
23.1 - 28.7	RPAE – H	Not needed	70 - 120	RMVL-A250 70-120					
27.9 - 33.5	RPAE - J	Not needed	70 - 120	RIVIVE-A230 70-120					

#### How to select correct connector for cable size:

1/Select Body code according to the cable insulation diameter range in tables above

2/Select Adaptor Code (if needed) to the cable insulation diameter range in table above

3/Select the Mechanical Lug or Bimetallic compression lug to suit cable conductor cross section according to the tables above:

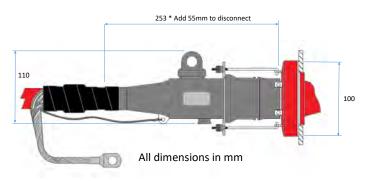
Full Product Code = Body Code/ Adaptor Code/ Lug Code

e.g. RPAE-J/D/RMVL-A250 25-50



## Screened Straight Connector 250A up to 24kV Interface A





#### **Standard Kit Contents:**

- Set of 3 separable straight connector bodies
- Set of 3 cable lugs and connecting pin
- Set of 3 stainless steel wire retaining bails
- Earthing connections and mastic sealants
- Installation materials and instructions

Suitable for connecting all types of polymeric insulated cables to equipment with bushings Type A according to EN 50180 and EN 50181.

- For Voltage Range up to 12/20 (24)kV
- Impulse Voltage 125kV
- Continuous current 250 A (300 A overload for 8 hours)
- Meets the requirements of IEC 60502-4 and CENELEC HD 629.1 S2
- No minimum phase clearance requirements
- Suitable for Copper or Aluminium Conductors from 25-120mm<sup>2</sup>
- Conductor connection by bimetallic compression type lug or mechanical lug
- EPDM moulded body with semi-conductive outer layer
- Built-in capacitive test point to determine the circuit status
- Easy to install with comprehensive instructions included in each kit
- Each connector body is factory tested for partial discharge and AC withstand to ensure 100% reliability
- Unlimited shelf life at normal storage temperatures

RPAS – Selection Table using bimetallic compression lug				
Cable Insulation		Adaptor Code	Cable Cross	Bimetallic Compression
diameter range	<b>Body Code</b>		Section	Lug Code
Ø mm		Α	mm²	L
13.5 - 17.4	RPAS - B	Not needed	25	CDS250-025U
16.3 - 20.8	RPAS - D	Not needed	35	CDS250-035U
19.6 - 24.1	RPAS - F	Not needed	50	CDS250-050U
23.1 - 28.7	RPAS - H	Not needed	70	CDS250-070U
27.0 22.5	DDAC I	Natural	95	CDS250-095U
27.9 - 33.5	RPAS - J	Not needed	120	CDS250-120U

RPAS – Selection Table using mechanical lug				
Cable Insulation diameter Range Ø mm	Body Code	Adaptor Code	Cable Cross Section mm <sup>2</sup>	Mechanical Lug Code
16.3 - 20.8	RPAS - J	D	–	RMVL-A250S 25-50
19.6 - 24.1	RPAS - J	F	25 - 30	RIVIVL-A2503 25-50
23.1 - 28.7	RPAS -H	Not needed	- 70 - 120	RMVL-A250S 70-120
27.9 - 33.5	RPAS - J	Not needed	70 - 120	KIVIVL-A2503 70-120

#### How to select correct connector for cable size:

1/Select Body code according to the cable insulation diameter range in tables above

2/Select Adaptor Code (if needed) to the cable insulation diameter range in table above

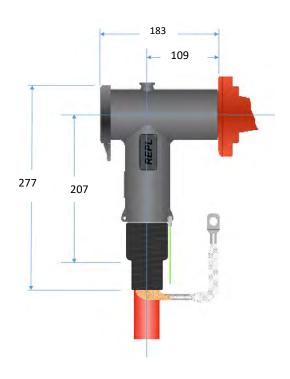
3/Select the Mechanical Lug or Bimetallic compression lug to suit cable conductor cross section according to the tables above

Full Product Code = Body Code/ Adaptor Code/ Lug Code

e.g. RPAS-J/D/RMVL-A250S 25-50



### Screened Asymmetrical Compact Connector 630A up to 24kV Interface C1





- For Voltage Range up to 12/20 (24)kV
- Continuous current 630 A (900 A overload for 8 hours)
- Conforms to HD 629.1 S2 and IEC60502-4
- No minimum phase clearance requirements
- Compact design asymmetrical body allows minimum depth of connection – especially when multiple connections are used
- Mounting can be vertical, horizontal, or any angle in between
- Suitable for Copper or Aluminium Conductors from 70-300mm<sup>2</sup>
- Integrated mechanical screw type lug
- EPDM moulded body with conductive outer layer
- Easy to install with comprehensive instructions included in each kit
- Each connector body is factory tested for partial discharge and AC withstand to ensure 100% reliability

#### **Standard Kit Contents:**

- Set of 3 separable connector bodies and insulating back plug
- Set of 3 silicon stress control elements
- Set of 3 mechanical type lug and connecting stud
- Earthing connections and mastic sealants
- Installation materials and instructions

Body Code	Insulation Diameter Range Ø mm	Adaptor Code
	16.3 - 19.3	Α
	18.3 - 21.0	В
	20 - 24.1	С
RPCT 24C	23.1 - 27	D
RPC1 24C	25.6 - 29	E
	27.7 - 32.6	F
	30.9 - 36.2	G
	34 - 39.5	Н

Cable Cross Section mm <sup>2</sup>	Mechanical Lug code	
70	RMVL-C 70-95/29	
95		
120	RMVL-C 95-150/29	
150	RIVIVE-C 95-150/29	
185	RMVL-C 150-240/29	
240	DNAV4 C 240 200/20	
300	RMVL-C 240-300/29	

Full Product Code = Body Code/ Adaptor Code/ Lug Code:

e.g. RPCT 24C/D/RMVL-C 95-150/29

(kits are normally sets of 3 phases)



### Screened Asymmetrical Compact Connector 630A up to 24kV Interface C1

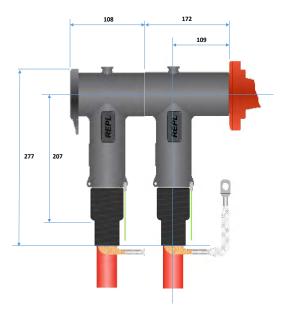
#### **Standard Kit Contents:**

- Set of 3 separable branch connector bodies
- Set of 3 silicon stress control elements
- Set of 3 screw type lug and extension stud
- Earthing connections and mastic sealant
- Installation materials and instructions

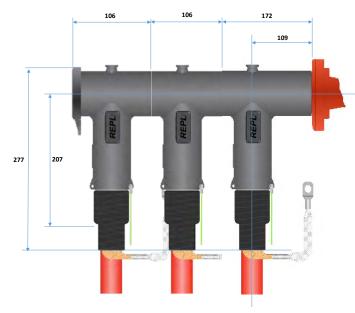


Use in combination with RPCT-24C for parallel connection of up to 3 cables to one Type C1 bushing

- For Voltage Range up to 12/20 (24)kV
- Continuous current 630 A
- Conforms to HD 629.1 S2 and IEC60502-4



1 X RPBCT-24C installed in back of RPCT-24C



2 X RPBCT-24C installed in back of RPCT-24C

Body Code	Insulation Diameter Range Ø mm	Adaptor Code
	16.3 - 19.3	Α
_	18.3 - 21.0	В
_	20 - 24.1	С
DDDCT 24C	23.1 - 27	D
RPBCT 24C	25.6 - 29	E
	27.7 - 32.6	F
_	30.9 - 36.2	G
_	34 - 39.5	Н

Cable Cross Section mm <sup>2</sup>	Mechanical Lug Code	
70	RMVL-C 70-95/29	
95	KIVIV L-C 70-95/29	
120	RMVL-C 95-150/29	
150	KIVIVL-C 95-150/29	
185	RMVL-C 150-240/29	
240	DMV/I C 240 200/20	
300	RMVL-C 240-300/29	

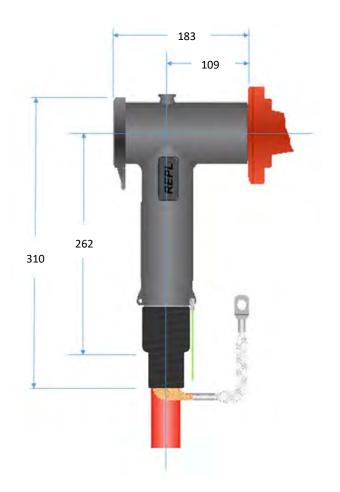
Full Product Code = Body Code/ Adaptor Code/ Lug Code:

(kits are normally sets of 3 phases) The RPBCT-24C can only be used in conjunction with a RPCT-24C connector

e.g. <u>RPBCT 24C/D/RMVL-C 95-150/29</u>



### Screened Asymmetrical Compact Connector 630A up to 36kV Interface C1



Body Code	Insulation Diameter Range Ø mm	Adaptor Code
_	16.3 - 19.3	Α
	18.3 - 21.0	В
	20 - 24.1	С
RPCT 36A	23.1 - 27	D
KPCI 30A	25.6 - 29	E
	27.7 - 32.6	F
	30.9 - 36.2	G
	34 - 39.5	Н



Suitable for connecting all types of polymeric insulated cables to equipment with bushings Type C1 according to EN 50180 and EN 50181.

- For Voltage Range up to 19/33 (36)kV
- Continuous current 630 A (900 A overload for 8 hours)
- Conforms to HD 629.1 S2 and IEC60502-4
- No minimum phase clearance requirements
- Compact design asymmetrical body allows minimum depth of connection – especially when multiple connections are used
- Mounting can be vertical, horizontal, or any angle in between
- Suitable for Copper or Aluminium Conductors from 70-300mm<sup>2</sup>
- Integrated mechanical screw type lug
- EPDM moulded body with semi-conductive outer layer
- Easy to install with comprehensive instructions included in each kit
- Each connector body is factory tested for partial discharge and AC withstand to ensure 100% reliability

#### **Standard Kit Contents:**

- Set of 3 separable connector bodies and insulating back plug
- Set of 3 silicon stress control elements
- Set of 3 mechanical type lug and connecting stud
- Earthing connections and mastic sealants
- Installation materials and instructions

Cable Cross Section mm <sup>2</sup>	Mechanical Lug Code
70	RMVL-C 70-95/35
95	KIVIVE-C 70-93/33
120	
150	
185	RMVL-C 120-300/35
240	
300	

Full Product Code = Body Code/ Adaptor Code/ Lug Code:

e.g. RPCT 36A/F/RMVL-C 120-300/35 (kits are normally sets of 3 phases)



### Screened Asymmetrical Compact Connector 630A up to 36kV Interface C1

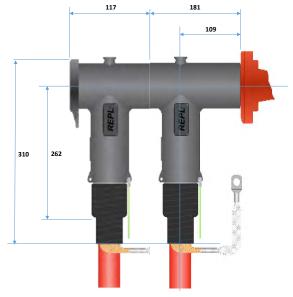
#### **Standard Kit Contents:**

- Set of 3 separable branch connector bodies
- Set of 3 Silicon Stress Control Elements
- Set of 3 screw type lug and extension stud
- Earthing connections and mastic sealant
- Installation materials and instructions

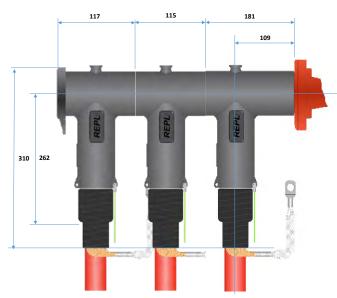


Use in combination with RPCT-36A for parallel connection of up to 3 cables to one Type C1 bushing

- For Voltage Range up to 19/33 (36)kV
- Continuous current 630 A
- Conforms to HD 629.1 S2 and IEC60502-4



1 X RPBCT-36A installed in back of RPCT-36A



2 X RPBCT-36A installed in back of RPCT-36A

Body Code	Insulation Diameter Range Ø mm	Adaptor Code
_	16.3 - 19.3	Α
	18.3 - 21.0	В
_	20 - 24.1	С
DDDCT 26A	23.1 - 27	D
RPBCT 36A	25.6 - 29	Е
	27.7 - 32.6	F
_	30.9 - 36.2	G
_	34 - 39.5	Н

Cable Cross Section mm <sup>2</sup>	Mechanical Lug Code		
70	DMV/I C 70 0E /2E		
95	RMVL-C 70-95/35		
120			
150			
185	RMVL-C 120-300/35		
240			
300			

Full Product Code = Body Code/ Adaptor Code/ Lug Code:

(Kits are normally sets of 3 phases) The RPBCT-36A can only be used in conjunction with a RPCT-36A connector

e.g. RPBCT 36A/F/RMVL-C 120-300/35



# Screened Asymmetrical Compact Connector 1250A up to 42kV Interface C2



Body Code	Insulation Diameter Range Ø mm	Adaptor Code
_	28.2 - 32.3	Α
	31.1 - 35.7	В
	35.0 - 39.1	С
RPCT 42A	37.2 - 41.6	D
RPCI 42A	40.1 - 44.8	Е
	42.9 - 47.9	F
	46.5 - 51.9	G
	50.0 - 56.0	Н



Suitable for connecting all types of polymeric insulated cables to equipment with bushings Type C2 according to EN 50180 and EN 50181.

- 1. For Voltage Range up to 20.8/36 (42)kV
- 2. Continuous current 1250 A
- 3. Conforms to HD 629.1 S2 and IEC60502-4
- 4. No minimum phase clearance requirements
- 5. Compact design asymmetrical body allows minimum depth of connection especially when multiple connections are used
- Mounting can be vertical, horizontal, or any angle in between
- 7. Suitable for Copper or Aluminium Conductors from 300-630mm<sup>2</sup>
- 8. Integrated mechanical screw type lug
- EPDM moulded body with semi-conductive outer layer
- 10. Easy to install with comprehensive instructions included in each kit
- 11. Each connector body is factory tested for partial discharge and AC withstand to ensure 100% reliability

#### **Standard Kit Contents:**

- Set of 3 separable connector bodies and insulating back plug
- Set of 3 Silicon Stress Control Elements
- Set of 3 mechanical type lug and connecting stud
- Earthing connections and mastic sealants
- Installation materials and instructions

Cable Cross Section mm <sup>2</sup>	Mechanical Lug Code	
300		
400	DNAVI C 200 620/25	
500	RMVL-C 300-630/35	
630	]	

Full Product Code = Body Code/ Adaptor Code/ Lug Code:

e.g. RPCT 42A/F/RMVL-C 300-630/35

(kits are normally sets of 3 phases) The RPCBT-36A can only be used in conjunction with a RPCT-36A connector



### Screened Asymmetrical Branch Connector 1250A up to 42kV Interface C2

#### **Standard Kit Contents:**

- Set of 3 separable branch connector bodies
- Set of 3 Silicon Stress Control Elements
- Set of 3 screw type lug and extension stud
- Earthing connections and mastic sealant
- Installation materials and instructions



Use in combination with RPCT-42A for parallel connection of 2 cables to one Type C2 bushing

- For Voltage Range up to 20.8/36 (42)kV
- Continuous current 1250 A
- Conforms to HD 629.1 S2 and IEC60502-4



Body Code	Insulation Diameter Range Ø mm	Adaptor Code
_	28.2 - 32.3	Α
	31.1 - 35.7	В
	35.0 - 39.1	С
RPBCT 42A	37.2 - 41.6	D
	40.1 - 44.8	Е
_	42.9 - 47.9	F
-	46.5 - 51.9	G
_	50.0 - 56.0	Н

Cable Cross Section mm <sup>2</sup>	Mechanical Lug Code
300	
400	RMVL-C 300-630/35
500	KIVIVL-C 300-630/35
630	

Full Product Code = Body Code/ Adaptor Code/ Lug Code:

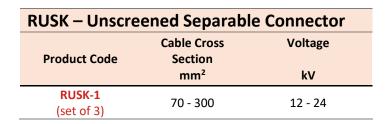
e.g. RPBCT 42A/F/RMVL-C 300-630/35

(Kits are normally sets of 3 phases) The RPBCT-42A can only be used in conjunction with a RPCT-42A connector











### Unscreened cable adaptor for Type C bushing up to 24kV

The REPL unscreened connector system is a right angled adapter designed to fit over standard MV cable terminations when used with equipment bushings to Type C according to EN 50180 and EN 50181.

It provides insulation enhancement and can be easily disconnected for testing and then reconnected with standard tooling under dead break conditions. The body is made from Silicon rubber based material with excellent anti-tracking properties. The body and termination are not screened and therefore during operation the surfaces will be considered live and must not be touched.

- For Voltage Range 6/10(12)kV up to 12/20(24)kV
- Kit contains M12/M16 burning connection bolt, washer & nut
- For connection to C type bushings according to EN 50180 and EN 50181
- Tested to CENELEC HD 629.1
- One size is suitable for all cable types from 70
   300mm<sup>2</sup>
- Easy to install with comprehensive instructions included in each kit
- Unlimited shelf life at normal storage temperatures











RCFB-1 / RCFB-2 flexible boot

(Reducing Adaptor for smaller bushings 30-45mm diameter)

RCFB-0

#### Kit Contents (RFCB-1 / RCFB-2)

- Set of 3 Elastomeric flexible bushing boots
- Silicone Grease
- Installation Instructions

#### Kit Contents (RFCB-0 reducing adaptor)

- Set of 3 Elastomeric bushing adaptors
- Silicone Grease
- Installation Instructions



# Flexible Insulating Bushing Boot Kit to provide insulation enhancement for MV cable termination installed in in dry air filled cable boxes up to 24kV

The RCFB flexible insulating boot is a cold applied system to provide increased insulation for medium voltage cable terminations. They are used in switchgear and transformer cable boxes where the air clearances are not sufficient to prevent electrical flashover due to high humidity or rodents. The boots are manufactured from a highly insulating and anti-track material with excellent weathering properties for a durable long life installation. The boot allows for either a straight or right angled configuration and will fit over standard Heat Shrinkable or cold applied terminations. The boots are installed easily without special tooling and can be removed for testing and then reinstalled

- Unlimited shelf life
- Fully tested in accordance to HD629.1-S1, IEC 60502-4
- Kits designed to cover a wide range of cable sizes and bushing diameters (smaller bushings require RCFB-0 adaptor
- Works with standard Heat Shrinkable or Cold Shrinkable terminations

RCFB – Flexible Bushing Boot							
Product Code	Product	Bushing Diameter Range	Maximum Voltage kV	Cable Size Range mm <sup>2</sup>			
RCFB-2	Set of 3 boots	46 - 70mm	24	185 - 630			
DCED 4		46. 70	17.5	35 - 400			
RCFB-1	Set of 3 boots	46 - 70mm	24	35 - 300			
RCFB-0	Set of 3 bushing adaptors	30 - 45mm	17.5	35 - 400			



**RHRB** 



RHSB/RHRB

Heat Shrinkable Straight and Right Angle

Insulating Bushing Boot Kits

RHSB Straig Boot

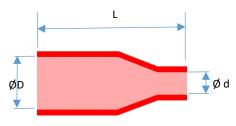




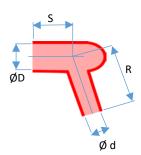


Heat Shrinkable Insulating Boots can be used to insulate bushings in medium voltage cable boxes up to 36kV, particularly where the normal clearance between phase to phase and phase to earth is less than the required value. These boots provide protection against flashover in the event of any surge impulse, high humidity or rodent menace contact. The boots are made from thermally stabilised cross linked material for excellent insulation and weather resistant properties. The boots are internally coated with a hot melt adhesive.

- Unlimited shelf life
- Kits designed to cover a wide range of cable sizes and bushing diameters
- Works with standard Heat Shrinkable terminations



RHSB – Straight Heat Shrinkable Boot								
	Voltago	Cable Size	ØD	Ød	L			
Product Code	Voltage kV	Range	(E-S)	(E-S)	(S)			
	K V	mm²	mm	mm	mm			
RHSB-1-17	Up to 17.5	35 - 95mm²	80 - 33	34 - 20	225			
RHSB-2-17	Up to 17.5	95 - 400mm²	80 - 33	58 - 20	225			
RHSB-2-24	24	95 - 300mm²	80 - 33	58 - 20	225			
RHSB-3-36	36	95 - 630mm²	140 - 65	90 - 33	325			



RHRB – Right Angle Heat Shrinkable Boot								
	Voltage	Cable Size	ØD	Ød	S	R		
Product Code	kV	Range	(E-S)	(S)	(S)			
	KV.	mm <sup>2</sup>	(2 3) 111111	mm	mm	mm		
RHRB-1-17	Up to 17.5	35 - 95	70 - 37	36 - 20	100	130		
RHRB-2-17	Up to 17.5	120 - 300	70 - 37	50 - 27	110	140		
RHRB-3-17	Up to 17.5	185 - 630	95 - 37	67 - 27	120	140		
RHRB-2-24	24	95 - 500	95 - 37	67 - 27	120	140		
RHRB-3-36	36	95 - 630	145 - 72	65 - 34	155	150		







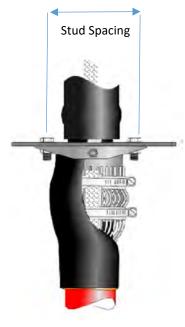
### **Bolted "Top Hat" Cable Armour Gland for MV** cable boxes

The RBG range of glands are designed for use in conjunction with medium voltage terminations in cable boxes with entry hole flange stud spacing's to BS2562.

They provide a moisture tight seal and an earth take off point and connection for the cable armour wires. All kits are supplied with the metallic gland body, sealing tubing's or breakout, all hose clips and bolts, nuts, washers and full installation instructions. The sealing tubing can be either Heat Shrinkable or Cold Shrinkable depending upon the installation method to be used.

The gland body is made of galvanised steel for 3 core versions, and non-ferrous aluminium for single core versions.

The gland kits are available with either Heat Shrinkable sealing tubes or Cold Shrinkable.



RBG (Bolted gland kit for 3core SWA cables)							
Product Code	Sealing Tube	Stud Spacing					
Trouder code	Туре	mm x mm	7.2kV	12kV	24kV	36kV	
RBG-1	Heat Shrink	Type X 66 x 66	Type X	16 - 95	16 - 95	35 - 150	_
RBG-CS1	Cold Shrink		10 - 95	10 - 95	33 - 130		
RBG-2	Heat Shrink	Type Y 86 x 95	95 - 400	95 - 400	50 - 240	35 - 150	
RBG-CS2	Cold Shrink		33 - <del>4</del> 00	33 - 400	JU - 24U	33 - 130	



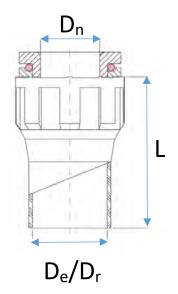
RBG – A (Bolted gland kit for 1core AWA cables – Set of 3)							
Product Code	Sealing Tube	Stud Spacing	mm <sup>2</sup>				
	Туре	mm x mm		24kV	36kV		
RBG-A	Heat Shrink	Туре Х	95 - 630	70 - 630	50 - 630	70 - 630	
RBG-CSA	Cold Shrink	66 x 66	400 - 630	300 - 630	185 - 630	70 - 630	



RBG – T (Bolted gland kit for 3x1core triplex cables)						
Product Code	Breakout	Stud Spacing				
	Туре	mm x mm	12kV	24kV		
RBG-T1	Heat Shrink	Type X 66 x 66	3 - 95	35 - 50		
RBG-T2	Heat Shrink	Type Y 86 x 95	95 - 300	50 - 240		









### Heat Shrinkable Cable Gland for unarmoured MV cable sealing

Heat Shrinkable Cable Sealing Glands provide an excellent watertight and fume tight seal where cables enter connection boxes or pass through bulkheads. The gland kit consists of a three-part assembly- a rigid plastic nut, O-ring seal, and threaded body with a Heat Shrinkable seal to shrink onto the cable sheath. The nut is tightened onto the body to create a seal between the walls of the box / bulkhead and the Heat Shrinkable tube is shrunk onto the sheath to complete the installation.

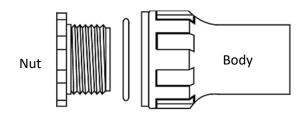
To ensure a moisture tight seal, the heat shrink tube has an inner coating of hot melt adhesive.

Two sizes are available to suit a range of cables with overall diameters from 19mm to 69mm.

- Pressure sealing up to 170kPa (1.7 bar)
- Range taking 2 sizes cover cables from 19mm to 69mm diameter
- Continuous operating temperature : -55°C to +90°C

#### Materials:-

- Moulded body: flame retardant polyolefin Heat Shrinkable
- Nut : NylonO-Ring : Rubber



O-Ring Seal

RHSCG -	- Heat Shri	nkable Cabl	e Gland			
Product	After Recovered Length	As Supplied Tube Diameter	Fully Recovered Tube Diameter	Body/Nut Internal Diameter	Drill Size	Overall Diameter of
Code	L	$D_e$	$\mathbf{D}_{r}$	Dn	Ø	Body/Nut
	mm	min	max	mm	mm	mm
RHSCG-4	112 <u>+</u> 5	45	19	41	51	70
RHSCG-5	175 <u>+</u> 5	70	36	74	90	105



### Metallic Screen/Armour connection and sealing solutions



### **RSEK**

#### Solderless earth kit for copper tape screen

RSEK solderless earth connection kits provide a quick and safe connection point from copper tape screens on medium voltage cables up to 42kV. The kits use non-ferrous constant force springs to clamp a tinned copper braid which has a lug at the other end which can then be connected to the equipment earth point.

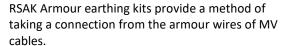
They can be used in conjunction with Heat or Cold Shrinkable terminations on cables with a copper tape screen.

They are supplied in sets of 3 phases.

For armoured cables, the braids can be used in conjunction with a bolted cable gland for indoor cable boxes, or with a remote earth kit on outdoor pole mounted application.

### **RSAK**

#### Earth connection kit for SWA/AWA cables



The kit includes a non-ferrous support ring and stainless worm drive clamp with a tinned copper braid, mastic sealing tape and a heavy wall adhesive lined Heat Shrinkable tube to seal the connection.

The kits can be used with aluminium wire armours on single core cables, or galvanised steel armour wires on 3 core cables.



### RHTK

#### Trifurcating sealing for 3 core MV cables

RHTK is a method to seal and protect the crutch and exposed cores of 3 core medium voltage cables using Heat Shrinkable breakout and tubing. It can be used in conjunction with terminations or separable connectors.

For indoor applications, the components are insulating types: RHTK-(I)

For outdoor applications, or where required, the material used is a semi-conductive type: RHTK-(O)





### **RSEK**

RSEK Solderless Earth Kit for copper tape screen										
Product Code	Core Diameter	Braid Area		C	able Size Rang mm²	ge				
Froduct Code	Range Ø mm	mm²	7.2kV	12kV	17.5kV	24kV	36kV			
RSEK-1	14 - 22	16	35 - 95	35 - 70	50 - 95	50	-			
RSEK-2	18 - 29	25	95 - 400	95 - 300	95 - 240	70 - 150	50 - 95			
RSEK-3	31 - 50	25	500 - 630	300 - 630	300 - 630	185 - 630	120 - 400			
RSEK-4	45 - 76	25	-	800 - 1000	800 - 1000	800 - 1000	500 - 630			

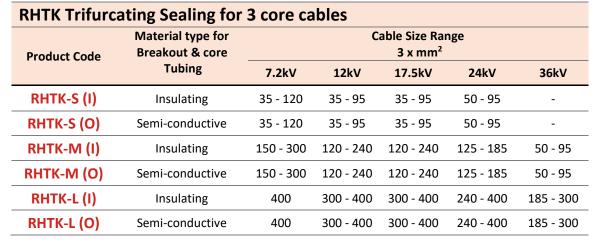
### **RSAK**

RSAK Solde	RSAK Solderless Earth Kit for AWA 1 core polymeric cables										
Product Code	Armour Support	Braid Area		Ca	able Size Rang 1 x mm <sup>2</sup>	ge					
Floduct code	Diameter Ø mm	mm²	7.2kV	12kV	17.5kV	24kV	36kV				
RSAK-1	35mm	25	50 - 300	50 - 185	50 - 120	50 - 120	-				
RSAK-2	50mm	35	400 - 630	240 - 630	150 - 500	150 - 400	50 - 240				
RSAK-3	70mm	50	-	800 - 1000	630 - 1000	400 - 1000	300 - 1000				



RSAK Solderless Earth Kit for SWA 3 core polymeric cables									
Product Code	Armour Support	Braid area							
Troduct code	diameter Ø mm	mm²	7.2kV	12kV	17.5kV	24kV	36kV		
RSAK-2	50mm	35	50 - 120	50 - 120	50 - 70	-	-		
RSAK-3	70mm	50	150 - 400	150 - 300	95 - 185	50 - 120	50 - 95		
RSAK-4	90mm	50	-	400	240 - 400	150 - 400	120 - 300		

### **RHTK**







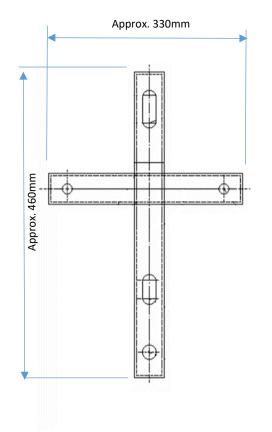


## RINS/ISB

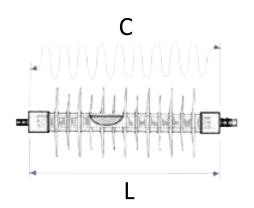
## Stand-off support insulator and support bracket for mounting of MV cable terminations

The RINS and ISB are used to mount outdoor cable terminations onto poles or other suitable structures for connection onto overhead lines.

RINS consist of a fibreglass core covered by a weatherproof silicone sleeve with alternative length sheds and mild steel caps at both ends with threaded mounting bars. Three versions are available based on voltage levels of 12kV, 24kV and 36kV and are used in conjunction with the ISB galvanised steel mounting bracket to provide suitable clearance between the termination cable lug and grounded metal. The composite insulator design offers significant advantage over glass or porcelain alternatives as it is better suited to highly polluted areas and has good resistance to UV radiation and damage from vandals.



RINS Stand Off Insulator (Set of 3)							
Product Code	Maximum System Voltage	Length L mm	Creepage C mm				
<b>RINS 12</b>	12kV	240	405				
RINS 24	24kV	265	720				
RINS 36	36kV	410	1320				











#### REPL Cable Joints are established in power networks worldwide up to 42kV.

Using our expertise in materials technology combined with deep working knowledge of cable systems, our designers have developed a range of products for jointing and sealing power cables using a variety of methods for reinstating the cable insulation layers and providing outer protection.

For low voltage cables up to 1.9/3.3(3.6)kV, our Heat Shrinkable cable system offers options for different cable types and also includes pot end kits for sealing cables under voltage and cable shorting kits for cable abandonment where out of commission cables have to be left in a safe de-energised status.

The installer has the choice of Heat Shrinkable, Cold Shrinkable or Push On systems for medium voltage cables from 3.8/6.6(7.2)kV up to 20.8/38(42)kV.

The joints can be configured for different cable configurations such as transitions from paper insulated to polymeric cables, three core to single core, armoured to unarmoured etc.

Cable joint kits can be supplied complete with either compression or mechanical type connectors to suit installer preference.

The details in following section cover the most common cable configurations to be jointed, but our flexible design and supply chain allow us to easily modify the kits to specific customer requirements if necessary.

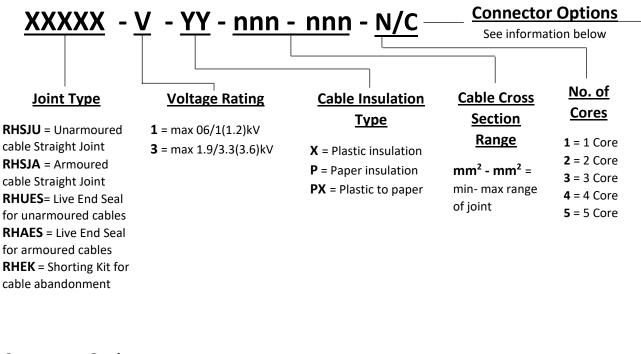
	Technology	Voltage Range	Part Code	Description	Page
	Heat Shrink	< 3.6kV	RHSJ-(1-3)	Low Voltage Cable Jointing System	51
	Heat Shrink	>6.6 - 42kV	RHSJ-(7-42)	Medium Voltage Heat Shrinkable Straight Cable Jointing System	60
<b>D</b>	Cold Shrink	>6.6 - 36kV	RCSJ-(7-36)	Medium Voltage Cold Shrinkable Jointing System	68
A A	Push On	>12- 36kV	RPMJ-(12-36)	Medium Voltage Push On Jointing System	72



RHJ joints provide a flexible method to connect and seal power cables constructed without insulation screen (<3.6kV). Using established Heat Shrinkable tubing and mastics, the joints are easily and quickly installed in buried or above ground installations at any orientation up to fully vertical cable runs.

#### RHJ – Joint Designer for cables up to 3.6kV

The coding system below allows installer to specify correct joint based on application and cable type. The joint code is made up of 5 elements as follows:



#### **Connector Options**

The standard joints are supplied without connectors. (except 1.5-2.5mm<sup>2</sup> which have pre-insulated crimped connectors included as standard.) For other sizes, they can be included in the kits by adding the following suffix to the product code:-

- MC = Mechanical connectors supplied in kit
- CC = Copper compression ferrules supplied in kit
- AC = Aluminium compression ferrules supplied in kit

#### **Examples:**

**RHSJU – 1X 95-185-1** – Heat Shrinkable Straight Joint for single core 0.6/1 kV unarmoured XLPE or PVC insulated cables between 95 and 185mm², supplied without connectors.

RHSJA – 3X 185-300-3-MC - Heat Shrinkable Straight Joint for three core 0.6/1 kV armoured XLPE or PVC insulated cables between 185 and 300mm², supplied with mechanical connectors.

RHSJA – 3PX 185-300-3-CC - Heat Shrinkable Transition Straight joint for three core 1.9/3.3 kV armoured XLPE or PVC insulated cable to Paper insulated armoured cables between 185 and 300mm<sup>2</sup>, supplied without copper compression ferrules.







#### **Unarmoured Cable Straight Joint**

Utilising REPL Heat Shrinkable tubes, these joint kits are suitable for jointing low voltage unarmoured fixed or flexible cables with XLPE, PVC or EPR insulation up to 1.2kV, e.g. NYY, H07RN-F types.

Suitable for direct burial or cable trays either horizontal or vertical.



#### Features:

- Designed to comply to EN50393, CENELEC HD 623 S1
- Unlimited shelf life
- Mechanical durability equal to the cable sheath
- For use indoor, outdoor and buried environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with both mechanical or compression connectors (available as an option)
- Voltage Level : U<sub>0</sub>/U (U <sub>max</sub>) = 0.6/1kV (1.2kV)
- Cable Range : up to 37 core unarmoured cables 1.5 to 2.5mm<sup>2</sup>
   up to 5 core unarmoured cables 4 to 400mm<sup>2</sup>

- Heat Shrinkable protection tube with adhesive sealing
- Medium wall core insulation tubes
- Mastic sealant tapes
- Installation instructions
- Option to include mechanical or compression connectors in kit

No. of Cores	Cable Range	Overall Length	Connector Options
Х	mm²	mm	
2 - 37	1.5 - 2.5	200 - 330	Insulated compression connectors included
1 - 5	4 - 6	250	Compression or mechanical optional
1 - 5	10 - 16	500	Compression or mechanical optional
1 - 5	25 - 50	600	Compression or mechanical optional
1 - 5	70 - 120	600	Compression or mechanical optional
1 - 5	120 - 185	800	Compression or mechanical optional
1 - 5	240 - 400	1000	Compression or mechanical optional
	x 2-37 1-5 1-5 1-5 1-5	X     mm²       2 - 37     1.5 - 2.5       1 - 5     4 - 6       1 - 5     10 - 16       1 - 5     25 - 50       1 - 5     70 - 120       1 - 5     120 - 185	X         mm²         mm           2 - 37         1.5 - 2.5         200 - 330           1 - 5         4 - 6         250           1 - 5         10 - 16         500           1 - 5         25 - 50         600           1 - 5         70 - 120         600           1 - 5         120 - 185         800







### Armoured Cable Straight Joint up to 0.6/1(1.2)kV

Utilising REPL Heat Shrinkable tubes, these joint kits are suitable for jointing low voltage wire armoured cables with XLPE or PVC insulation up to 1.2kV.

Suitable for direct burial or cable trays either horizontal or vertical.



#### **Features:**

- Designed to comply to EN50393, CENELEC HD 623 S1
- Unlimited shelf life
- Mechanical durability equal to the cable sheath
- For use indoor, outdoor and buried environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression connectors (available as an option)
- Voltage Level :  $U_0/U$  ( $U_{max}$ ) = 0.6/1kV (1.2kV)
- Cable Range : 1 core AWA cables 50 630mm<sup>2</sup>

up to 37 core SWA cables 1.5 to 2.5mm<sup>2</sup> up to 5 core SWA cables 4 to 400mm<sup>2</sup>

- Thick Wall outer protection tube with adhesive sealing
- Medium Wall core insulation tubes
- Mastic sealant tapes
- Earth Continuity material (braid or aluminium cage depending upon size)
- Constant force springs/worm drive clamps & armour Support Rings
- Installation instructions
- Option to include mechanical or compression connectors in kit

SWA cables 2 -37 core Product Code	No. of Cores	Cable Range	Overall Length	Armour Continuity Method	Connector Options
	Х	mm²	mm		
RHSJA – 1X 1.5-2.5-X	2 - 37	1.5 - 2.5	200 - 330	Tinned copper mesh/braid	Insulated compression connectors included
RHSJA – 1X 4-6-X	2 - 5	4 - 6	250	Tinned copper mesh/braid	Compression or mechanical optional
RHSJA – 1X 10-16-X	2 - 5	10 - 16	500	Tinned copper mesh/braid	Compression or mechanical optional
RHSJA – 1X 25-50-X	2 - 5	25 - 50	600	Tinned copper mesh/braid	Compression or mechanical optional
RHSJA – 1X 70-120-X	2 - 5	70 - 120	600	Aluminium Cage	Compression or mechanical optional
RHSJA – 1X 120-185-X	2 - 5	120 -185	800	Aluminium Cage	Compression or mechanical optional
RHSJA – 1X 240-400-X	2 - 5	240 - 400	1000	Aluminium Cage	Compression or mechanical optional

AWA cables 1 core Product Code	No. of cores	Cable Range	Overall Length	Armour Continuity Method	Connector Options
	Х	mm²	mm		
RHSJA – 1X 50-95-1	1	50 - 95	500	Tinned copper mesh/braid	Insulated compression connectors included
RHSJA – 1X 120-185-1	1	120 - 185	600	Aluminium Cage	Compression or mechanical optional
RHSJA – 1X 240-300-1	1	240 - 300	650	Aluminium Cage	Compression or mechanical optional
RHSJA - 1X 400-630-1	1	400 - 630	700	Aluminium Cage	Compression or mechanical optional







### Armoured Cable Straight Joint up to 1.9/3.3(3.6)kV

Heat Shrinkable Straight Joints for system voltages up to 3.6kV follow the same construction as the 1.2kV design, but include enhanced insulation level around the core conductors by adding mastic insulating tapes.



#### **Features:**

- Designed to comply to EN50393, CENELEC HD 623 S1
- Unlimited shelf life
- Mechanical durability equal to the cable sheath
- For use indoor, outdoor and buried environments
- Resistant to chemicals, UV light and water ingress
- Suitable for use with mechanical or compression connectors (available as an option)
- Voltage Level :  $U_0/U$  ( $U_{max}$ ) = 1.9/3.3kV (3.6kV)
- Cable Range : 1 core AWA cables 120 to 630mm<sup>2</sup>

3 core SWA cables 16 to 400mm<sup>2</sup>

- Thick Wall outer protection tube with adhesive sealing
- Red Medium Wall core insulation tubes/red mastic rated up to 3.6kV
- Mastic sealant tapes
- Earth Continuity components (aluminium cage)
- Constant force springs/worm drive clamps & armour support rings
- Installation instructions
- Option to include mechanical or compression connectors in kit

SWA cables 3 core Up to 3.6kV Product Code	No. of Cores	Cable Range	Armour Continuity Connecto  Method		Connector Options
	Х	mm²	mm		
RHSJA – 3X 16-50-3	3	16 - 50	600	Aluminium Cage	Compression or mechanical optional
RHSJA – 3X 70-95-3	3	70 - 95	700	Aluminium Cage	Compression or mechanical optional
RHSJA – 3X 120-185-3	3	120 - 185	900	Aluminium Cage	Compression or mechanical optional
RHSJA – 3X 240-400-3	3	240 - 400	1200	Aluminium Cage	Compression or mechanical optional

AWA cables 1 core Up to 3.6kV Product Code	No. of Cores	Cable Range	Overall Length	Armour Continuity Method	Connector Options
	Х	mm²	mm		
RHSJA – 3X 120-185-1	1	120 - 185	600	Aluminium Cage	Compression or mechanical optional
RHSJA – 3X 240-300-1	1	240 - 300	650	Aluminium Cage	Compression or mechanical optional
RHSJA – 3X 400-630-1	1	400 - 630	700	Aluminium Cage	Compression or mechanical optional







#### Cable Straight Joint for Transition (PILC/SWA to Plastic/SWA)

These joint kits are suitable for jointing low voltage polymeric insulated wire armoured cables onto paper insulated, lead sheathed and wire armoured cables (PILC/SWA).



#### **Features:**

- Unlimited shelf life
- Mechanical durability equal to the cable sheath
- For use indoor , outdoor and buried environments
- Resistant to chemicals , UV light and water ingress
- Suitable for use with mechanical or compression connectors (available as an option)
- Voltage Level : U<sub>0</sub>/U (U max) = 0.6/1kV (1.2kV)
- Cable Range: 1 4 core SWA cables 25 to 400mm<sup>2</sup>

- Thick Wall outer protection tube with adhesive sealing
- Medium Wall core insulation tubes and connector insulation tubes
- Heat Shrinkable cable breakout (for 2 -4 core cables)
- Mastic sealant tapes
- Earth continuity material (aluminium cage)
- Constant force springs/worm drive clamps & armour support rings
- Installation instructions
- Option to include mechanical or compression connectors in kit

SWA cables 1 - 4 core Product Code	No. of Cores	Cable Range mm²	Overall Length	Armour Continuity Method	Connector Options
RHSJA – 1PX 25-50-X	1 - 4	25 - 50	800	Aluminium Cage	Compression or mechanical optional
RHSJA – 1PX 70-95-X	1 - 4	70 - 120	900	Aluminium Cage	Compression or mechanical optional
RHSJA – 1PX 120-185-X	1 - 4	120 - 185	1100	Aluminium Cage	Compression or mechanical optional
RHSJA – 1PX 240-400-X	1 - 4	240 - 400	1400	Aluminium Cage	Compression or mechanical optional







### Low Voltage Cable End Seal (Voltage Resistant)

RHES kits provide a method to seal and insulate cables rated up to 1.2kV which may be temporary out of commission, or newly laid and requiring testing before final connection.

The end seals can be safely buried and the cables energised.

The kits are made up of Heat Shrinkable End Caps for core insulation and a larger overall end cap to seal and protect. The outer cap is marked with a "lightning flash" for indication the cable may be energised. The cable is screened with tinned copper mesh to provide an earthed metallic layer. The kits are configured for a wide range of cable types.

#### Features:

- Unlimited shelf life
- Mechanical durability equal to the cable sheath
- For use indoor, outdoor and buried environments
- Resistant to chemicals, UV light and water ingress
- Voltage Level: U<sub>0</sub>/U (U<sub>max</sub>) = 0.6/1kV (1.2kV)
- Cable Range : 1 5core SWA cables 1.5 to 630mm<sup>2</sup>

- Heat Shrinkable end caps for conductor cores
- Heat Shrinkable end cap for outer protection ( flash marked)
- Mastic sealant tapes
- Earth continuity material
- Installation instructions

Unarmoured cable (without metallic screen)	No. of Cores	Cable Range
Product Code	Х	mm²
RHUES – 1X 10-16-X	1 - 5	10 - 16
RHUES – 1X 25-50-X	1 - 5	25 - 50
RHUES – 1X 70-120-X	1 - 5	70 - 120
RHUES – 1X 120-185-X	1 - 5	120 - 185
RHUES – 1X 240-400-X	1 - 5	240 - 400
RHUES – 1X 400-630- 1	1	400 - 630

Armoured cable (with metallic screen)	No. of Cores	Cable Range
Product Code	Х	mm²
RHAES – 1X 10-16-X	1 - 5	10 - 16
RHAES – 1X 25-50-X	1 - 5	25 - 50
RHAES – 1X 70-120-X	1 - 5	70 - 120
RHAES - 1X 120-185-X	1 - 5	120 - 185
RHAES – 1X 240-400-X	1 - 5	240 - 400
RHAES - 1X 400-630-1	1	400 - 630







### Cable Shorting Kit for abandoning cables

RHEK kits provide a method to seal the end of power cables which are no longer in use. In addition to providing protection of the end of the cable from moisture and dust, the kit includes materials to connect all conductors and metallic screens/armours together.

Any accidental energisation of the cables will immediately activate the circuit protective device and prevent electrical shock. The kits are provided with tinned copper braid to provide a fault current rating up to 600Amps for 1 second.

The kits include a green Heat Shrinkable sleeve to indicate the cable is in an earthed state.

#### **Kit Contents**:

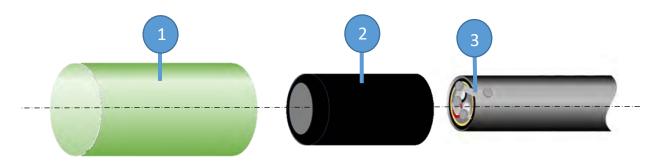
- Heat Shrinkable end cap for outer protection
- Green Heat Shrinkable sleeve
- Tinned copper braid and clout nails
- Installation instructions

#### **Features:**

- Unlimited shelf life
- For use indoor, outdoor and buried environments
- Can be used on cables up to 36kV
- Cable Range : 2 5 core cables 16 to 400mm<sup>2</sup>
   1 core cables 70 to 1000mm<sup>2</sup>

Product Code	No. of Cores	Cable Diameter Range	
	Х	mm	
RHEK – MC1	2 - 5	30 - 60	
RHEK – MC2	2 - 5	55 - 80	
RHEK – SC3	1*	27 - 49	
RHEK – SC4	1*	41 - 70	

<sup>\*</sup>kit is for 3 x 1 core cables



See selection chart opposite for typical range of cable types



Cable Types	Voltage Grade		luctor Cross tions	Approx. Cable Diameter		Shorting	Kit to use	
	kV	mm²	Sq. inch	Ø mm	RHEK	RHEK	RHEK	RHEK
	KV .		Sq. men	<b>9</b>	- MC1	- MC2	- SC3	- SC4
WAVEFORM / CONSAC		3x95	-	35	✓			
		3x185	-	46	✓			
		3x240	-	51	✓			
	1	3x300	-	55	✓	✓		
	-	4x95	-	38	✓			
		4x185	-	53	✓			
		4x240	-	58	✓	✓		
***************************************		4x300	-	63		✓		
PILCSSTA		(4x70)	4 x 0.1"	41	✓			
PILCSWA		(4 x 95)	4 x 0.15"	45	<b>✓</b>			
		(4x120)	4 x 0.2"	50	<b>✓</b>			
	1	(4x150)	4 x 0.25"	54	✓			
		(4x185)	4 x 0.3"	59	✓	✓		
		(4x240)	4 x 0.4"	65		✓		
		(4x300)	4 x 0.5"	70		✓		
11kV PICAS / PIAS		3x95	-	49	✓			
	12	3x185	-	60	✓	✓		
		3x300	-	72		<b>✓</b>		
11kV PILCSWA		(3x70)	3 x 0.1"	50	✓			
11kV PILCSTA		(3x95)	3 x 0.15"	53	✓			
	12	(3x185)	3X 0.3	63		✓		
		(3 x 240)	3 x 0.4"	68		✓		
To constitute the same of the		(3x300)	3 x 0.5"	72		✓		
11kV XLPE Triplex		3x1x95	-	27			✓	
	12	3x1x185	-	33			✓	
		3x1x300	-	38			✓	
11kV XLPE Single Core		1x400	-	43			<b>√</b>	<b>√</b>
_		1x500	-	46			<b>√</b>	<b>√</b>
	12	1x630	-	51				<b>√</b>
		1x800	-	56				<b>√</b>
		1x1000	-	60				<b>√</b>
33kV Single Core		1 x 95	-	39			<b>√</b>	
XLPE/CWS		1x185	-	44			<b>√</b>	<b>√</b>
XLPE/Lead		1x240	-	46			<b>√</b>	<b>√</b>
		1x300	-	49			<b>√</b>	<b>√</b>
	36	1x400	-	52				✓
		1x500	-	56				✓
		1x630	-	60				<b>√</b>
		1x800	-	65				<b>√</b>
		1x1000	-	70				<b>√</b>



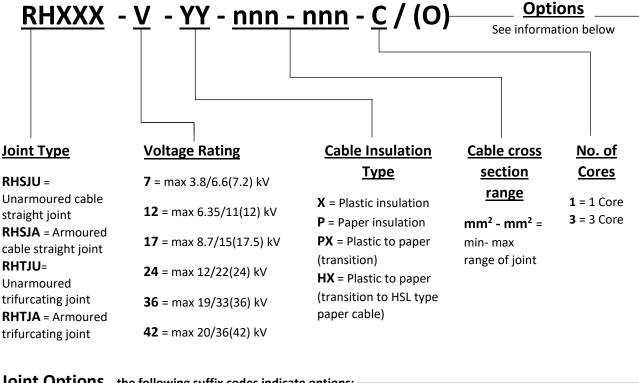
RHJ Heat Shrinkable medium voltage joints provide a flexible method to connect power cables with system voltages up to 42kV.

Using established Heat Shrinkable tubing and mastic materials developed specifically for the application, the joints are easily and quickly installed in buried or above ground installation.

The system of reinstating the insulation is common to all types leading to a modular system approach. Depending on the cables to be jointed, the earth continuity and outer protection materials are customised to suit the cable joint configurations.

#### RHJ – Joint Designer for cables 7kV to 42kV

The coding system below allows installer to specify correct joint based on application and cable type. The joint code is made up of 5 elements plus options suffix as follows:



#### **Joint Options** the following suffix codes indicate options:

- MC = Mechanical connectors supplied in kit (default)
- /CC = Copper compression ferrules supplied in kit
- /AC = Aluminium compression ferrules supplied in kit
- /R = Joint is supplied with horizontal split plastic shell for resin encapsulation outer protection

#### **Examples:**

RHSJU - 12X 95-185-1 - Heat Shrinkable Straight Joint for single core 6/10 kV or 6.35/11 kV unarmoured XLPE or EPR insulated cables between 95 and 185mm<sup>2</sup>, supplied without connectors.

RHSJA - 17X 185-300-3/MC - Heat Shrinkable Straight Joint for three core 8.7/15 kV armoured XLPE or EPR insulated cables between 185 and 300mm<sup>2</sup>, supplied with mechanical connectors.

RHTJA - 33HX 185-300-3/CC/R - Heat Shrinkable Trifurcating Joint for jointing a three core 19/33 kV PILC type HSL cable to 3 single core armoured polymeric insulated cables between 185 and 300mm<sup>2</sup> supplied with copper compression connectors and plastic shell for resin encapsulation.

RHTJU - 33PX 185-300-3/MC - Heat Shrinkable Trifurcating Joint for jointing a three core 19/33 kV PILC/SWA cable to 3 single core unarmoured polymeric insulated cables between 185 and 300mm<sup>2</sup> supplied with mechanical connectors.



#### **Features:**

- Unlimited shelf life of kits
- Fully Tested to **HD629**, **IEC 60502-4** specifications
- Extensive reference of reliable usage in climates all over the world
- Kits designed to cover a wide range of cable sizes and types
- Mechanical durability equal to the cable sheath
- Resistant to chemicals, UV light and water ingress
- For use indoor, outdoor and buried environments
- Mechanical shear bolted connectors available as an option in kits
- Easy to install with installation instructions included in all kits



Each kit is tailored to suit the specific cable types and environment. The key components in the joint are:



- Insulation System: to reinstate the respective layers of the cable insulation. Using a combination of Heat
   Shrinkable tubes with differing electrical properties to ensure the joint can withstand the operating and overload
   voltage conditions.
  - Depending on the maximum rated voltage level of the joint, a number of tubes are shrunk over the connector in a pre-determined order. This is complemented with mastics to ensure a void free, reliable insulation reinstatement.
- 3. Earth Screen/Armour Continuity: depending on the cable construction, metallic components are included to connect the cables screens and armouring across the joint to ensure the short circuit fault rating of the cable is maintained and provide mechanical protection equivalent to the cable armouring
- 4. **Outer Protection**: to provide mechanical impact, corrosion and moisture protection to the joint. The standard system is using heavy wall Heat Shrinkable tubing.



Technical Details for RHJ Heat Shrinkable Jointing System						
Voltage Class:	7.2kV	12kV	17.5kV	24kV	36kV	42kV
Cross Section Range (mm²)	25 - 630	25 - 1000	35 - 1000	35 - 1000	50 - 1000	50 - 1000
Cable Insulation Diameter (mm)	13 - 36	15 - 46	17 - 48	18 - 50	24 - 55	25 - 56
Voltage Rating U₀/U	3.8/6.6	6.35/11	8.7/15	12.7/22	19/33	20.8/35
(U <sub>m</sub> ) kV	(7.2)	(12)	(17.5)	(24)	(36)	(42)
Basic Impulse Level (BIL) kV	60	95	95	125	194	200
Partial Discharge at 1.73U° (pC)	<10	<10	<10	<10	<10	<10
AC Voltage Withstand , 5 min (kV)	>17	>28.5	>39	>57	>85.5	>93.5
DC Voltage Withstand , 15min (kV)	>23	>38	>52	>76	>114	>125





### For Single & Three Core Polymeric Insulated cables (XLPE / EPR)





#### **Typical Kit Contents**

(actual components will depend on specific joint type)

- Heat Shrinkable insulation tubing<sup>1</sup>
- Heat Shrinkable stress control tubing
- Stress control void filling mastic
- Earth / armour screen continuity materials
- Heavy Wall Heat Shrinkable corrosion protection tubing
- Mastic sealing tapes
- Phase conductor connector<sup>2</sup>
  - <sup>1</sup> Number and type of tubes depends on insulation level
  - <sup>2</sup> Optional, type specified at order

### Medium Voltage Straight Joints for Polymeric Insulated Cables up to 42kV

The RHJ-X range of kits are designed for jointing either single or three core cable designs with polymeric (XLPE or EPR) insulation and can be used with both compression and mechanical type connectors.

RHSJU – Suitable for unarmoured cable types RHSJA – Suitable for armoured cable types

Fully tested to the following specifications

- HD629.1.S2
- IEC 60502-4

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<b>_</b>	
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Conductor Cross Section (mm²)	Cable Construction	Kit Number Single Core Joint	Kit Number Three Core Joint	*Diameter over Insulation (mm)
25 70	No armour	RHSJU 7X 25-70-1	RHSJU 7X 25-70-3	
25 - 70	Armoured	RHSJA 7X 25-70-1	RHSJA 7X 25-70-3	<del></del>
05 105	No armour	RHSJU 7X 95-185 -1	RHSJU 7X 95-185-3	_ 160 313
95 - 185	Armoured	RHSJA 7X 95-185 -1	RHSJA 7X 95-185-3	<u> </u>
105 200	No armour	RHSJU 7X 185-300-1	RHSJU 7X 185-300-3	24.2 25.0
185 - 300	Armoured	RHSJA 7X 185-300-1	RHSJA 7X 185-300-3	21.3 - 25.8
200 620*	No armour	RHSJU 7X 300-630-1	RHSJU 7X 300-400-3	_ 250 250
300 - 630*	Armoured	RHSJA 7X 300-630-1	RHSJA 7X 300-400-3	<b>—</b> 25.8 - 35.8

Straight Cable Joint for Bolymoric Inculated cables rated at IIm- 7.2kV

Straight Cable J	oint for Polyn	neric Insulated cable	s rated at Um= 12k	V
25 - 70	No armour	RHSJU 12X 25-70-1	RHSJU 12X 25-70-3	116 106
	Armoured	RHSJA 12X 25-70-1	RHSJA 12X 25-70-3	<sup>-</sup> 14.6 - 18.6
95 - 185	No armour	RHSJU 12X 95-185-1	RHSJU 12X 95-185-3	_ 10.6 22.1
33 - 103	Armoured	RHSJA 12X 95-185-1	RHSJA 12X 95-185-3	18.6 - 23.1
105 200 -	No armour	RHSJU 12X 185-300-1	RHSJU 12X 185-300-3	- 224 276
185 - 300	Armoured	RHSJA 12X 185-300-1	RHSJA 12X 185-300-3	<sup>-</sup> 23.1 - 27.6
300 - 630*	No armour	RHSJU 12X 300-630-1	RHSJU 12X 300-400-3	27.6 27.6
300 - 630	Armoured	RHSJA 12X 300-630-1	RHSJA 12X 300-400-3	<sup>-</sup> 27.6 - 37.6
620 1000 -	No armour	RHSJU 12X 630-1000-1	-	27.6 45.6
630 - 1000 -	Armoured	RHSJA 12X 630-1000-1	-	- 37.6 - 45.6



Conductor Cross Section (mm²)	Cable Construction	Kit Number Single Core Joint	Kit Number Three Core Joint	*Diameter over Insulatio (mm)
25 05	No armour	RHSJU 17X 35-95-1	RHSJU 17X 35-95-3	_ 477 22
35 - 95	Armoured	RHSJA 17X 35-95-1	RHSJA 17X 35-95-3	<sup>-</sup> 17.7 - 22.
OF 10F	No armour	RHSJU 17X 95-185-1	RHSJU 17X 95-185-3	_ 22.1 26
95 - 185	Armoured	RHSJA 17X 95-185-1	RHSJA 17X 95-185-3	– 22.1 <b>-</b> 26.
185 - 300	No armour	RHSJU 17X 185-300-1	RHSJU 17X 185-300-3	– 26.5 <b>-</b> 31.
163 - 300	Armoured	RHSJA 17X 185-300-1	RHSJA 17X 185-300-3	20.5 - 51.
300 - 630*	No armour	RHSJU 17X 300-630-1	RHSJU 17X 300-400-3	- 31.1 - 41.
300 - 630	Armoured	RHSJA 17X 300-630-1	RHSJA 17X 300-400-3	31.1 - 41.
620 4000	No armour	RHSJU 17X 630-1000-1	-	- 44 47 4
630 - 1000	No armour	RHSJA 17X 630-1000-1	-	<sup></sup> 41 - 47.1

24 kV

Straight Cable	loint for Polyn	neric Insulated cable	s rated at Um= 24k	V
25 05	No armour	RHSJU 24X 35-95-1	RHSJU 24X 35-95-3	- 10 22.0
35 - 95	Armoured	RHSJA 24X 35-95-1	RHSJA 24X 35-95-3	<sup>-</sup> 18 - 22.8
95 - 185	No armour	RHSJU 24X 95-185-1	RHSJU 24X 95-185-3	- 220 272
32 - 102	Armoured	RHSJA 24X 95-185-1	RHSJA 24X 95-185-3	22.8 - 27.3
185 - 300	No armour	RHSJU 24X 185-300-1	RHSJU 24X 185-300-3	- 27.3 - 31.8
103 - 300	Armoured	RHSJA 24X 185-300-1	RHSJA 24X 185-300-3	27.3 - 31.6
300 - 630*	No armour	RHSJU 24X 300 - 630-1	RHSJU 24X 300-400-3	- 31.8 - 41.8
300 - 630	Armoured	RHSJA 24X 300 - 630-1	RHSJA 24X 300-400-3	31.0 - 41.0
620 1000	No armour	RHSJU 24X 630 -1000-1	-	- 41.8 - 49.8
630 - 1000	Armoured	RHSJA 24X 630- 1000-1	-	41.8 - 49.8

36 kV

Straight Cable .	Joint for Polyn	neric Insulated cable	s rated at Um= 36k	V
FO OF -	No armour	RHSJU 36X 50-95-1	RHSJU 36X 50-95-3	- 24 27 0
50 - 95	Armoured	RHSJA 36X 50-95-1	RHSJA 36X 50-95-3	- 24 - 27.8
95 - 185	No armour	RHSJU 36X 95-185-1	RHSJU 36X 95-185-3	- 270 222
32 - 102	Armoured	RHSJA 36X 95-185-1	RHSJA 36X 95-185-3	27.8 - 32.3
185 - 300	No armour	RHSJU 36X 185-300-1	RHSJU 36X 185-300-3	- 32.3 - 36.8
100 - 300	Armoured	RHSJA 36X 185-300-1	RHSJA 36X 185-300-3	32.3 - 30.6
300 - 630*	No armour	RHSJU 36X 300-630-1	RHSJU 36X 300-400-3	- 260 460
300 - 030 ·	Armoured	RHSJA 36X 300-630-1	RHSJA 36X 300-400-3	36.8 - 46.8
630 - 1000	No armour	RHSJU 36X 630-1000-1	-	- 46.8 - 54.8
630 - 1000	Armoured	RHSJA 36X 630-1000-1	-	40.8 - 54.8

42 kV

Straight Cable J	loint for Polym	neric Insulated cable	s rated at Um= 42k	V
FO OF -	No armour	RHSJU 42X 50-95-1	RHSJU 42X 50-95-3	- 10 22.0
50 - 95	Armoured	RHSJA 42X 50-95-1	RHSJA 42X 50-95-3	<sup>-</sup> 18 - 22.8
95 - 185	No armour	RHSJU 42X 95-185-1	RHSJU 42X 95-185-3	- 220 272
32 - 192	Armoured	RHSJA 42X 95-185-1	RHSJA 42X 95-185-3	22.8 - 27.3
105 200 -	No armour	RHSJU 42X 185-300-1	RHSJU 42X 185-300-3	- 27.2 24.0
185 - 300	Armoured	RHSJA 42X 185-300-1	RHSJA 42X 185-300-3	- 27.3 - 31.8
300 - 630*	No armour	RHSJU 42X 300-630-1	RHSJU 42X 300-400-3	_ 31 0 41 0
300 - 630	Armoured	RHSJA 42X 300-630-1	RHSJA 42X 300-400-3	31.8 - 41.8
630 1000	No armour	RHSJU 42X 630-1000-1	-	
630 - 1000	Armoured	RHSJA 42X 630-1000-1	-	41.8 - 49.8

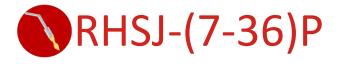
For full product code selection, see Page 58

For a transition joint between Armoured cable to Unarmoured cable type, use the RHSJA version

<sup>\*3</sup> core cables up to 400m² only



### For Single & Three Core Paper Insulated cables





### Medium Voltage Straight Joints for Paper Insulated Cables up to 36kV

The RHJ-P range of kits are designed for jointing either single or three core cable designs with paper insulation and can be used with both compression and mechanical type connectors.

#### **Typical Kit Contents**

(actual components will depend on specific joint type)

- Heat Shrinkable insulation tubing<sup>1</sup>
- Heat Shrinkable stress control tubing
- Stress control void filling mastic
- Oil Barrier Heat Shrinkable tubing
- Conductive Heat Shrinkable tubing
- Conductive Heat Shrinkable 3 core breakout
- Earth / armour screen continuity materials
- Heavy Wall Heat Shrinkable corrosion protection tubing
- Mastic sealing tapes
- Phase conductor connector<sup>2</sup>

Fully tested to the following specifications

- HD629.2
- IEC 60502-4
- IEEE-48

<sup>&</sup>lt;sup>2</sup> – Optional, type specified at order

Straight Cable	Joint for Paper	Insulated cables ra	ated at Um= 7.2kV	
Conductor Cross Section (mm²)	Cable Construction	Kit Number Single Core Joint	Kit Number Three Core Joint	*Diameter over insulation (mm)
25 70	No armour	RHSJU 7P 25-70-1	RHSJU 7P 25-70-3	_ 13.5 16.0
25 - 70	Armoured	RHSJA 7P 25-70-1	RHSJA 7P 25-70-3	<sup>-</sup> 13.5 - 16.8
05 105	No armour	RHSJU 7P 95-185-1	RHSJU 7P 95-185-3	16.8 - 21.3
95 - 185	Armoured	RHSJA 7P 95-185-1	RHSJA 7P 95-185-3	
185 - 300	No armour	RHSJU 7P 185-300-1	RHSJU 7P 185-300-3	24.2.25.0
	Armoured	RHSJA 7P 185-300-1	RHSJA 7P 185-300-3	- 21.3 - 25.8
200 620*	No armour	RHSJU 7P 300-630-1	RHSJU 7P 300-400-3	_ 25.0 25.0
300 - 630*	Armoured	RHSJA 7P 300-630-1	RHSJA 7P 300-400-3	<b>—</b> 25.8 - 35.8

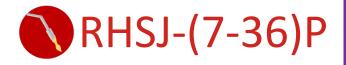
12 kV

Straight Cable J	loint for Pape	r Insulated cables ra	ted at Um= 12kV	
25 70 -	No armour	RHSJU 12P 25-70-1	RHSJU 12P 25-70-3	- 116 106
25 - 70	Armoured	RHSJA 12P 25-70-1	RHSJA 12P 25-70-3	14.6 - 18.6
95 - 185	No armour	RHSJU 12P 95-185-1	RHSJU 12P 95-185-3	_ 10.6 22.1
32 - 192	Armoured	RHSJA 12P 95-185-1	RHSJA 12P 95-185-3	18.6 - 23.1
405 200 -	No armour	RHSJU 12P 185-300-1	RHSJU 12P 185-300-3	23.1 - 27.6
185 - 300	Armoured	RHSJA 12P 185-300-1	RHSJA 12P 185-300-3	
200 (20*	No armour	RHSJU 12P 300-630-1	RHSJU 12P 300-400-3	27.6 27.6
300 - 630*	Armoured	RHSJA 12P 300-630-1	RHSJA 12P 300-400-3	27.6 - 37.6
620 1000	No armour	RHSJU 12P 630-1000-1	-	- 27.6 45.6
630 - 1000	Armoured	RHSJA 12P 630-1000-1	-	- 37.6 - 45.6

RHSJU – Suitable for unarmoured cable types RHJSA – Suitable for armoured cable types

<sup>&</sup>lt;sup>1</sup> – Number and type of tubes depends on insulation level





Conductor Cross Section (mm²)	S Cable Construction	Kit Number Single Core Joint	Kit Number Three Core Joint	*Diameter over insulation (mm)
25 05	No armour	RHSJU 17P 35-95-1	RHSJU 17P 35-95-3	- 477 224
35 - 95	Armoured	RHSJA 17P 35-95-1	RHSJA 17P 35-95-3	<sup>-</sup> 17.7 - 22.1
95 - 185	No armour	RHSJU 17P 95-185-1	RHSJU 17P 95-185-3	- 22.1 - 26.5
33 - 103	Armoured	RHSJA 17P 95-185-1	RHSJA 17P 95-185-3	22.1 - 20.5
185 - 300	No armour	RHSJU 17P 185-300-1	RHSJU 17P 185-300-3	<b>26.5 - 31.1</b>
163 - 300	Armoured	RHSJA 17P 185-300-1	RHSJA 17P 185-300-3	20.3 - 31.1
300 - 630*	No armour	RHSJU 17P 300-630-1	RHSJU 17P 300-400-3	- 31.1 - 41.0
200 - 030	Armoured	RHSJA 17P 300-630-1	RHSJA 17P 300-400-3	31.1 - 41.0
620 1000	No armour	RHSJU 17P 630-1000-1	-	_ 44 47.4
630 - 1000	No armour	RHSJA 17P 630-1000-1	-	<sup>-</sup> 41 - 47.1

24 kV

Straight Cable	loint for Pape	r Insulated cables rat	ed at Um= 24kV	
25 05 -	No armour	RHSJU 24P 35-95-1	RHSJU 24P 35-95-3	- 10 22 0
35 - 95	Armoured	RHSJA 24P 35-95-1	RHSJA 24P 35-95-3	18 - 22.8
95 - 185	No armour	RHSJU 24P 95-185-1	RHSJU 24P 95-185-3	- 22.0 27.2
32 - 192	Armoured	RHSJA 24P 95-185-1	RHSJA 24P 95-185-3	<sup>-</sup> 22.8 - 27.3
185 - 300	No armour	RHSJU 24P 185-300-1	RHSJU 24P 185-300-3	- 27.3 - 31.8
100 - 300	Armoured	RHSJA 24P 185-300-1	RHSJA 24P 185-300-3	
300 - 630*	No armour	RHSJU 24P 300-630-1	RHSJU 24P 300-400-3	- 210 410
300 - 630 ·	Armoured	RHSJA 24P 300-630-1	RHSJA 24P 300-400-3	31.8 - 41.8
620 1000	No armour	RHSJU 24P 630-1000-1	-	- 41.8 - 49.8
630 - 1000	Armoured	RHSJA 24P 630-1000-1	-	41.0 - 49.8

	>	>
-	<u> </u>	<b>-</b>
(	Y	)

<b>Straight Cable</b>	<b>Joint for Paper</b>	Insulated cables ra	ted at Um= 36kV	
FO OF	No armour	RHSJU 36P 50-95-1	RHSJU 36P 50-95-3	- 24 27 0
50 - 95	Armoured	RHSJA 36P 50-95-1	RHSJA 36P 50-95-3	24 - 27.8
95 - 185	No armour	RHSJU 36P 95-185-1	RHSJU 36P 95-185-3	- 270 222
32 - 192	Armoured	RHSJA 36P 95-185-1	RHSJA 36P 95-185-3	27.8 - 32.3
185 - 300	No armour	RHSJU 36P 185-300-1	RHSJU 36P 185 -300-3	- 32.3 - 36.8
	Armoured	RHSJA 36P 185-300-1	RHSJA 36P 185 -300-3	32.3 - 30.6
300 - 630*	No armour	RHSJU 36P 300-630-1	RHSJU 36P 300-400-3	- 36.8 - 46.8
300 - 030	Armoured	RHSJA 36P 300-630-1	RHSJA 36P 300-400-3	30.8 - 40.8
630 - 1000	No armour	RHSJU 36P 630-1000-1	-	460 540
030 - 1000	Armoured	RHSJA 36P 630-1000-1	-	46.8 - 54.8

For full product code selection, see Page 58

<sup>\*3</sup> core cables up to 400m² only



#### For Single & Three Core cables





#### **Typical Kit Contents**

(actual components will depend on specific joint type)

- Heat Shrinkable insulation tubing<sup>1</sup>
- Heat Shrinkable stress control tubing
- Stress control void filling mastic
- Oil Barrier Heat Shrinkable tubing
- Conductive Heat Shrinkable tubing
- Conductive Heat Shrink 3 core breakout
- Earth / armour screen continuity materials
- Heavy Wall Heat Shrinkable corrosion protection tubing
- Mastic sealing tapes
- Phase conductor connector<sup>2</sup>

The RHJ-PX range of kits are designed for jointing three core armoured cables to three separate single core cables with polymeric (XLPE or EPR) insulation.

They can be used with both compression and mechanical type connectors.

RHSJU - Suitable for unarmoured cable types RHSJA - Suitable for armoured cable types

Fully tested to the following specifications

RHSJA 7PX 300-400-3

- HD629.1.S2
- IEC 60502-4

300 - 630\*

(mm²)		Single Core Joint	Three Core Joint	over insulation (mm)
25 70	No armour	RHSJU 7PX 25-70-1	RHSJU 7PX 25-70-3	12.5. 16.0
25 - 70	Armoured	RHSJA 7PX 25-70-1	RHSJA 7PX 25-70-3	<b>—</b> 13.5 - 16.8
95 - 185	No armour	RHSJU 7PX 95-185-1	RHSJU 7PX 95-185-3	16.8 - 21.3
32 - 192	Armoured	RHSJA 7PX 95-185-1	RHSJA 7PX 95-185 -3	
185 - 300	No armour	RHSJU 7PX 185-300-1	RHSJU 7PX 185-300-3	24.2.25.0
	Armoured	RHSJA 7PX 185-300-1	RHSJA 7PX 185-300-3	<b>—</b> 21.3 - 25.8
200 - 620* -	No armour	RHSJU 7PX 300-630-1	RHSJU 7PX 300-400-3	25.9 _ 25.9

RHSJA 7PX 300-630-1

Straight Transition Cable Joint for cables rated at time 7 201

Armoured

<b>Straight Trans</b>	ition Cable Joi	nt for cables rated at	Um= 12kV	
25 - 70	No armour	RHSJU 12PX 25-70-1	RHSJU 12PX 25-70-3	146 196
25 - 70	Armoured	RHSJA 12PX 25-70-1	RHSJA 12PX 25-70-3	- 14.6 - 18.6
95 - 185	No armour	RHSJU 12PX 95-185-1	RHSJU 12PX 95-185-3	- 18.6 - 23.1
32 - 192	Armoured	RHSJA 12PX 95-185-1	RHSJA 12PX 95-185-3	18.0 - 23.1
185 - 300	No armour	RHSJU 12PX 185-300-1	RHJU 12PX 185-300-3	- 23.1 - 27.6
103 - 300	Armoured	RHSJA 12PX 185-300-1	RHSJA 12PX 185-300-3	
300 - 630* -	No armour	RHSJU 12PX 300-630-1	RHSJU 12PX 300-400-3	<b>27.6 - 37.6</b>
300 - 630 °	Armoured	RHSJA 12PX 300-630-1	RHSJA 12PX 300-400-3	27.0 - 37.0
630 - 1000 —	No armour	RHSJU 12PX 630-1000-1	-	37.6 - 45.6
630 - 1000	Armoured	RHSJA 12PX 630-1000-1	-	37.0 - 45.0

25.8 - 35.8

**Medium Voltage Straight Joints for Transition between Paper Insulated Cables** and Polymeric Cables up to 36kV

 $<sup>^{1}</sup>$  — Number and type of tubes depends on insulation level

<sup>&</sup>lt;sup>2</sup> – Optional, type specified at order





Straight Transition Cable Joint for cables rated at Um= 17.5kV				
Conductor Cross Section (mm²)	Cable Construction	Kit Number Single Core Joint	Kit Number Three Core Joint	*Diameter over insulation (mm)
25 05	No armour	RHSJU 17PX 35-95-1	RHSJU 17PX 35-95-3	177 221
35 - 95	Armoured	RHSJA 17PX 35-95-1	RHSJA 17PX 35-95-3	<b>- 17.7 - 22.1</b>
95 - 185	No armour	RHSJU 17PX 95-185-1	RHSJU 17PX 95-185-3	22.1 - 26.5
32 - 192	Armoured	RHSJA 17PX 95-185-1	RHSJA 17PX 95-185-3	
185 - 300	No armour	RHSJU 17PX 185-300-1	RHSJU 17PX 185-300-3	26.5. 24.4
102 - 200	Armoured	RHSJA 17PX 185-300-1	RHSJA 17PX 185-300-3	<b>—</b> 26.5 - 31.1
300 - 630*	No armour	RHSJU 17PX 300-630-1	RHSJU 17PX 300-400-3	_ 21.1 41.0
	Armoured	RHSJA 17PX 300-630-1	RHSJA 17PX 300-400-3	- 31.1 - 41.0
600 4000	No armour	RHSJU 17PX 630-1000-1	-	
630 - 1000	Armoured	RHSJA 17PX 630-1000-1	-	<sup>—</sup> 41 - 47.1

24 kV

Straight Trans	ition Cable Jo	int for cables rated at	: Um= 24kV	
35 - 95	No armour	RHSJU 24PX 35-95-1	RHSJU 24PX 35-95-3	<b>18 - 22.8</b>
33 - 33	Armoured	RHSJA 24PX 35-95-1	RHSJA 24PX 35-95-3	10 - 22.0
95 - 185	No armour	RHSJU 24PX 95-185-1	RHSJU 24PX 95-185-3	_ 220 272
32 - 192	Armoured	RHSJA 24PX 95-185-1	RHSJA 24PX 95-185-3	- 22.8 - 27.3
185 - 300	No armour	RHSJU 24PX 185-300-1	RHSJU 24PX 185-300-3	<b>27.3 - 31.8</b>
102 - 200	Armoured	RHSJA 24PX 185-300-1	RHSJA 24PX 185-300-3	
300 - 630*	No armour	RHSJU 24PX 300-630-1	RHSJU 24PX 300-400-3	31.8 - 41.8
300 - 030	Armoured RHSJA 24PX 300-630-1 RHSJA 24PX	RHSJA 24PX 300-400-3	31.8 - 41.8	
620 1000 -	No armour	RHSJU 24PX 630-1000-1	-	_ 41.0 40.0
630 - 1000	Armoured	RHSJA 24PX 630-1000-1	-	- 41.8 - 49.8

36 kV

Straight Trans	ition Cable Jo	int for cables rated at	t Um= 36kV	
FO OF -	No armour	RHSJU 36PX 50-95-1	RHSJU 36PX 50-95-3	- 24 27 9
50 - 95	Armoured	RHSJA 36PX 50-95-1	RHSJA 36PX 50-95-3	<sup></sup> 24 - 27.8
95 - 185	No armour	RHSJU 36PX 95-185-1	RHSJU 36PX 95-185-3	_ 27.0 22.2
32 - 192	Armoured	RHSJA 36PX 95-185-1	RHSJA 36PX 95-185-3	- 27.8 - 32.3
185 - 300 -	No armour	RHSJU 36PX 185-300-1	RHSJU 36PX 185-300-3	- 32.3 - 36.8
103 - 300	Armoured	RHSJA 36PX 185-300-1	RHSJA 36PX 185-300-3	32.3 - 30.6
300 - 630* -	No armour	RHSJU 36PX 300-630-1	RHSJU 36PX 300-400-3	_ 26.0 46.0
300 - 630	Armoured	RHSJA 36PX 300-630-1	RHSJA 36PX 300-400-3	<del>-</del> 36.8 - 46.8
630 - 1000 -	No armour	RHSJU 36PX 630-1000-1	-	46.8 - 54.8
030 - 1000	Armoured	RHSJA 36PX 630-1000-1	-	40.0 - 54.8

For full product code selection, see Page 58

<sup>\*3</sup> core cables up to 400m² only



### For jointing three core to 3 x single core cables





Medium Voltage Joints for Transition between 3 core Paper or Polymeric Insulated Cables to three single core Polymeric Cables up to 36kV

The most common configuration is a 3 core PILC type cable connecting to XLPE or EPR single core cables – RHTJ-PX

For 3 core cables with individual lead sheath, the product code is RHTJ-HX

#### **Typical Kit Contents**

(actual components will depend on specific joint type)

- Heat Shrinkable insulation tubing<sup>1</sup>
- Heat Shrinkable stress control tubing
- Stress control void filling mastic
- Oil Barrier Heat Shrinkable tubing
- Conductive Heat Shrinkable tubing
- Conductive Heat Shrinkable 3 core breakout
- Earth / armour screen continuity materials
- Heavy Wall Heat Shrinkable corrosion protection tubing
- Heat Shrinkable 3 core breakout
- Mastic sealing tapes
- Phase conductor connector<sup>2</sup>

RHTJU – Suitable for unarmoured cable types RHTJA – Suitable for armoured cable types

Fully tested to the following specifications

- HD629.1
- IEC 60502-4

<sup>&</sup>lt;sup>2</sup> – Optional, type specified at order



Typical Arrangement for a 3 core armoured and tape screen polymeric cable jointed to three single core un-armoured, copper wire screened cables.

Example Product Code: RHTJU-12X 95-185



Typical Arrangement for a 3 core armoured PILC cable jointed to three single core un-armoured, copper wire screened cables.

Example Product Code: RHTJU-12PX 95-185

<sup>&</sup>lt;sup>1</sup> – Number and type of tubes depends on insulation level





Conductor Cross Section	Single Core Polymeric Cable	Kit Number Transition from	Kit Number Transition from	Kit Number Transition from 3c
(mm²)	Construction	3c Polymeric cable	3c PILC cable	HSL cable
25 - 70	No armour	RHTJU 7X 25-70	RHTJU 7PX 25-70	-
25 - 70	Armoured	RHTJA 7X 25-70	RHTJA 7PX 25-70	-
OF 10F	No armour	RHTJU 7X 95-185	RHTJU 7PX 95-185	-
95 - 185	Armoured	RHTJA 7X 95-185	RHTJA 7PX 95-185	-
185 - 300	No armour	RHTJU 7X 185-300	RHTJU 7PX 185-300	-
192 - 200	Armoured	RHTJA 7X 185-300	RHTJA 7PX 185-300	-
400 - 630	No armour	RHTJU 7X 400-630	RHTJU 7PX 400-630	-
	Armoured	RHTJA 7X 400-630	RHTJA 7PX 400-630	-
Straight Trif	furcating Cable	Joint for cables ra	ated at Um= 1 kV	
25 - 70	No armour	RHTJU 12X 25-70	RHTJU 12PX 25-70	-
25 - 70	Armoured	RHTJA 12X 25-70	RHTJA 12PX 25-70	-
95 - 185	No armour	RHTJU 12X 95-185	RHTJU 12PX 95-185	-
32 - 185	Armoured	RHTJA 12X 95-185	RHTJA 12PX 95-185	-
105 200	No armour	RHTJU 12X 185-300	RHTJU 12PX 185-300	-
185 - 300	Armoured	RHTJA 12X 185-300	RHTJA 12PX 185-300	-
400 - 630	No armour	RHTJU 12X 400-630	RHTJU 12PX 400-630	-
400 - 630	Armoured	RHTJA 12X 400-630	RHTJA 12PX 400-630	-
Straight Trif	furcating Cable	Joint for cables r	ated at Um= 17.5k	r\/
Straight III	No armour	RHTJU 17X 25-70	RHTJU 17PX 25-70	_
35 - 70	Armoured	RHTJA 17X 25-70	RHTJA 17PX 25-70	
	No armour	RHTJU 17X 95-185	RHTJU 17PX 95-185	
95 - 185	Armoured	RHTJA 17X 95-185	RHTJA 17PX 95-185	_
	No armour	RHTJU 17X 185-300	RHTJU 17PX 185-300	_
185 - 300	Armoured	RHTJA 17X 185-300	RHTJA 17PX 185-300	_
	No armour	RHTJU 17X 400-630	RHTJU 17PX 400-630	_
400 - 630	Armoured	RHTJA 17X 400-630	RHTJA 17PX 400-630	-
Straight Tri			ated at Um= 24kV	
35 - 70 ·	No armour	RHTJU 24X 35-95	RHTJU 24PX 35-95	RHTJU 24HX 35-95
	Armoured	RHTJA 24X 35-95	RHTJA 24PX 35-95	RHTJA 24HX 35-95
95 - 185 ·	No armour	RHTJU 24X 95-185	RHTJU 24PX 95-185	RHTJU 24HX 95-18
	Armoured	RHTJA 24X 95-185	RHTJA 24PX 95-185	RHTJA 24HX 95-18
185 - 300	No armour	RHTJU 24X 185-300	RHTJU 24PX 185-300	RHTJU 24HX 185-3
	Armoured	RHTJA 24X 185-300	RHTJA 24PX 185-300	RHTJA 24HX 185-3
400 - 630	No armour	RHTJU 24X 400-630	RHTJU 24PX 400-630	RHTJU 24HX 400-6
	Armoured	RHTJA 24X 400-630	RHTJA 24PX 400-630	RHTJA 24HX 400-6
Straight Tri	furcating Cable	Joint for cables ra	ated at Um= 36kV	
F0 0F	No armour	RHTJU 36X 35-95	RHTJU 36PX 35-95	RHTJU 36HX 35-95
50 - 95	Armoured	RHTJA 36X 35-95	RHTJA 36PX 35-95	RHTJA 36HX 35-95
	No armour	RHTJU 36X 95-185	RHTJU 36PX 95-185	RHTJU 36HX 95-18
95 - 185	Armoured	RHTJA 36X 95-185	RHTJA 36PX 95-185	RHTJA 36HX 95-18
105 200	No armour	RHTJU 36X 185-300	RHTJU 36PX 185-300	RHTJU 36HX 185-3
185 - 300	Armoured	RHTJA 36X 185-300	RHTJA 36PX 185-300	RHTJA 36HX 185-3
400 - 630	No armour	RHTJU 36X 400-630	RHTJU 36PX 400-630	RHTJU 36HX 400-6
400 - 030	Armoured	RHTJA 36X 400-630	RHTJA 36PX 400-630	RHTJA 36HX 400-6

For full product code selection, see Page 58



RCSJ Cold Shrinkable medium voltage joints provide a method to connect power cables with system voltages up to 36kV using a silicon moulded body which houses a central Faraday cage and stress cones at either end.

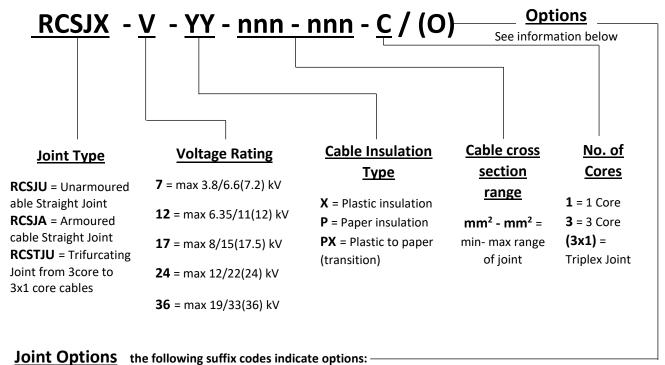


The joint body is installed without the need for any heat or special tools.

Depending on the cables to be jointed, the earth continuity and outer protection materials can be customised to suit the cable joint configurations.

#### **RCSJ** – Cold Shrink Joint Designer for cables 7kV to 36kV

The coding system below allows installer to specify correct joint based on application and cable type. The joint code is made up of 5 elements plus options suffix as follows:



#### \_\_\_\_

- /MC = Mechanical connectors supplied in kit (default)
- /H = Joint is supplied with a heavy wall Heat Shrink outer protection tube
- /C = Joint is supplied with a EPDM Cold Shrink outer protection tube
- /R = Joint is supplied with horizontal split plastic shell for resin encapsulation outer protection
- /COM = 'Compact' one piece design with screen and outer tube incorporated into one piece over the joint body

#### **Examples:**

**RCSJU – 12X 95-185-1/MC/H** – Cold Shrinkable Straight Joint for single core 12kV unarmoured XLPE or EPR insulated cables between 95 and 185mm<sup>2</sup>, supplied with mechanical connector and heavy wall Heat Shrinkable outer tube.

<u>RCSJA – 17X 185-300-3/R/MC</u> - Cold Shrinkable Straight Joint for three core 17.5kV armoured XLPE or EPR insulated cables between 185 and 300mm<sup>2</sup>, supplied with mechanical connectors and plastic shell for resin encapsulation.



REPL range of RCSJ Cold Shrinkable Joints are suitable for installations on medium voltage cables up to 36kV. The Joint consists of a moulded silicon rubber body with integrated central Faraday Cage, geometric stress control, and a conductive outer layer which reinstates the key layers of the cable being jointed. The joint bodies are preexpanded onto a spiral former providing a suitable diameter clearance to allow easy location over cables and connectors. Once correctly located the body in position, the body is shrunk down by simply pulling out the spiral tape former.



To complete the joint, the cable metallic screens are connected using an appropriate method. There is a range of options available for the outer protection such as Cold Shrinkable or Heat Shrinkable tubing, or resin encapsulation using plastic shell. Because the RCSJ requires no special tools or heat source for installation, it is ideal for areas where heat tools are not allowed or accessible.

A range of bodies to cover cables up to 36kV in single core, three core designs and trifurcating with either extruded or paper insulation.

#### **Features:**

- Tested to CENELEC HD 629.1.S2
- Quick and easy installation using no heat source or special tools
- One piece design with integrated central Faraday cage and screen stress control cones
- Short parking distance required means compact joint bay area
- Silicon Rubber material for excellent electrical insulation properties
- Suitable for a wide range of mechanical cable connectors
- Kits for armoured and unarmoured type cables can be supplied
- Choice of outer protection materials

The pre-moulded silicon rubber joint bodies integrate the key components to reinstate the insulation system for a medium voltage cable.

The inner Faraday cage is at same potential as the phase connector and provides a smoothing layer onto the insulation – this means any sharp edge on the connector does not affect the performance. The geometric stress cones at either end provide field control at the end of the insulation screens.



Technical Details for RCSJ Cold Shrinkable Jointing System					
Voltage Class:	7.2kV	12kV	17.5kV	24kV	36kV
Cross Section Range (mm²)	95 - 630	50 - 1000	50 - 1000	35 - 1000	50 - 1000
Cable Insulation Diameter (mm)	13 - 36	15 - 46	17 - 48	18 - 50	24 - 55
Voltage Rating U₀/U	3.8/6.6	6.35/11	8.7/15	12.7/22	19/33
(Um) kV	(7.2)	(12)	(17.5)	(24)	(36)
Basic Impulse Level (BIL) kV	60	95	95	125	194
Partial Discharge at 1.73U° (pC)	<10	<10	<10	<10	<10
AC Voltage Withstand , 5 min (kV)	>17	>28.5	>39	>57	>85.5
DC Voltage Withstand , 15min (kV)	>23	>38	>52	>76	>114



#### For Single & Three Core Polymeric Insulated cables (XLPE / EPR)





#### **Typical Kit Contents**

(actual components will depend on specific joint type)

- 1. Cold Shrinkable moulded joint body
- 2. Earth / armour screen continuity materials (dependant on cable design)
- 3. Mastic sealing tapes
- 4. Phase conductor connector<sup>1</sup>
- 5. Outer Protection materials, either:
  - Heavy Wall Heat Shrinkable tube (Hybrid joint where heat is allowed)
  - EPDM rubber Cold Shrinkable tubing
     ("ALL COLD" joint where no heat is allowed)
  - Plastic moulded shell for resin encapsulation

#### Medium Voltage Straight Joints for Polymeric Insulated Cables up to 36kV

The RCSJ-X range of kits are designed for jointing either single or three core cable designs with polymeric (XLPE or EPR) insulation and to be used with mechanical type connectors.

**RCSJU** – Suitable for unarmoured cable types

**RCSJA** – Suitable for armoured cable types

RCSTJU - Suitable for transition of 3 core cable to (3X) single core unarmoured type

Fully tested to the following specifications:

CENELEC HD629.1



<sup>1 -</sup> Optional, type specified at order





	Conductor	Insulation	Maximum					
	Cross Section	Diameter	overall					
	(See Note 1)	Range	Diameter of	Cable	Kit Number	Kit Number		
			Cable Sheath	Construction	Single Core Joint	Three Core Joint		
			(See Note 2)					
	(mm²)	Ø mm	Ø mm					
	Cold Shrinkab	le Straight C	able Joint for P	olymeric Insu	lated cables rated a	t Um= 7.2kV		
	95 - 150	17 - 24	30	No armour	RCSJU 7X 95-150-1	RCSJU 7X 95-150-3		
$\boldsymbol{\succeq}$	93 - 130	17 - 24	30	Armoured	RCSJA 7X 95-150-1	RCSJA 7X 95-150-3		
<b>~</b> I	185 - 300	19 - 32	42	No armour	RCSJU 7X 185-300-1	RCSJU 7X 185-300-3		
( )			· <del>-</del>	Armoured	RCSJA 7X 185-300-1	RCSJA 7X 185-300-3		
7.2 kV	400 - 630*	30 - 42	65	No armour	RCSJU 7X 400-630-1	RCSJU 7X 300-400-3		
	0 1101 1 1 1	1 6: 11.6	11 1 1 1 6 5	Armoured	RCSJA 7X 400-630-1	RCSJA 7X 300-400-3		
	Cold Shrinkab	le Straight C	able Joint for P		lated cables rated a			
	50 - 95	17 - 24	30	No armour	RCSJU 12X 50-95-1	RCSJU 12X 50-95-3		
<i>&gt;</i>				Armoured	RCSJA 12X 50-95-1	RCSJA 12X 50-95-3		
$\geq$	95 - 300	19 - 32	42	No armour	RCSJU 12X 95-300-1	RCSJU 12X 95-300-3		
				Armoured	RCSJA 12X 95-300-1	RCSJA 12X 95-300-3		
7	400 - 630*	30 - 42	65	No armour	RCSJU 12X 400-630-1	RCSJU 12X 300-400-3		
				Armoured	RCSJA 12X 400-630-1	RCSJA 12X 300-400-3		
<b>\</b> I	630 - 1000	40 - 60	78	No armour Armoured	RCSJU 12X 630-1000-1 RCSJA 12X 630-1000-1	•		
	Cold Shrinkable Straight Cable Joint for Polymeric Insulated cables rated at Um= 17.5kV							
	<b>50 - 95</b> 17 - 24	ne Straight C	able Joint for P					
<u>≥</u>		30	No armour	RCSJU 17X 50-95-1	RCSJU 17X 50-95-3			
			42 —	Armoured No armour	RCSJA 17X 50-95-1 RCSJU 17X 120-240-1	RCSJA 17X 50-95-3 RCSJU 17X 120-240-3		
. ^	120 - 240	19 - 32	42	Armoured	RCSJA 17X 120-240-1	RCSJA 17X 120-240-3		
L)				No armour	RCSJU 17X 300-500-1	RCSJU 17X 300-400-3		
<b>\</b> .	300 - 500	30 - 42	65	Armoured	RCSJA 17X 300-500-1	RCSJA 17X 300-400-3		
				No armour	RCSJU 17X 630-1000-1	-		
17.5	630 - 1000	40 - 60	78	Armoured	RCSJA 17X 630-1000-1	-		
	Cold Shrinkab	le Straight C	able Joint for P	olymeric Insu	lated cables rated a	t Um= 24kV		
				No armour	RCSJU 24X 35-70-1	RCSJU 24X 35-70-3		
4 kV	35 - 70	17 - 24	30	Armoured	RCSJA 24X 35-70-1	RCSJA 24X 35-70-3		
	95 - 150	10 22	42	No armour	RCSJU 24X 95-150-1	RCSJU 24X 95-150-3		
	95 - 150	19 - 32	42	Armoured	RCSJA 24X 95-150-1	RCSJA 24X 95-150-3		
4	185 - 400	30 - 42	65	No armour	RCSJU 24X 185-400-1	RCSJU 24X 185-400-3		
~	165 - 400	30 - 42		Armoured	RCSJA 24X 185-400-1	RCSJA 24X 185-400-3		
( )	500 - 1000	40 - 60	78	No armour	RCSJU 24X 500-1000-1	-		
				Armoured	RCSJA 24X 500-1000-1	-		
	Cold Shrinkab	le Straight C	able Joint for P	olymeric Insu	lated cables rated a	t Um= 36kV		
$\geq$	50 - 120	19 - 32	42	No armour	RCSJU 36X 50-120-1	RCSJU 36X 50-120-3		
~			42	Armoured	RCSJA 36X 50-120-1	RCSJA 36X 50-120-3		
	150 - 400	30 - 42	65	No armour	RCSJU 36X 150-400-1	RCSJU 36X 150-400-3		
9		30 TE		Armoured	RCSJA 36X 150-400-1	RCSJA 36X 150-400-3		
$\widetilde{\mathfrak{C}}$	500 - 1000	40 - 60	78	No armour	RCSJU 36X 500-1000-1	-		
( ' )				Armoured	RCSJA 36X 500-1000-1	-		

For full product code selection, see Page 68

Note  ${\bf 1}$  – the conductor cross sections shown are for general guidance only – the more important parameter is the insulation diameter range to ensure the moulded joint body fits correctly.

**Note 2** – for single core cables, the maximum diameter of the cable is important as the moulded joint body has to slide over the joint and have adequate room for the spiral tape to be pulled out – therefore for cables with armour where diameter is on the top end of the range, it might be better to select next size up.

<sup>\*3</sup> core cables up to 400m² only

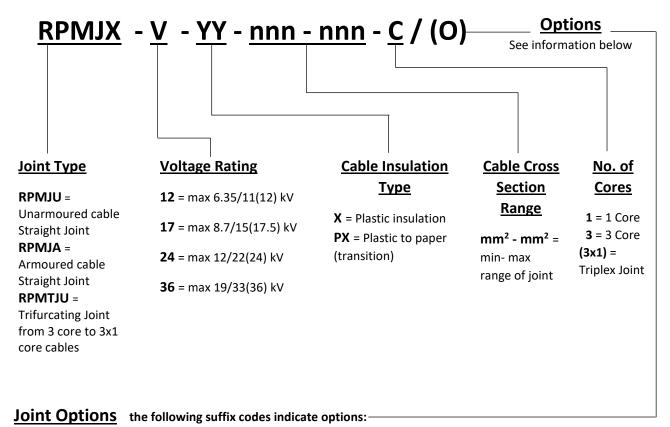




RPMJ Push On medium voltage joints provide a method to connect power cables with system voltages up to 36kV using a pre-moulded rubber joint body with integrated Faraday Cage.

#### RPMJ - Push On Joint Designer for cables 12kV to 36kV

The coding system below allows installer to specify correct joint based on application and cable type. The joint code is made up of 5 elements plus options suffix as follows:



- /MC = Mechanical connectors supplied in kit (default)
- /CC = Copper compression ferrules supplied in kit
- /AC = Aluminium compression ferrules supplied in kit
- /H = Joint is supplied with a Heavy Wall Heat Shrinkable outer protection tube
- /C = Joint is supplied with a EPDM Cold Shrinkable outer protection tube
- /R = Joint is supplied with horizontal split plastic shell for resin encapsulation outer protection

#### **Examples:**

**RPMJU – 12X 95-240-1/MC/H** – Push On straight joint for single core 6/10 kV or 6.35/11 kV unarmoured XLPE or EPR insulated cables between 95 and 185mm<sup>2</sup>, supplied with connectors.

**RPMJA – 17X 185-300-3/R/CC** – Push On joint for three core 8.7/15 kV armoured XLPE or EPR insulated cables between 185 and 300mm<sup>2</sup>, supplied with compression connectors and plastic shells for resin encapsulation.



REPL range of RPMJ Joints are suitable for installations on medium voltage cables up to 36kV.



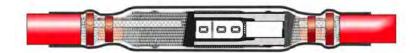
The Joint consists of a moulded silicon rubber body with integrated central Faraday Cage, and a conductive outer layer which reinstates the

key layers of the cable being jointed. The joint bodies are installed onto the cables using grease to ensure a tight fit over the critical layers of the cable insulation.

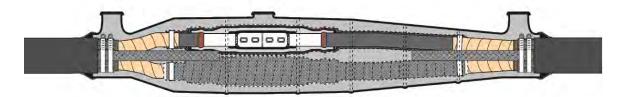
The joints can be configured for a range of single and three core cable type and are available with a number of outer protection options.

#### **Features:**

- Tested to CENELEC HD 629.1.S2, IEC 60502-4
- Quick and easy installation using no heat source or special tools
- No shelf life restrictions when stored at correct temperature
- One piece design with integrated central Faraday cage, insulation and outer screening
- Short parking distance required means compact joint bay area
- Silicon Rubber material for excellent electrical insulation properties
- Kits for armoured and unarmoured type cables can be supplied
- Choice of outer protection materials



1 core armoured and tape screen polymeric cable joint for 12kV with heat shrink outer protection tube Example Product Code: RPMJA-12X 95-185-1/H



3 core armoured and tape screen polymeric cable joint for 12kV with resin encapsulation outer protection Example Product Code: RPMJA-12X 95-185-3/R

#### Technical Details for RPMJ Premoulded (Push on/Slip) on Jointing System

Voltage Class:	12kV	17.5kV	24kV	36kV
Cross Section Range (mm²)	50 - 1000	50 - 1000	35 - 1000	50 - 1000
Cable Insulation Diameter (mm)	15 - 46	17 - 48	18 - 50	24 - 55
Voltage Rating U <sub>0</sub> /U (U <sub>m</sub> ) kV	6.35/11 (12)	8.7/15 (17.5)	12.7/22 (24)	19/33 (36)
Basic Impulse Level (BIL) kV	95	95	125	194
Partial Discharge at 1.73U° (pC)	<10	<10	<10	<10
AC Voltage Withstand , 5 min (kV)	>27	>39	>57	>85.5
DC Voltage Withstand , 15min (kV)	>36	>52	>76	>114





Section	Cal-L-	Wit Nieure Ir e	V:+ N
	Cable	Kit Number	Kit Number
	Construction	Single Core Joint	Three Core Joint
(mm²)			
Push On Straight (	Cable Joint for Po	olymeric Insulated cab	les rated at Um= 12kV
25 - 70 -	No armour	RPMJU-12X 25-70-1	RPMJU-12X 25-70-3
	Armoured	RPMJA-12X 25-70-1	RPMJA-12X 25-70-3
95 - 120 -	No armour	RPMJU-12X 95-120-1	RPMJU-12X 95-120-3
	Armoured	RPMJA-12X 95-120-1	RPMJA-12X 95-120-3
<b>150 - 240</b> —	No armour	RPMJU-12X 150-240-1	RPMJU-12X 150-240-3
	Armoured	RPMJA-12X 150-240-1	RPMJA-12X 150-240-3
300 - 400 -	No armour	RPMJU-12X 300-400-1	RPMJU-12X 300-400-3
	Armoured	RPMJA-12X 300-400-1	RPMJA-12X 300-400-3
500 -	No armour	RPMJU-12X 500-1	<u> </u>
	Armoured	RPMJA-12X 500-1	-
Push On Straight (	Cable Joint for Po	olymeric Insulated cab	les rated at Um= 17.5k
25 - 70	No armour	RPMJU-17X 25-70-1	RPMJU-17X 25-70-3
25-70	Armoured	RPMJA-17X 25-70-1	RPMJA-17X 25-70-3
95 - 120 -	No armour	RPMJU-17X 95-120-1	RPMJU-17X 95-120-3
	Armoured	RPMJA-17X 95-120-1	RPMJA-17X 95-120-3
<b>150 - 240</b> –	No armour	RPMJU-17X 150-240-1	RPMJU-17X 150-240-3
130 - 240	Armoured	RPMJA-17X 150-240-1	RPMJA-17X 150-240-3
300 - 400 —	No armour	RPMJU-17X 300-400-1	RPMJU-17X 300-400-3
300 - <del>4</del> 00	Armoured	RPMJA-17X 300-400-1	RPMJA-17X 300-400-3
400 - 630 -	No armour	RPMJU-17X 400-630-1	-
	Armoured	RPMJA-17X 400-630-1	
Push On Straight (		-	les rated at Um= 24kV
25 - 70 -	No armour	RPMJU-24X 25-70-1	RPMJU-24X 25-70-3
	Armoured	RPMJA-24X 25-70-1	RPMJA-24X 25-70-3
95 - 120 -	No armour	RPMJU-24X 95-120-1	RPMJU-24X 95-120-3
	Armoured	RPMJA-24X 95-120-1	RPMJA-24X 95-120-3
<b>150 - 240</b> -	No armour	RPMJU-24X 150-240-1	RPMJU-24X 150-240-3
	Armoured	RPMJA-24X 150-240-1	RPMJA-24X 150-240-3
300 - 400 —	No armour	RPMJU-24X 300-400-1	RPMJU-24X 300-400-3
	Armoured	RPMJA-24X 300-400-1	RPMJA-24X 300-400-3
400 - 630 -	No armour	RPMJU-24X 400-630-1	-
	Armoured	RPMJA-24X 400-630-1	les reted at the 2013/
rush on Straight (		-	oles rated at Um= 36kV
<b>50 - 95</b> —	No armour	RPMJU-36X 25-70-1	RPMJU-36X 25-70-3
	Armoured	RPMJA-36X 25-70-1	RPMJA-36X 25-70-3
<b>120 - 150</b> -	No armour	RPMJU-36X 95-120-1	RPMJU-36X 95-120-3
	Armoured	RPMJA-36X 95-120-1	RPMJA-36X 95-120-3
<b>185 - 240</b> —	No armour	RPMJU-36X 150-240-1	RPMJU-36X 150-240-3
	Armoured	RPMJA-36X 150-240-1	RPMJA-36X 150-240-3
300 - 400 -	No armour	RPMJU-36X 300-400-1	RPMJU-36X 300-400-3
	Armoured	RPMJA-36X 300-400-1	RPMJA-36X 300-400-3
	No armour	RPMJU-36X 400-630-1	-

For full product code selection, see Page 72









REPL manufacture a wide range of tube components for Cable applications.

Heat Shrinkable Tubes are a popular choice for protection, harnessing, identification and general sealing applications. REPL offer a range of tube thickness in standard insulating grades. In addition, we offer Cold Shrinkable Tubes for insulation and protection as alternative for areas where no heat can be used.

Heat Shrinkable Wraparound Sleeves can be used for cable sheath repair, or general joint protection when it is not possible to use a tube.

Heat Shrinkable Bus-Bar insulation tubes and tapes provide insulation enhancement for live metal when there are reduced clearances where flashover is possible.

Our range of mastic tapes can be used for various sealing and insulating applications within cable joints and terminations.

	<b>Part Code</b>	Description	Page
<b>→</b>	RITT	Thin Wall Heat Shrinkable Tubing – Adhesive Lined / Unlined	78
	RIMT	Medium Wall Heat Shrinkable Tubing – Adhesive Lined/ Unlined	82
	RIHT	Heavy Wall Heat Shrinkable Tubing – Adhesive Lined/ Unlined	84
	SCST	Silicon Rubber Cold Shrinkable Tubing	86
	ECST	EPDM Rubber Cold Shrinkable Tubing	87
	RIBT	Bus-Bar Insulation Heat Shrinkable Tubing	88
	RTBM	Bus-Bar Insulation Heat Shrinkable Tape	91
	RMBK	Black Sealing/Contouring Mastic	93
	RMRD	Red Sealing/Anti-tracking Mastic	93
20000000000000000000000000000000000000	RWRS	Wraparound Heat Shrinkable Repair Sleeve	94
Animon (Manager and Animon)	RTSF	Reinforced Wraparound Heat Shrinkable Repair Sleeve	95



#### **Thin Wall Heat Shrink Tubing**

RITT thin walled tube is designed for all general purpose applications where thick or medium wall tubing is not required.

Typical applications include cable marking, colour coding, insulation and light

#### weight harness jacketing.

#### Features:

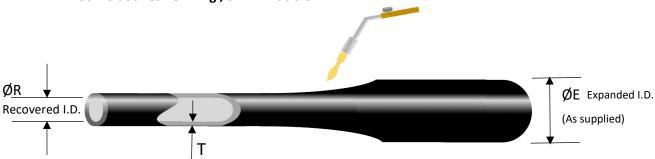
- Unlimited shelf life
- Flame Retardant
- Excellent resistance to chemicals and solvents
- Excellent electrical properties
- Continuous operating temperature: 50°C to 125°C
- Available in long spool lengths
- Various colours available for unlined versions
- Conforms to specifications: IEC 60684-3, ENATS 09-11,
- RoHS 2011/65/EU & 2015/863/EU Compliant





#### **Product Types:**

- RITTU 2:1 Unlined , Shrink Ratio of 2:1
- RITTU 3:1 Unlined , Shrink Ratio of 3:1
- RITTA 3:1 Hot melt adhesive lining , Shrink Ratio of 3:1
- RITTA 4:1 Hot melt adhesive lining , Shrink Ratio of 4:1



Recovered Wall Thickness = 0.3 to 1.5mm

Material Properties	Value	Test Method
Minimum Shrink Temperature	125°C	-
Density	1 g/cm <sup>3</sup> +/-10%	IEC 60684-2 / ASTM D-1505
Water Absorption	<0.5%	ASTM D-570
Tensile Strength	>15 MPa	IEC 60684-2 /ASTM D-412
Ultimate Elongation	>300%	IEC 60684-2 /ASTM D-412
Low Temperature Flexibility	No cracking after 4h @- 40°C	IEC 60684-2
Tensile Strength after heat ageing (120°C for 500hrs)	>10 MPa	IEC 60684-2 / ASTM D-412
Ultimate Elongation after heat ageing (120°C for 500hrs)	>100%	ISO 37/ ASTM D-412
Hardness	43 +/-5 Shore D	ISO 868 / ASTM D-2240
Volume Resistivity	≥1x10 <sup>14</sup> Ωcm	IEC 60093 / ASTM D-229
Dielectric Strength	>20Kv/mm	IEC 60243 / ASTM D-149
Dielectric Constant	>5	IEC 60250/ ASTM D-150



## Thin Wall Heat Shrink Tubing RITTU 2:1 Shrink Ratio - Unlined



Product Code	ØE Expanded	ØR Recovered	<b>T</b> Thickness Recovered	Standard Reel Length
	mm	mm	mm +/-20%	m
RITTU 2:1 0.6/0.3	0.6	0.3	0.3	200
RITTU 2:1 0.8/0.4	0.8	0.4	0.3	200
RITTU 2:1 1.0/0.5	1.0	0.5	0.3	200
RITTU 2:1 2.0/1.0	2.0	1.0	0.3	200
RITTU 2:1 3.0/1.5	3.0	1.5	0.4	200
RITTU 2:1 4.0/2.0	4.0	2.0	0.5	200
RITTU 2:1 5.0/2.5	5.0	3.5	0.5	100
RITTU 2:1 6.0/3.0	6.0	3.0	0.5	100
RITTU 2:1 7.0/3.5	7.0	3.5	0.5	100
RITTU 2:1 8.0/4.0	8.0	4.0	0.5	100
RITTU 2:1 9.0/4.5	9.0	4.5	0.6	100
RITTU 2:1 10.0/5.0	10.0	5.0	0.6	100
RITTU 2:1 11.0/5.5	11.0	5.5	0.6	100
RITTU 2:1 12.0/6.0	12.0	6.0	0.6	100
RITTU 2:1 13.0/6.5	13.0	6.5	0.7	100
RITTU 2:1 14.0/7.0	14.0	7.0	0.7	100
RITTU 2:1 15.0/7.5	15.0	7.5	0.7	100
RITTU 2:1 16.0/8.0	16.0	8.0	0.7	100
RITTU 2:1 17/8.5	17.0	8.5	0.7	100
RITTU 2:1 18.0/9.0	18.0	9.0	0.7	100
RITTU 2:1 20.0/10.0	20.0	10.0	0.8	100
RITTU 2:1 22.0/11.0	22.0	11.0	0.8	100
RITTU 2:1 25.0/12.5	25.0	12.5	0.9	50
RITTU 2:1 28/14.0	28.0	14.0	0.9	50
RITTU 2:1 30/15.0	30.0	15.0	1.0	50
RITTU 2:1 35/17.5	35.0	17.5	1.0	50
RITTU 2:1 38/19.0	38.0	19.5	1.0	50
RITTU 2:1 45.0/22.5	45.0	22.5	1.1	25
RITTU 2:1 50.0/25.0	50.0	25.0	1.2	25
RITTU 2:1 60.0/30.0	60.0	30.0	1.2	25
RITTU 2:1 70.0/35.0	70.0	35.0	1.3	25
RITTU 2:1 80.0/40.0	80.0	40.0	1.3	25
RITTU 2:1 90.0/45.0	90.0	45.0	1.3	25
RITTU 2:1 100/50.0	100.0	50.0	1.4	25
RITTU 2:1 120/60.0	120.0	60.0	1.5	25

#### **Colour Options:**

BK = Black (standard) BL = Blue Y = Yellow

CL = Clear GR = Grey \*other colours are available

GY = Green/Yellow GN = Green
BR = Brown RD = Red



## Thin Wall Heat Shrink Tubing RITTU 3:1 Shrink Ratio - Unlined



The 3:1 shrink ratio means it is ideal for irregular shapes with widely varying dimensions.

Product Code	<b>ØE</b> Expanded	ØR Recovered	<b>T</b> Thickness Recovered	Standard Reel Length
	mm	mm	mm +/-20%	m
RITTU 3:1 1.5/0.5	1.5	0.5	0.3	200
RITTU 3:1 3.0/1	3.0	1.0	0.4	200
RITTU 3:1 4.5/1.5	4.5	1.5	0.5	100
RITTU 3:1 6.0/2	6.0	2.0	0.6	100
RITTU 3:1 9/3	9.0	3.0	0.7	50
RITTU 3:1 12/4	12.0	4.0	0.8	50
RITTU 3:1 15/5	15.0	5.0	0.8	50
RITTU 3:1 18/6	18.0	6.0	0.9	50
RITTU 3:1 24/8	24.0	8.0	1.2	25
RITTU 3:1 28/10	28.0	10.0	1.2	25
RITTU 3:1 30/10	30.0	10.0	1.25	25
RITTU 3:1 39/13	39.0	13.0	1.25	25
RITTU 3:1 50/16	50.0	16.0	1.3	1.22/pc
RITTU 3:1 60/20	60.0	20.0	1.3	1.22/pc
RITTU 3:1 70/23	70.0	23.0	1.4	1.22/pc
RITTU 3:1 80/26	80.0	26.0	1.4	1.22/pc
RITTU 3:1 90/30	90.0	30.0	1.5	1.22/pc
RITTU 3:1 100/33	100.0	33.0	1.5	1.22/pc

#### **Colour Options:**

BK = Black (standard) BL = Blue Y = Yellow

**CL = Clear GR = Grey** \*other colours are available

GY = Green/Yellow GN = Green
BR = Brown RD = Red



# Thin Wall Heat Shrink Tubing RITTA 3:1 Shrink Ratio Hot Melt Adhesive Lined



For applications requiring moisture tight environmental sealing, the adhesive will flow during shrinking and fill all voids to form a water tight seal.

Product Code	<b>ØE</b> Expanded	ØR Recovered	<b>T</b> Thickness Recovered	Standard Reel Length
	mm	mm	mm +/-20%	m
RITTA 3:1 03/01	3	1	0.5	200
RITTA 3:1 4.8/1.5	4.8	1.5	0.5	100
RITTA 3:1 6/2	6	2	0.5	100
RITTA 3:1 9/3	9	3	0.5	50
RITTA 3:1 12/04	12	4	0.8	25/1.22pc
RITTA 3:1 15/5	15	5	0.8	25/1.22pc
RITTA 3:1 19/06	19	6	0.8	25/1.22pc
RITTA 3:1 25/08	25	8	1.0	25/1.22pc
RITTA 3:1 30/10	30	10	1.0	25/1.22pc
RITTA 3:1 39/13	39	13	1.0	25/1.22pc

#### **Colour Options:**

BK = Black (standard)

# Thin Wall Heat Shrink Tubing RITTA 4:1 Shrink Ratio Hot Melt Adhesive Lined



Ideal for applications with irregular shapes or widely varying dimensions.

Product Code	<b>ØE</b> Expanded	ØR Recovered	<b>T</b> Thickness Recovered	Standard Reel Length
	mm	mm	mm +/-20%	m
RITTA 4:1 04/01	4	1	0.5	200
RITTA 4:1 6/1.5	6	1.5	0.5	100
RITTA 4:1 8/2	8	2	0.5	100
RITTA 4:1 12/3	12	3	0.6	25/1.22pc
RITTA 4:1 16/4	16	4	0.8	25/1.22pc
RITTA 4:1 20/5	20	5	0.8	25/1.22pc
RITTA 4:1 24/6	24	6	1.0	25/1.22pc
RITTA 4:1 32/8	32	8	1.0	25/1.22pc
RITTA 4:1 52/13	52	13	1.0	25/1.22pc

#### **Colour Options:**

BK = Black (standard)

RIMT(x)



#### **Medium Wall Heat Shrink Tubing**

REPL Heat Shrinkable Medium Wall Heat Shrinkable Tubes (RIMT) provide environmental protection to the cable cores of plastic and paper insulated cable terminations, and the primary insulation over the connector area in cable joints rated up to 1.2kV.

The insulating tubes are made from thermally stabilized, cross linked, weather resistant polymeric material.

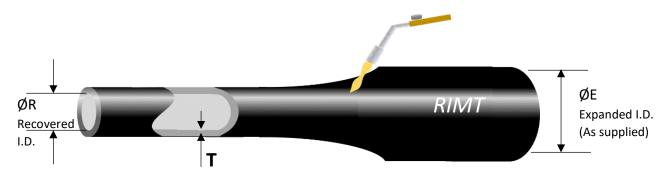


- Unlimited shelf life
- Excellent resistance to chemicals and solvents
- Excellent electrical properties
- Continuous operating temperature: -50°C to 125°C
- Available in long spool lengths (RIMTU version only)
- Conforms to specifications: IEC 60684-3, ENATS 09-11
- RoHS 2011/65/EU & 2015/863/EU Compliant



#### **Product Types:**

- RIMTU Unlined , Shrink Ratio of 3:1
- RIMTA Lined with Hot Melt Adhesive , Shrink Ratio of 3:1



Recovered Wall Thickness = 1.9 – 3.6mm

Material Properties	Value	Test Method
Minimum Shrink Temperature	120°C	-
Density	1.19 g/cm <sup>3</sup> +/-10%	IEC 60684-2 / ASTM D-1505
Water Absorption	<0.5%	IEC 60684-2 /ASTM D-570
Tensile Strength	>10 MPa	ISO 37 /ASTM D-412
Ultimate Elongation	>200%	ISO 37/ASTM D-412
Low Temperature Flexibility	No cracking after 4h @-40°C	ASTM D-2671
Tensile Strength after heat ageing (120°C for 500hrs)	>8 MPa	ISO 37/ ASTM D-412
Ultimate Elongation after heat ageing (120°C for 500hrs)	>100%	ISO 37 / ASTM D-412
Hardness	43 +/-3 Shore D	ISO 868 / ASTM D-2240
Volume Resistivity	≥1x10 <sup>12</sup> Ωcm	IEC 60093 / ASTM D-257
Dielectric Strength	>10kV/mm	IEC 60243 / ASTM D-149
Dielectric Constant	5	IEC 60250/ ASTM D-150





#### **RIMTU 3:1 Shrink Ratio - Unlined**

For applications such as environmental protection of cable cores in terminations, or insulation of low voltage connectors.

Product Code	ØE Expanded	ØR Recovered	<b>T</b> Thickness Recovered	Standard Lengths
	mm	mm	mm +/-20%	m
RIMTU 09/03	9	3	1.90	100
RIMTU 12/04	12	4	2.20	50
RIMTU 22/06	22	6	2.50	50
RIMTU 30/08	30	8	2.60	50
RIMTU 40/12	40	12	2.80	25 / 1.0 / 1.2 pc
RIMTU 52/16	52	16	3.00	25 / 1.0 / 1.2 pc
RIMTU 63/19	63	19	3.20	25 / 1.0 / 1.2pc
RIMTU 80/22	80	22	3.20	25 / 1.0 / 1.2 pc
RIMTU 100/30	100	30	3.30	1.0 or 1.2 pc
RIMTU 120/34	120	34	3.30	1.0 or 1.2 pc
RIMTU 140/40	140	40	3.40	1.0 or 1.2 pc
RIMTU 160/50	160	50	3.60	1.0 or 1.2 pc
RIMTU 180/60	180	60	3.60	1.0 or 1.2 pc

## RIMTA 3:1 Shrink Ratio Hot Melt Adhesive Lined

For applications requiring a moisture tight seal



Product Code	<b>ØE</b> Expanded	ØR Recovered	T Thickness Recovered	Coating Type	Standard Lengths
	mm	mm	mm +/-20%		m
RIMTA 09/03	9	3	1.90	Smooth	1.0 or 1.2 pc
RIMTA 12/04	12	4	2.20	Smooth	1.0 or 1.2 pc
RIMTA 22/06	22	6	2.50	Smooth	1.0 or 1.2 pc
RIMTA 30/08	30	8	2.60	Smooth	1.0 or 1.2 pc
RIMTA 40/12	40	12	2.80	Smooth	1.0 or 1.2 pc
RIMTA 52/16	52	16	3.00	Smooth	1.0 or 1.2 pc
RIMTA 63/19	63	19	3.20	Smooth	1.0 or 1.2 pc
RIMTA 80/22	80	22	3.20	Spiral	1.0 or 1.2 pc
RIMTA 100/30	100	30	3.30	Spiral	1.0 or 1.2 pc
RIMTA 120/34	120	34	3.30	Spiral	1.0 or 1.2 pc
RIMTA 140/40	140	40	3.40	Spiral	1.0 or 1.2 pc
RIMTA 160/50	160	50	3.60	Spiral	1.0 or 1.2 pc
RIMTA 180/60	180	60	3.60	Spiral	1.0 or 1.2 pc

#### **Colour Options:**

BK = Black



REPL Heat Shrinkable Heavy Wall Heat Shrinkable Tubes (RIHT) provide environmental protection for power cable joints up to 42kV and insulating medium for use up to 1.2kV.



The insulating tubes are made from thermally stabilized, cross linked, weather resistant polymeric material.

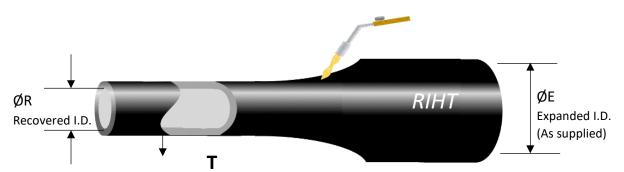
#### Features:

- Unlimited shelf life
- Excellent resistance to chemicals and solvents
- Excellent electrical properties
- Continuous operating temperature: 50°C to 125°C
- Conforms to specifications: IEC 60684-3, ENATS 09-11,
   RoHS 2011/65/EU & 2015/863/EU Compliant



#### **Product Types:**

- RIHTU Unlined, Shrink Ratio of 3:1
- RIHTA Lined with Hot Melt Adhesive , Shrink Ratio of 3:1



Recovered Wall Thickness = 2.5 - 4.5mm

Material Properties	Value	Test Method
Minimum Shrink Temperature	120°C	
Density	1.19 g/cm³ +/-10%	IEC 60684-2 / ASTM D-1505
Water Absorption	<0.5%	IEC 60684-2 /ASTM D-570
Tensile Strength	>14.5 MPa	IEC 60684-2 /ASTM D-412
Ultimate Elongation	>500%	IEC 60684-2 /ASTM D-412
Low Temperature Flexibility	No cracking after 4h @ -40°C	IEC 60684-2
Tensile Strength after heat ageing (150°C for 168hrs)	>12 MPa	IEC 60684-2 / ASTM D-412
Ultimate Elongation after heat ageing (150°C for 168hrs)	>300%	IEC 60684-2 / ASTM D-412
Hardness	43 +/-3 Shore D	ISO 868 / ASTM D-2240
Volume Resistivity	≥1x10 <sup>14</sup> Ωcm	IEC 60093 / ASTM D-229
Dielectric Strength	>20kV/mm	IEC 60243 / ASTM D-149
Dielectric Constant	5	IEC 60250/ ASTM D-150
Fungus Resistance	No Growth	ASTM G-21
Chemical Resistance	Good	ISO 175 24hrs immersion at room temperature in NaOH 40% strength, Toluene, Acetone and $H_2SO_4$ 3% strength





#### **RIHTU 3:1 Shrink Ratio - Unlined**

Product Code	ØE ØR Thickness Expanded Recovered Recovered		Standard Lengths	
	mm	mm	mm +/-20%	m
RIHTU 12/04	12	4	2.50	1.0 or 1.2 pc
RIHTU 16/05	16	5	2.80	1.0 or 1.2 pc
RIHTU 20/06	20	6	3.20	1.0 or 1.2 pc
RIHTU 30/08	30	8	3.20	1.0 or 1.2 pc
RIHTU 40/12	40	12	4.00	1.0 or 1.2 pc
RIHTU 55/16	55	16	4.10	1.0 or 1.2 pc
RIHTU 80/22	80	22	4.20	1.0 or 1.2 pc
RIHTU 100/30	100	30	4.40	1.0 or 1.2 pc
RIHTU 120/34	120	34	4.40	1.0 or 1.2 pc
RIHTU 140/37	140	37	4.50	1.0 or 1.2 pc
RIHTU 160/50	160	50	4.50	1.0 or 1.2 pc
RIHTU 180/60	180	60	4.50	1.0 or 1.2 pc



## RIHTA 3:1 Shrink Ratio Hot Melt Adhesive Lined

For applications requiring a moisture tight seal

Product Code	ØE Expanded	Thickness Coaung		_	Standard Lengths
	mm	mm	mm +/-20%		m
RIHTA 12/04	12	4	2.50	Smooth	1.0 or 1.2 pc
RIHTA 16/05	16	5	2.80	Smooth	1.0 or 1.2 pc
RIHTA 20/06	20	6	3.20	Smooth	1.0 or 1.2 pc
RIHTA 30/08	30	8	3.20	Smooth	1.0 or 1.2 pc
RIHTA 40/12	40	12	4.00	Spiral	1.0 or 1.2 pc
RIHTA 55/16	55	16	4.10	Spiral	1.0 or 1.2 pc
RIHTA 80/22	80	22	4.20	Spiral	1.0 or 1.2 pc
RIHTA 100/30	100	30	4.40	Spiral	1.0 or 1.2 pc
RIHTA 120/34	120	34	4.40	Spiral	1.0 or 1.2 pc
RIHTA 140/37	140	37	4.50	Spiral	1.0 or 1.2 pc
RIHTA 160/50	160	50	4.50	Spiral	1.0 or 1.2 pc
RIHTA 180/60	180	60	4.50	Spiral	1.0 or 1.2 pc

#### **Colour Options:**

BK = Black

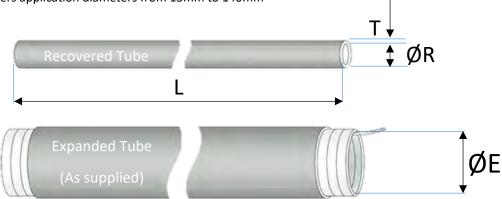


The REPL SCST range of Cold Shrinkable tubing is made from silicon rubber material and can be used for a number of applications such as core or connector insulation in low voltage cable joints, moisture sealing, diameter build up or outer joint protection.

The tubes are pre-expanded onto a plastic spiral core and can be easily shrunk onto cables / pipes etc. by simply pulling out the spiral tape – **no heat or tools are necessary.** 

- Suitable for indoor and outdoor applications.
- Good mechanical strength
- Weatherproof
- Excellent electrical insulation properties
- Ozone and UV resistant
- Resistant to acids and alkalis
- Good Thermal stability operating range of -50°C to 250°C
- Resists fire will not support flame
- Range covers application diameters from 13mm to 140mm





Product Code	Application Range Ø	<b>Ø</b> E Expanded	ØR Recovered	T Thickness Recovered	Standard Lengths*	Colour
	mm	mm	mm	mm +/-20%	mm	m
SCST 25/12	13 - 20	25	12	2.5	220	Grey
SCST 40/15	20 - 30	40	15	3.0	220 / 450	Grey
SCST 50/20	25 - 40	50	20	3.0	220/ 450	Grey
SCST 65/20	25 - 55	65	20	4.5	600 / 700	Black
SCST 80/24	25 - 70	80	24	4.5	600 / 700	Black
SCST 90/27	30 - 80	90	27	4.5	600 / 700	Black
SCST 150/50	55 - 140	150	50	4.5	650	Black

<sup>\*</sup>Other lengths available upon request

<b>Material Properties</b>	ties Value Test Method	
Hardness	>40±5 Shore A	ASTM D 2240
Tensile Strength	>8 MPa	ASTM D 412 / BS 903ptA2
Elongation at Break	700%	ASTM D 412 / BS 903ptA2
Dielectric Strength	>20kV/mm	ASTM D 149 / BS 2918pt2
Weather Resistance (5000hr)	Pass	ASTM G 154



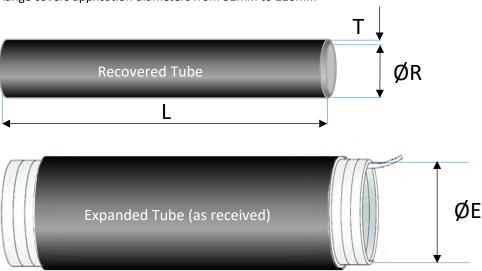
The REPL ECST range of Cold Shrinkable tubing is made from EPDM rubber material and can be used for a number of applications such as providing a tough, weatherproof seal over cable joints.

The tubes are pre-expanded onto a plastic spiral core and can be easily shrunk onto cables / pipes etc. by simply pulling out the spiral tape - no heat or tools are necessary.

- Suitable for indoor, outdoor and direct buried applications.
- Good mechanical strength to withstand backfill operations
- Waterproof
- Excellent electrical insulation properties
- Ozone and UV resistant
- Resistant to acids and alkalis
- Good Thermal stability
- Range covers application diameters from 32mm to 110mm







Product Code	Application Range Ø	<b>ØE</b> Expanded	ØR Recovered	T Thickness Recovered	Standard Lengths*
	mm	mm	mm	mm +/-20%	mm
ECST 70/35	32 - 63	70	35	3.5	600
ECST 90/45	43 - 80	90	45	3.5	600
ECST 104/45	43 - 94	104	45	3.5	250 / 600
ECST 120/52	54 - 110	120	52	3.5	250 / 600

<sup>\*</sup>Other lengths available upon request

<b>Material Properties</b>	Value	Test Method
Colour	Black	-
Hardness	>38 Shore A	ASTM D 2240
Tensile Strength	8MPa	ASTM D 412 / BS 903ptA2
Elongation at Break	700%	ASTM D 412 / BS 903ptA2
Tear Strength	32KN/m	ASTM D 624C / BS 903ptA26
Dielectric Strength	19kV/mm	ASTM D 149 / BS 2918pt2
Weather Resistance (5000hr)	Pass	ASTM G 154



The REPL RIBT Heat Shrinkable Bus-Bar Insulation Tubing is used to insulate copper and aluminium bus-bars, preventing flashovers and accidentally induced discharge. It can be used in confined spaces to reduce the clearance necessary between bus-bar phases.

The tubes are made from thermally stabilized, cross linked, weather resistant polymeric material with a nominal shrink ratio of 3:1 and an unlimited shelf life when stored at normal warehouse temperatures.

It is available in two grades of wall thickness and can be used on all bus-bar systems, as long as minimum clearances are maintained as shown in the accompanying tables.

- Unlimited shelf life
- Halogen free
- UV & weather resistant
- Shrink ratio: 3:1
- Continuous operating temperature: 50°C to 125°C
- Conforms to specifications: IEC 60684-3 / ENATS 09-13, RoHS
   2011/65/EU & 2015/863/EU Compliant
- Colour: Flame red (RAL 3000)



- RIBT Medium Wall thickness, Shrink Ratio of 3:1
- RIBT-T Heavy Wall thickness, Shrink Ratio of 3:1

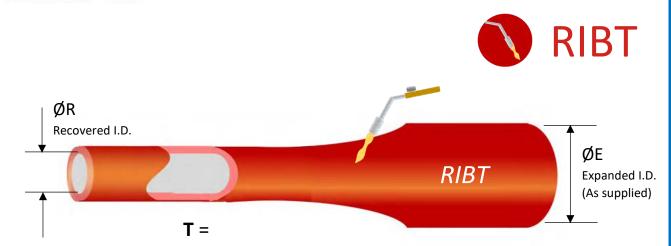




Material Properties	Value	Test Method
Minimum Shrink Temperature	120°C	-
Density	1.19 g/cm <sup>3</sup> +/-10%	IEC 60684-2 / ASTM D-1505
Water Absorption	<01%	IEC 60684-2 /ASTM D-570
Tensile Strength	>14 MPa	IEC 60684-2 /ASTM D-412
Ultimate Elongation	>300%	IEC 60684-2 /ASTM D-412
Low Temperature Flexibility	No cracking after 4h @40°C	IEC 60684-2
Heat Shock	No cracking or flow	IEC 60684-2
Tensile Strength after heat ageing (150°C for 168hrs)	>10 MPa	IEC 60684-2 / ASTM D-412
Ultimate Elongation after heat ageing (150°C for 168hrs)	>200%	IEC 60684-2 / ASTM D-412
Hardness	45 +/-3 Shore D	ISO 868 / ASTM D-2240
Volume Resistivity	≥1x10 <sup>14</sup> Ωcm	IEC 60093 / ASTM D-229
Dielectric Strength	>20kV/mm	IEC 60243 / ASTM D-149
Dielectric Constant	<3.5	IEC 60250 / ASTM D-150
Fungus Resistance	No Growth	ASTM G-21
Chemical Resistance	Good	ISO 175 24hrs immersion at room temperature in NaOH 40% strength, Toluene, Acetone and $\rm H_2SO_4$ 3% strength

**IMPORTANT** – Please refer to the information on the following pages regarding the recommended minimum clearances to be used for distance between each phases and phase to earth.





Recovered Wall Thickness = 2.5-2.8mm for RIBT

Recovered Wall Thickness = 4.0mm for RIBT-T

**RIBT 3:1 Shrink Ratio** 

Medium Wall Bus-Bar insulating Tubing

Product Code	ØE Expanded	ØR Recovered	<b>T</b> Thickness Recovered	Standard Reel Lengths
	mm	mm	mm +/-20%	m
RIBT 015/006	15	6	2.5	30
RIBT 020/008	20	8	2.5	30
RIBT 025/010	25	10	2.5	30
RIBT 030/012	30	12	2.5	30
RIBT 040/016	40	16	2.5	30
RIBT 050/020	50	20	2.8	15
RIBT 060/024	60	24	2.8	15
RIBT 070/028	70	28	2.8	15
RIBT 080/032	80	32	2.8	15
RIBT 100/040	100	40	2.8	15
RIBT 120/048	120	48	2.8	15

#### **RIBT-T 3:1 Shrink Ratio**

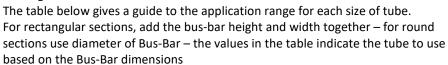
Thick Wall Bus-Bar insulating Tubing

Product Code	<b>ØE</b> Expanded	ØR Recovered	<b>T</b> Thickness Recovered	Standard Reel Lengths
	mm	mm	mm +/-20%	m
RIBT-T 030/012	30	12	4.0	30
RIBT-T 040/016	40	16	4.0	30
RIBT-T 050/020	50	20	4.0	15
RIBT-T 060/024	60	24	4.0	15
RIBT-T 070/028	70	28	4.0	15
RIBT-T 080/032	80	32	4.0	15
RIBT-T 100/040	100	40	4.0	15
RIBT-T 120/048	120	48	4.0	15



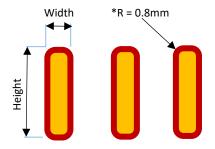
#### **Application Range Guidance**

REPL RIBT Heat Shrinkable Bus-Bar Insulating Tubing is suitable for round or rectangular section Bus-Bars.





Product Code	Section	Rectangular Section Bus-Bar (Height + Width)		Section -Bar er Range)
	Min (mm)	Max (mm)	Min (mm)	Max (mm)
RIBT 015/006	12	18	6.5	12
RIBT 020/008	15	24	9	16
RIBT 025/010	19	31	11	20
RIBT-(T) 030/012	22	38	13.5	25
RIBT-(T) 040/016	29	50	18	34
RIBT-(T) 050/020	36	63	22	42
RIBT-(T) 060/024	43	76	26	51
RIBT-(T) 070/028	50	89	31	60
RIBT-(T) 080/032	57	102	35	69
RIBT-(T) 100/040	70	130	44	86
RIBT-(T) 120/048	70	156	44	100



\*Note – for rectangular section bus-bar it is recommended that the edges have a minimum rounded edge of 0.8mm

#### **Clearance Reduction Guidance**

The table below gives recommendations on the potential reduction in clearances that can be achieved by using the RIBT or RIBT-T tubing on bus-bar sections.

However, they are intended for guidance only and the user should satisfy themselves through testing of the suitability for a specific application.

	Rectangular Section Bus-Bar							
System Voltage	Without (Air Clearance) IEC 60071.2	yer of RIBT	With one layer of RIBT-T					
kV	Phase-Phase	Phase-Phase	Phase-Earth	Phase-Phase	Phase-Earth			
12	120mm	65mm	75mm	35mm	45mm			
17.5	160mm	85mm	105mm	55mm	55mm			
24	220mm	115mm	150mm	70mm	70mm			
36	320mm	200mm	285mm	140mm	140mm			

		Round Section B	us-Bar		
System Voltage	Without (Air Clearance) IEC 60071-2	With one la	yer of RIBT	With one lay	yer of RIBT-T
kV	Phase-Phase	Phase-Phase	Phase-Earth	Phase-Phase	Phase-Earth
12	120mm	30mm	40mm	30mm	40mm
17.5	160mm	45mm	60mm	45mm	60mm
24	220mm	60mm	90mm	60mm	90mm
36	320mm	100mm	160mm	100mm	160mm



REPL Bus-Bar Insulating Tape RTBM is a dual layer tape combining a heat shrinkable outer tape with excellent insulating and weathering properties with an inner hot melt adhesive layer, to provide moisture tight sealing.

It is used to provide insulation enhancement and protection for copper or aluminium bus-bar sections where tube products cannot easily be applied such as junctions and bends.

When installed, the outer tape shrinks and the inner adhesive layer forms a tight bond between the layers.

A single layer of RTBM applied at  $\frac{2}{3}$  overlap will provide AC withstand of a flashover up to 17.5kV. Double layers will increase withstand level up to 36kV.

It is suitable for both indoor and outdoor applications.

- Continuous operating temperature up to 90°C
- Can be used in ambient temperatures down to -40°C
- Suitable for indoor and outdoor use
- Unlimited shelf life when stored at <50°C</li>
- Available in rolls of 25/50 and 100mm width
- Colour: Flame Red RAL 3000





Material Properties	Value	Test Method
Minimum Shrink Temperature	120°C	-
Density	1.1g/cm <sup>3</sup> +/-10%	IEC 60684-2 / ASTM D-1505
Water Absorption	<1%	IEC 60684-2 / ASTM D-570
Tensile Strength	>11 MPa	IEC 60684-2 / ASTM D-412
Ultimate Elongation	>500%	IEC 60684-2 / ASTM D-412
Low Temperature Flexibility	No cracking after 4h @40°C	IEC 60684-2
Heat Shock	No cracking or flow	IEC 60684-2
Tensile Strength after heat ageing (150°C for 168hrs)	>10 MPa	IEC 60684-2 / ASTM D-412
Ultimate Elongation after heat ageing (150°C for 168hrs)	>450%	IEC 60684-2 / ASTM D-412
Volume Resistivity	≥1x10 <sup>14</sup> Ωcm	IEC 60093 / ASTM D-229
Dielectric Strength	>20kV/mm	IEC 60243 / ASTM D-149
Dielectric Constant	<3	IEC 60250 / ASTM D-150
Fungus Resistance	No Growth	ASTM G-21
Chemical Resistance	Good	ISO 175 24hrs immersion at room temperature in NaOH 40% strength, Toluene, Acetone and $\rm H_2SO_4$ 3% strength

Product Code	As Supplied Width	As Supplied Wall Thickness	Pack S 5 metre		Pack 10 metr	
Couc	mm	mm	Roll dimensions Ø x W (mm)	Roll weight (kgs)	Roll dimensions Ø x W (mm)	Roll weight (kgs)
RTBM-25	25	1.0 +/-0.1	78 x 25	0.15	110 x 25	0.29
RTBM-50	50	1.0 +/-0.1	78 x 50	0.29	115 x 50	0.60
RTBM-100	100	1.0 +/-0.1	80 x 100	0.30	Not Ava	ilable





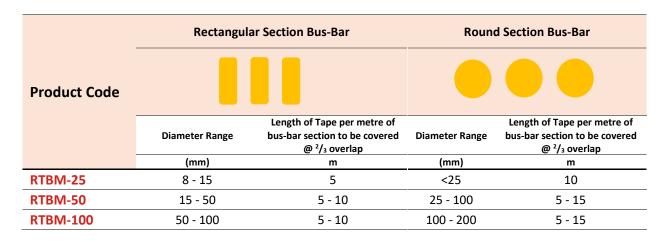
#### **Application Range Guidance**

REPL RTBM Heat Shrinkable Bus-Bar Insulating Tape is suitable for round or rectangular section Bus-Bars.

It should be applied around the Bus-Bar with an overlap of 2/3 tape width for optimum performance.



Select the required tape width according to the diameter or width of bus-bar section in the table below.



#### **Clearance Reduction Guidance**

The table below gives recommendations on the potential reduction in clearances that can be achieved by using the RTBM tape on bus-bar sections.

However, they are intended for guidance only and the user should satisfy themselves through testing of the suitability for a specific application.

It should be noted that any sharp edges and unusual geometries will affect the performance of the tape.

System Voltage	Without (Air Clearance) IEC 60071.2	_	Rectangular Section Bus-Bar		section -Bar
		•	With one layer of RBTM at 2/3 overlap		of RBTM at 2/3 rlap
kV	Phase-Phase	Phase-Phase	Phase-Earth	Phase-Phase	Phase-Earth
12	120mm	65	75	55	65
17.5	160mm	85	105	70	85
24	220mm	115	150	95	125
36	320mm	200	285	150	205



#### **Black Mastic Contouring/Sealing Tape**

RMBK is a black mastic sealing tape of approx. 2mm thickness which can be used to fill voids and cover irregular shapes and sharp edges of armour and other metallic parts and provide a smoothing cushion for Heat Shrinkable materials.

It can also be used for moisture/dust sealing and corrosion protection in cable joints.

It offers excellent adhesion and sealing characteristics to metals, rubbers, polymeric cable insulations and sheaths.

It is supplied in short lengths interleaved with release paper.

Product	Thickness	Length	Width
Code	mm	mm	mm
RMBK2	1.9	200	34
RMBK4	1.9	400	34
RMBK5	1.9	500	34

<b>Material Properties</b>	Value	Test Method
Colour	Black	-
<b>Operating Temperature Range</b>	0°C - 100°C	-
Density	1.2g/cm <sup>3</sup>	ISO 1183
Water Absorption	<0.5%	ISO 62
Tensile Strength	>2.0MPa	ASTM D-638
Ultimate Elongation	>200%	ASTM D-638
Volume Resistivity	≥1x10 <sup>14</sup> Ωcm	IEC 60093
Dielectric Strength	>13kV/mm	IEC 60243
Permittivity	3.0 - 4.0	IEC 60250

#### **Red Mastic Anti-Track Sealing Tape**

RMRD is a red tracking resistant mastic sealing tape. It can be used between Heat Shrinkable components and cable sheaths in terminations.

It is supplied in short lengths or 25m rolls interleaved with release paper.

Product	Thickness	Length	Width
Code	mm		mm
RMRD3	0.8	300mm	25
RMRD25	0.8	25m roll	25

<b>Material Properties</b>	Value	<b>Test Method</b>
Colour	Red	-
Operating Temperature Range	0°C - 120°C	-
Density	1.18g/cm <sup>3</sup>	ISO 1183
Water Absorption	<0.1%	ISO 62
Tensile Strength	>0.1MPa	ASTM D-638
Ultimate Elongation	>300%	ASTM D-638
Volume Resistivity	≥1x10 <sup>14</sup> Ωcm	IEC 60093
Dielectric Strength	>15kV/mm	IEC 60243
Permittivity	2.5 - 5.0	IEC 60250

## **RMBK**



## **RMRD**





REPL RWRS Heat Shrinkable Wrap-Around Sleeves are mainly used for repairing outer/inner sheath of cables.

These sleeves are also used for providing corrosion protection to the metallic screens of cables that are exposed to polluted environment and for telecommunication cable joints outer protection

The Wrap-Around Sleeve is made from a thermally stabilised, cross linked, weather resistant, polymeric material. The Sleeves are coated internally with hot melt adhesive to ensure moisture tight sealing.

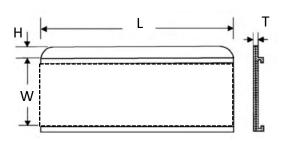
The sleeve is held whilst shrinking with a stainless steel rail system. The outer surface of the sleeves have the option of being coated with thermos-chromatic paint.





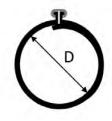
#### Features:

- Unlimited shelf life
- Excellent resistance to chemicals and solvents
- Continuous operating temperature: 50°C to 90°C
- Available in a range of sizes to cover diameters from 12 to 150mm
- Conforms to specifications: IEC 60684-3, ENATS 09-11,
   RoHS 2011/65/EU & 2015/863/EU Compliant



Product Code	Application Range ØD	Thickness T	Width W	Overlap H	Length* L
	mm	mm	mm	mm	mm
<b>RWRS 43/08</b>	12 - 25	1.2	145 <sup>+/-5</sup>	20	1000/1200
RWRS 52/10	15 - 35	1.2	175 <sup>+/-5</sup>	20	1000/1200
RWRS 82/22	20 - 50	1.2	260+/-5	20	1000/1200
<b>RWRS 100/30</b>	30 - 70	1.2	350 <sup>+/-5</sup>	30	1000/1200
RWRS 139/38	40 - 90	1.2	460 <sup>+/-5</sup>	30	1000/1200
<b>RWRS 185/55</b>	60 - 120	1.2	576 <sup>+/-5</sup>	30	1000/1200
RWRS 210/55	80 - 150	1.2	630+/-5	30	1000/1200

\*other lengths can be supplied upon request



Material Properties	Value	Test Method
Density	1.19 g/cm <sup>3</sup> +/-10%	ISO 1183 Method A
Water Absorption	<0.1%	ISO 62 Method 1
Tensile Strength	>17.5 MPa	ISO 37 / ASTM D-412
Ultimate Elongation	>300%	ISO 37 / ASTM D-412
Low Temperature Flexibility	No cracking after 4h @ -40°C	ASTM D2671 Procedure C
Tensile Strength after heat ageing (150°C for 168hrs)	>15 MPa	ISO 37 / ASTM D-412
Ultimate Elongation after heat ageing (150°C for 168hrs)	>200%	ISO 37 / ASTM D-412
Dielectric Strength	>12kV/mm	IEC 60243 / ASTM D-149
Chemical Resistance	Good	ISO 175 24hrs immersion at room temperature in NaOH 40% strength, Toluene, Acetone and H <sub>2</sub> SO <sub>4</sub> 3% strength

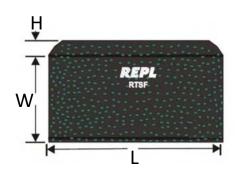
### Reinforced Wraparound Heat Shrinkable Repair Sleeve

REPL's Reinforced Heat Shrinkable Splice Closure System (RTSF) is designed to provide excellent split resistance, and environmental and mechanical protection for telecom and power cable joints.

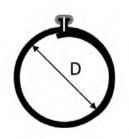
The RTSF sleeves are made from a composite laminate material consisting of reinforcing glass fibres, polyethylene layers, an aluminium layer for moisture vapour transmission and hot melt adhesive on the inner surface. The sleeves are supplied in wraparound form along with stainless steel channels to make the sleeves cylindrical prior to shrinking. The outer surface of the sleeves are coated with thermos-chromatic paint which changes colour to indicate optimum shrinking. On application of heat, the inner adhesive layer melts and bonds to the cable surface to provide a waterproof seal.











Product Code	Application Range ØD	Thickness T	Width W	Overlap H	Length* L
	mm	mm	mm	mm	mm
RTSF 42/08	12 - 25	1.5	180 ± 10	12	Up to 1500
RTSF 75/15	20 - 50	1.5	275 ± 10	12	Up to 1500
RTSF 92/25	30 - 60	1.5	330 ± 10	20	Up to 1500
RTSF 122/30	40 - 80	1.5	430 ± 15	20	Up to 1500
RTSF 160/42	60 - 100	1.5	560 ± 15	20	Up to 1500
RTSF 200/50	70 - 140	1.5	685 ± 15	20	Up to 1500

\*lengths can be customised upon request

<b>Material Properties</b>	Value	Test Method
Water Absorption	<0.1%	ISO 62 Method 1
Bursting Strength	>1800 N	ISO 3303
Corrosion Effect	No Cracks	ASTM D-2671
Low Temperature Flexibility	No cracking after 4h -40°C	ASTM D2671 Procedure C
Dielectric Strength	>12kV/mm	IEC 60243 / ASTM D-149
Chemical Resistance	Good	ISO 175 24hrs immersion at room temperature in NaOH 40% strength, Toluene, Acetone and $H_2SO_4$ 3% strength
Temperature Indicating Paint Colour Conversion Range 150°C for 30 Minutes	No Change in colour	Visual
250°C for 5 Minutes	Change in colour	Visual









REPL manufacture a wide range of moulded components for Cable applications.

Cable End caps in both Heat Shrinkable and Cold Shrinkable are available for quick and convenient end sealing of cables ends after cutting to prevent moisture ingress.

Cable Breakouts provide a seal at the crutch position of multicore cables.

Part Code	Description	Page
EC	Heat Shrinkable Cable End Cap	98
ECC	Conductive Heat Shrinkable Cable End Cap	99
CSEC	Cold Shrinkable Cable End Cap	100
EB	Heat Shrinkable Cable Breakout	101



Heat Shrinkable End Caps are used to provide a moisture tight seal on all types of cables or cylindrical pipes.

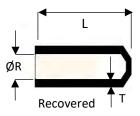


The caps are lined with a hot melt adhesive to provide a moisture tight seal. The end cap is made from thermally stabilised, cross linked polymer and are suitable for use in temperatures between -30°C and +110°C, and with internal pressures up to 0.05MPa.

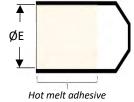
- Can be fitted over all types of plastic, metal and other materials
- Resistant to moisture
- UV resistant Unlimited Shelf life
- Quick and easy installation
- Standard Colour: Black
- Conforms to specifications: IEC 62329-3, ENATS 09-11, RoHS 2011/65/EU &
   2015/863/EU Compliant



Product Code	Ø max-min Application Range	ØE Expanded mm	ØR Recovered mm	T Thickness Recovered mm +/-20%	L Length Recovered* mm +/-10%
EC/008/03/025	3 - 6	8	3	2.0	25
EC/012/03/038	3 - 10	12	3	2.3	38
EC/016/06/045	6 - 14	16	6	2.5	45
EC/042/15/105	15 - 38	42	15	3.2	105
EC/062/25/105	25 - 58	62	25	4.2	105
EC/075/34/105	34 - 70	75	34	3.5	105
EC/100/59/160	59 - 95	100	59	4.0	110
EC/170/59/200	59 - 165	170	59	4.0	200



Expanded (as supplied)



\*Due to REPL flexible manufacturing process, we can offer variations in the standard lengths, or other sizes of caps – please contact your local sales office

Material Properties	Value	Test Method
Minimum Shrink Temperature	125°C	-
Density	1 g/cm³ +/-10%	IEC 62329-2/ ASTM D- 1505
Water Absorption	<0.2%	IEC 62329-2 / ASTM D-570
Tensile Strength	>21 MPa	IEC 62329-2 / ASTM D-412
Ultimate Elongation	500%	IEC 62329-2 / ASTM D-412
Low Temperature Flexibility	No cracking after 4h @ -40°C	IEC 62329-2
Tensile Strength after heat ageing (150°C for 168hrs)	>18 MPa	IEC 62329-2 / ASTM D-412
Ultimate Elongation after heat ageing (150°C for 168hrs)	>200%	IEC 62329-2 / ASTM D-412
Hardness	43 +/-5 Shore D	ISO 868 / ASTM D-2240
Volume Resistivity	≥1x10 <sup>14</sup> Ωcm	IEC 60093 / ASTM D-229
Dielectric Strength	≥12kV/mm	IEC 60243 / ASTM D-149
Dielectric Constant	>5	IEC 60250 / ASTM D-150



Conductive End Caps perform the same function as a standard Heat Shrinkable End Cap, but with added feature of neutralising any potential induced voltages from nearby live power cables or static charges within the cable cores.



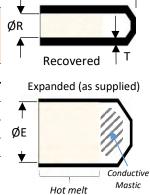
The caps are lined with a hot melt adhesive to provide a moisture tight seal and also have a conductive mastic coating in the base of the cap to ensure contact with the cable metallic parts.

The end caps are made from thermally stabilised, cross linked conductive polymer and is suitable for use in temperatures between -30°C and +110°C, and internal pressures up to 0.05MPa. They can be fitted over all types of plastic, metal and other materials



- Resistant to moisture
- UV resistant unlimited shelf life
- Quick and easy installation
- Standard colour: Black
- Conforms to specifications: IEC 62329-3, ENATS 09-11, RoHS 2011/65/EU & 2015/863/EU Compliant

Product Code	Ø max-min Application Range	ØE Expanded	ØR Recovered	<b>T</b> Thickness Recovered	<b>L</b> Length Recovered*
	mm	mm	mm	mm +/-20%	mm +/-10%
ECC/042/15/105	15 - 38	42	15	3.2	105
ECC/055/25/145	25 - 50	55	25	4.2	145
ECC/075/34/160	34 - 70	75	34	3.5	160
ECC/105/45/160	45 - 100	105	45	3.5	160



adhesive

<sup>\*</sup>Due to REPL flexible manufacturing process, we can offer variations in the standard lengths, or other sizes of caps – please contact your local sales office

<b>Material Properties</b>	Value	Test Method
Minimum Shrink Temperature	125°C	-
Density	1 g/cm <sup>3</sup> +/-10%	IEC 62329-2/ ASTM D-1505
Water Absorption	<1 %	IEC 62329-2 / ASTM D-570
Tensile Strength	> 18 MPa	IEC 62329-2 / ASTM D-412
Ultimate Elongation	300%	IEC 62329-2 / ASTM D-412
Low Temperature Flexibility	No cracking after 4h @- 40°C	IEC 62329-2
Tensile Strength after heat ageing (150°C for 168hrs)	>15 MPa	IEC 62329-2 / ASTM D-412
Ultimate Elongation after heat ageing (150°C for 168hrs)	>250%	IEC 62329-2 / ASTM D-412
Hardness	40 +/-5 Shore D	ISO 868 / ASTM D-2240
Volume Resistivity	<1x10 <sup>6</sup> Ωcm	ISO 3915 / ASTM D-229



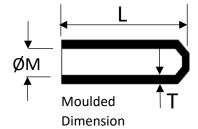
Cold Shrinkable End Caps are a convenient method to provide a moisture tight seal on all types of cable or conduits without the use of a heat source or special tools.

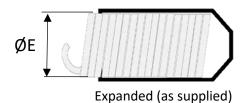
The caps are supplied pre-expanded on a removable core which is easily removed when the cap is placed in position by pulling out the spiral core and allowing the elastomeric end cap to shrink down to its original memory.



- Can be fitted over all types of plastic, metal and other materials
- Resistant to moisture
- UV resistant
- Quick and easy installation using no heat source or tools
- Easily removed
- Standard Colour : Black
- Range of sizes covers diameters between 12mm and 75mm
- Conforms to specifications: RoHS 2011/65/EU & 2015/863/EU
   Compliant







Product Code	Ø max-min Application Range	<b>ØE</b> Expanded	<b>ØM</b> Moulded	<b>T</b> Thickness Moulded	<b>L</b> Length Moulded*
	mm	mm	mm	mm +/-20%	mm +/-10%
CSEC 20/12	12 - 17	20	12	2.5	100
CSEC 28/16	18 - 24	28	16	2.5	100
CSEC 55/23	25 - 45	55	23	2.5	100
CSEC 80/46	46 - 76	80	46	2.8	100

Material Properties	Value	Test Method
Density	1.1 g/cm <sup>3</sup> +/-10%	ISO 2781 / ASTM D-1505
Water Absorption	<2%	ISO 62 / ASTM D-570
Tensile Strength	>9 MPa	ISO 37 / ASTM D-412 87
Ultimate Elongation	750%	ISO 37 / ASTM D-412 87
Tensile Strength after heat ageing (150°C for 168hrs)	>6 MPa	ISO 37 / ASTM D-412
Ultimate Elongation after heat ageing (150°C for 168hrs)	>600%	ISO 37 / ASTM D-412
Hardness	40 +/-5 Shore C	ISO 48 / ASTM D-2240
Volume Resistivity	≥1x10 <sup>10</sup> Ωcm	ISO 60093 / ASTM-D-229
Dielectric Strength	≥10kV/mm	ISO 60243 / ASTM-D-149
Dielectric Constant	>4	ISO 60250 / ASTM-D-150



Heat Shrinkable Cable Breakouts provide an environmental and mechanical seal to the crutch of plastic and paper insulated cables, rated up to 1.2kV.

The Breakout is made from thermally stabilised, cross linked, polymeric material and are internally coated with hot melt adhesive for a weathertight seal between cable sheaths and the insulated cores.

The breakouts are available in 2 - 5 core versions for power cables with or without armouring and also as a special 6 way type for cables with 3 main cores and 3 smaller control or auxiliary cores.

- Can be fitted over all types of cable
- Resistant to moisture
- UV resistant Unlimited Shelf life
- Quick and easy installation
- Standard Colour: Black
- Conforms to specifications: IEC 62329-3, ENATS 09-11, RoHS 2011/65/EU & 2015/863/EU Compliant









EB3



EB4



EB5



EB6

2-way breakout 3-way breakout

4-way breakout

5-way breakout

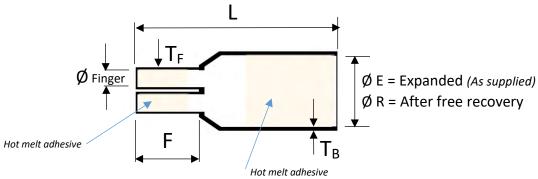
6-way breakout

#### FOR PRODUCT DIMENSIONS, SEE TABLES OVERLEAF

Material Properties	Value	Test Method
Minimum Shrink Temperature	125°C	-
Density	1 g/cm <sup>3</sup> +/-10%	IEC 62329-2 / ASTM D-1505
Water Absorption	<0.2%	IEC 62329-2 / ASTM D-570
Tensile Strength	>21 MPa	IEC 62329-2 / ASTM D-412
Ultimate Elongation	500%	IEC 62329-2 / ASTM D-412
Low Temperature Flexibility	No cracking after 4h @ -40°C	IEC 62329-2
Tensile Strength after heat ageing (150°C for 168hrs)	>18 MPa	IEC 62329-2 / ASTM D-412
Ultimate Elongation after heat ageing (150°C for 168hrs)	>200%	IEC 62329-2 / ASTM D-412
Hardness	43 +/-5 Shore D	ISO 868 / ASTM D-2240
Volume Resistivity	≥1x10 <sup>15</sup> Ωcm	IEC 60093 / ASTM D-229
Dielectric Strength	≥10kV/mm	IEC 60243 / ASTM D-149
Dielectric Constant	>4	IEC 60250 / ASTM D-150









*Cable 2 – way Conductor Product		Ma	ain Bo	ody		Cable	Finger	)	. <b>L</b>
Code		ØE	ØR	$T_B$	ØE	ØR	$T_F$	F	
	mm²	mm	mm	mm +/-20%	mm	mm	mm +/-20%	mm +/-10%	mm +/-10%
EB2/030/08	4 - 25	30	8	1.5	12	3	1.0	17	90
EB2/050/24	35 - 150	50	24	3.0	21	7	2.5	27	121
EB2/090/45	185 - 300	90	45	2.2	43	15	2.2	65	195
EB2/115/40	>300	115	40	2.5	53	15	2.5	70	185



2	*Cable	IVI	ain Bo	oay ——		Cable			
3 – way Product Code	Conductor	ØE	ØR	T <sub>B</sub>	ØE	ØR	T <sub>F</sub>	F	. L
	mm²	mm	mm	mm +/-20%	mm	mm	mm +/-20%	mm +/-10%	mm +/-10%
EB3/028/09	4 - 25	28	9	2.5	9	3	1.8	16	72
EB3/035/15	35 - 70	35	15	2.5	13	4	1.8	21	102
EB3/055/23	70 - 95	55	23	3.3	25	8	2.5	36	177
EB3/075/28	120 - 150	75	28	3.5	35	13	3.0	45	215
EB3/110/35	185 - 300	110	35	4.0	50	17	3.5	52	210
EB3/135/56	400	135	56	4.0	70	21	3.5	52	220
EB3/170/56	>400	170	56	3.8	81	27	2.8	58	220



_	*Cable	Ma	ain Bo	ody		Cable	Finger		
4 – way Product Code	Conductor	ØE	ØR	T <sub>B</sub>	ØE	ØR	T <sub>F</sub>	F	. L
	mm²	mm	mm	mm +/-20%	mm	mm	mm +/-20%	mm +/-10%	mm +/-10%
EB4/028/09	4 - 35	28	9	2.2	8	2	1.7	16	80
EB4/035/15	50 -70	35	15	2.5	13	4	1.8	22	100
EB4/047/23	70 -120	47	23	3.0	20	8	3.0	36	170
EB4/060/25	120 - 150	60	25	4.2	20	8	3.0	43	190
EB4/078/36	185 - 240	78	36	3.9	30	12	3.0	50	220
EB4/095/36	240 - 300	95	36	3.5	35	14	3.0	50	220
EB4/150/55	400	150	55	3.0	46	14	3.0	50	220







5 – way	*Cable Conductor		ain Bo	ody	[	Cable	Finger		L
Product Code		ØE	ØR	T <sub>B</sub>	ØE	ØR	$T_F$	F	
	mm²	mm	mm	mm +/-20%	mm	mm	mm +/-20%	mm +/-10%	mm +/-20%
EB5/035/15	4 - 50	35	15	2.5	20	4	1.8	20	90
EB5/070/15	70 - 150	70	15	2.0	20	4	2.0	24	100
EB5/102/36	120 - 300	102	33	4.2	35	9	3.2	50	215



#### **6 Way Version**

This version has three larger diameter fingers for main power cores, and three smaller diameter fingers equally spaced to accommodate control/pilot cables.

	M	ain Bo	ody	M	ain Cab	le Finge	er	Small	Finger	
6 – way		\				J				L
Product Code	ØE	ØR	$T_B$	ØE	ØR	$T_F$	F	ØE	ØR	
	mm	mm	mm +/- 20%	mm	mm	mm +/- 20%	mm +/-10%	mm	mm	mm +/-10%
EB6/115/54	115	54	4.3	54	20	3.0	60	31	13	190

 $<sup>\</sup>hbox{*Cable Conductor diameter is guide only--check actual cable OD with armour etc. to ensure correct selection}$ 

All dimensions in the tables are based on full free recovery of moulding, except for  $\emptyset$  E





The tables in the following pages give dimensional data on typical cable constructions to enable selection of the correct accessory.

*However, it must be stressed that this can only be used as a general guide* – cable constructions can vary considerably in different territories and networks and between manufacturers.

The types and number of layers of screen, the arrangement and material of conductor and the general thickness of respective layers will all affect the dimensions of the cable.

Therefore, the final selection of accessory should be based on the actual cables to be sure of correct selection.

The main information which is needed when selecting accessories:

#### Øcond = Overall diameter of conductor

This is needed to ensure any connector or lug will correctly fit – the tables are based on typical Class 2 stranded conductors – but variations such as solid conductor or water-blocking materials can influence the dimensions. (Normally the cable cross sectional area is quoted rather than the conductor diameter).

#### Øins = Overall diameter of insulation

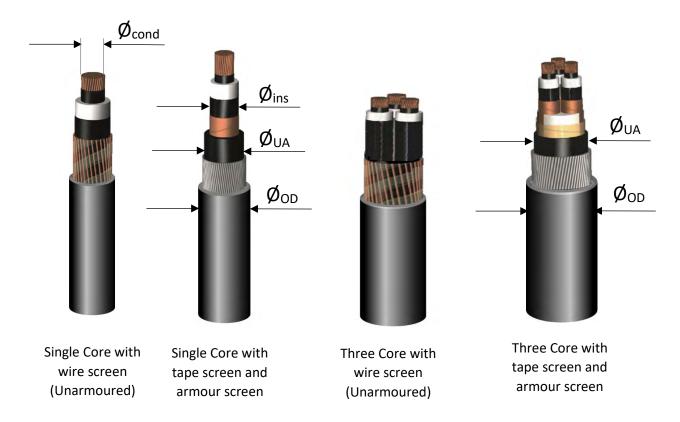
This is very important in medium voltage systems (>3.6kV), as the accessory needs to be a very tight fit around the critical parts at the screen cut. The information in the tables is based on cables with insulation thickness based on CENELEC HD620.A3, however it should be noted that there are regional variations in insulation wall thickness and also some manufacturer's tolerance can affect the actual values.

#### **ØUA** = Diameter under armour

When making a good connection from cable armours, it is necessary to use a support ring under the armour and therefore the diameter which the support collar needs to fit over is important.

#### ØOD = Diameter over the outer jacket

The overall diameter of cables can dictate if tubing or other materials can be used without problems with clearances.















## 0.6/1 (1.2) kV

IEC 60502-1 Part1	_	e Core oured	Two Armo		Three Armo	Core oured	Four Armo	Core oured	Five Armo	
<b>Conductor Cross</b>	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
Section	UA	OD	UA	OD	UA	OD	UA	OD	UA	OD
mm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
2.5	-	-	8.5	13.6	9.1	14.1	10.0	15.0	11.7	16.1
4	-	-	9.7	11.6	10.4	15.3	11.5	16.4	13.0	17.8
6	-	-	10.7	12.6	11.5	16.6	12.7	18.7	14.5	20.0
10	-	-	12.7	18.0	13.7	19.5	15.1	21.1	17.2	22.9
16	-	-	14.5	20.0	15.5	21.2	17.2	22.9	20.0	26.6
25	-	-	18.4	24.1	20.1	26.7	22.3	28.9	24.7	31.5
35	-	-	21.3	28.0	22.8	29.6	25.3	32.1	27.8	34.8
50	-	-	19.0	25.8	21.7	28.5	25.0	32.0	32.4	40.4
70	14.7	20.0	22.0	29.0	25.2	32.2	29.5	37.7	-	-
95	16.3	21.6	25.1	33.1	28.8	37.0	33.3	41.7	-	-
120	17.9	23.2	27.9	36.1	32.0	40.4	37.5	47.1	-	-
150	19.8	25.8	30.9	39.3	35.9	45.5	41.6	51.4	-	-
185	22.0	28.0	34.9	44.7	40.0	49.8	46.4	56.6	-	-
240	24.5	30.5	39.0	59.0	44.9	55.1	52.6	63.0	-	-
300	27.3	33.5	43.3	53.5	49.8	60.2	58.0	68.8	-	-
400	30.2	37.4	48.4	59.0	55.4	66.6	64.8	78.1	-	-
500	33.3	40.7	-	-		-	-	-	-	-
630	37.3	44.9	-	-	-	-	-	-	-	-
800	45.8	54.8	-	-	-	-	-	-	-	-
1000	49.2	58.4	-	-	-	-	-	-	-	-







1.3/3.3 (3.0) KV				
IEC 60502-1 Part1	Single Core	e Armoured	Three Core	Armoured
<b>Conductor Cross Section</b>	Ø UA	Ø OD	Ø UA	Ø OD
mm²	mm	mm	mm	mm
16	-	-	22.1	29.0
25	-	-	25.4	32.2
35	-	-	28.0	35.0
50	12.7	17.5	26.7	34.7
70	14.7	20.2	29.8	38.0
95	16.6	22.3	33.0	41.4
120	18.5	24.2	36.1	45.7
150	20.8	27.4	38.7	48.5
185	23.2	30.0	41.9	51.9
240	26.0	32.8	46.7	56.9
300	28.6	35.6	50.8	61.2
400	32.4	40.4	55.8	66.6
500	36.0	44.2	-	-
630	40.4	48.8	-	-
800	45.6	55.4	-	-
1000	50.6	60.6	-	-



### 3.6/6 (7.2) kV 3.8/6.6 (7.2) kV



CENELEC HD620 A3		<u>'</u>			I	1				
	2.5–3.2mm nominal insulation thickness		2.5–3.2mm nominal insulation thicknes		Single Core Unarmoured	_	e Core oured	Three Core Unarmoured	Three Core	Armoured
Conductor	d	4	4.00	<b>411</b>	ď 0D	d 00	<b>d</b> 114	<b>4.0</b> 5		
Cross Section	Ø Cond	Ø <sub>Ins</sub>	Ø OD	Ø UA	Ø OD	Ø OD	Ø UA	Ø OD		
mm²	mm	mm	mm	mm	mm	mm	mm	mm		
50	8.4	14.4	20.0	18.9	25.7	40.5	38.8	49.0		
70	9.9	15.9	22.0	20.7	27.5	44.0	42.5	52.5		
95	11.6	17.6	23.7	22.4	29.4	48.0	46.2	56.5		
120	13.0	19	25.5	23.9	30.9	51.0	49.6	60.0		
150	14.5	20.5	26.8	25.2	32.4	54.5	53.0	63.5		
185	16.1	22.1	28.8	27.0	35.0	58.0	56.0	67.0		
240	18.4	24.4	31.2	29.4	37.6	64.0	61.4	73.0		
300	20.6	26.6	34.2	32.4	40.8	70.0	68.0	81.0		
400	23.7	29.7	37.7	35.5	44.1	78.0	75.1	89.0		
500	26.6	32.6	41.3	39.0	49.0	-	-	-		
630	29.8	35.8	44.9	42.6	52.8	-	-	-		
800	33.6	39.6	49.0	45.0	56.0	-	-	-		
1000	37.6	43.6	52.8	49.9	60.0	-	-	-		

### 6/10 (12) kV 6.35/11 (12) kV CENELEC





HD620 A3			ı		1			1
3.4mm nomino	al insulation t	hickness	Single Core Unarmoured	_	e Core oured	Three Core Unarmoured	Three Core	Armoured
Conductor	Ø Cond	Ø <sub>Ins</sub>	Ø OD	Ø UA	Ø OD	Ø OD	Ø UA	Ø OD
Cross								
Section								
mm²	mm	mm	mm	mm	mm	mm	mm	mm
50	8.4	17.0	23.7	24.7	27.7	41.6	39.1	53.1
70	9.9	18.8	25.7	26.7	29.7	45.6	43.1	57.1
95	11.6	20.5	27.4	28.4	31.4	49.7	47.2	61.2
120	13.0	22.0	29.2	30.1	33.1	53.5	51.0	65.0
150	14.5	23.3	30.5	32.4	35.4	56.5	54.0	68.0
185	16.1	25.1	32.5	34.2	37.2	60.8	58.3	72.3
240	18.4	27.3	34.9	36.8	39.8	66.0	63.0	79.0
300	20.6	29.6	37.2	39.3	42.3	71.5	68.5	84.5
400	23.7	32.3	40.1	42.2	45.2	77.9	74.9	90.9
500	26.6	35.2	43.2	46.5	49.5	-	-	-
630	29.8	38.6	46.9	50.3	53.3	-	-	-
800	33.6	37.9	45.9	48.1	51.1	-	-	-
1000	37.6	41.9	50.1	52.5	55.5	-	-	-



#### 8.7/15 (17.5) kV CENELEC HD620 A3 Single Core Single Core Three Core Three Core 4.5mm nominal insulation thickness **Unarmoured Armoured Unarmoured Armoured** Conductor **Cross** Ø Ins Ø OD Ø UA Ø OD Ø OD Ø UA Ø OD Ø Cond Section mm<sup>2</sup> mm mm mm mm mm mm mm mm 50 8.4 18.2 27.5 28.7 33.0 50.9 48.2 59.0 70 9.9 19.7 29.0 30.2 35.0 55.0 52.1 62.9 11.6 21.4 37.0 59.0 95 31.0 32.2 56.0 67.0 120 13.0 22.8 32.5 33.7 39.0 62.4 59.4 70.6 150 14.5 24.3 34.0 35.2 41.0 65.4 62.2 73.6 185 16.1 25.9 35.5 36.7 42.0 69.5 66.3 79.4 240 18.4 28.2 38.0 39.2 45.0 74.6 71.2 84.7 20.6 30.4 40.5 41.7 47.0 80.1 76.4 90.1 300 400 23.7 33.5 44.0 45.2 52.0 86.3 82.4 96.7 500 26.6 36.4 47.4 48.6 57.0 29.8 39.6 50.2 630 51.4 59.0 43.4 800 33.6 54.2 55.4 66.0 1000 37.6 47.4 58.4 59.6 71.0

12/20 (	•			$\bigcirc$				
12.7/22	! (24) K\	/		l				
CENELEC I	HD620 A3							
5.5mm nomin	nal insulation	thickness	Single Core	_	e Core	Three Core	Three Core	Armoured
			Unarmoured		oured	Unarmoured		
Conductor	$m{\phi}_{Cond}$	$\mathbf{\phi}_{Ins}$	Ø OD	Ø UA	Ø OD	Ø OD	Ø UA	Ø OD
Cross								
Section								
mm²	mm	mm	mm	mm	mm	mm	mm	mm
50	8.4	21.6	27.4	27.8	35.0	59.0	56.2	67.0
70	9.9	23.4	28.8	30.8	38.0	63.0	60.2	71.0
95	11.6	25.1	30.6	32.8	40.0	67.0	64.2	75.0
120	13.0	26.6	32.5	33.8	41.0	70.0	67.6	80.0
150	14.5	27.9	34.0	35.8	43.0	74.0	72.2	83.0
185	16.1	31.9	35.5	37.8	45.0	78.0	77.2	88.0
240	18.4	34.2	37.3	39.4	47.0	84.0	80.8	94.0
300	20.6	36.9	39.7	43.4	51.0	89.0	85.8	99.0
400	23.7	39.8	42.2	46.4	54.0	95.0	92.8	106.0
500	26.6	43.2	45.6	49.4	57.0	-	-	-
630	29.8	45.8	48.5	53.4	61.0	-	-	-
800	33.6	50.0	53.2	60.4	68.0	-	-	-
1000	37.6	54.1	57.3	65.4	73.0	-	-	-



### 18/30 (36) kV 19/33 (36) kV



CENELEC F	1D620 A3				'	1		- 1
8.0mm nomin		thickness	Single Core Unarmoured	_	e Core oured	Three Core Unarmoured	Three Core	Armoured
Conductor								
Cross	$\phi_{Cond}$	Ø <sub>Ins</sub>	Ø OD	Ø UA	Ø OD	Ø OD	Ø UA	Ø OD
Section								
mm²	mm	mm	mm	mm	mm	mm	mm	mm
50	8.4	25.4	34.0	33.5	42.0	74.0	66.7	81.0
70	9.9	26.9	36.0	34.5	43.0	78.0	70.7	85.0
95	11.6	28.6	38.0	36.5	45.0	82.0	74.7	89.0
120	13.0	30.0	40.0	38.5	47.0	85.0	78.7	93.0
150	14.5	31.5	41.0	41.5	50.0	89.0	81.7	96.0
185	16.1	33.1	43.0	43.5	52.0	93.0	85.7	100.0
240	18.4	35.4	46.0	45.5	54.0	98.0	91.7	106.0
300	20.6	37.6	48.0	48.5	57.0	104.0	97.7	112.0
400	23.7	40.7	51.0	51.5	60.0	111.0	103.7	118.0
500	26.6	43.6	54.0	54.5	63.0	-	-	-
630	29.8	46.8	58.0	58.5	67.0	-	-	-
800	33.6	50.6	65.0	65.5	74.0	-	-	-
1000	37.6	54.6	70.0	70.5	79.0	-	-	-

### 20.8/36 (42) kV



CENELEC	HD620 A3		1		<u> </u>
8.8mm nom	ninal insulation th	nickness	Single Core Unarmoured	Single Core	Armoured
Conductor	d	<b>A</b>	4.00	Ø.IIA	<i>d</i> 00
Cross Section	Ø Cond	Ø Ins	Ø OD	Ø UA	Ø OD
mm²	mm	mm	mm	mm	mm
50	8.4	26.4	35.6	34.8	43.8
70	9.9	27.9	37.6	35.8	44.8
95	11.6	29.6	39.6	37.8	46.8
120	13.0	31.0	41.6	39.8	48.8
150	14.5	32.5	42.6	42.8	51.8
185	16.1	34.1	44.6	44.8	53.8
240	18.4	36.4	47.6	45.8	55.8
300	20.6	38.6	49.6	48.8	58.8
400	23.7	41.7	52.6	51.8	61.8
500	26.6	44.6	55.6	54.8	64.8
630	29.8	47.8	59.6	58.8	68.8
800	33.6	51.6	66.6	65.8	75.8
1000	37.6	55.6	71.6	70.8	80.8





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