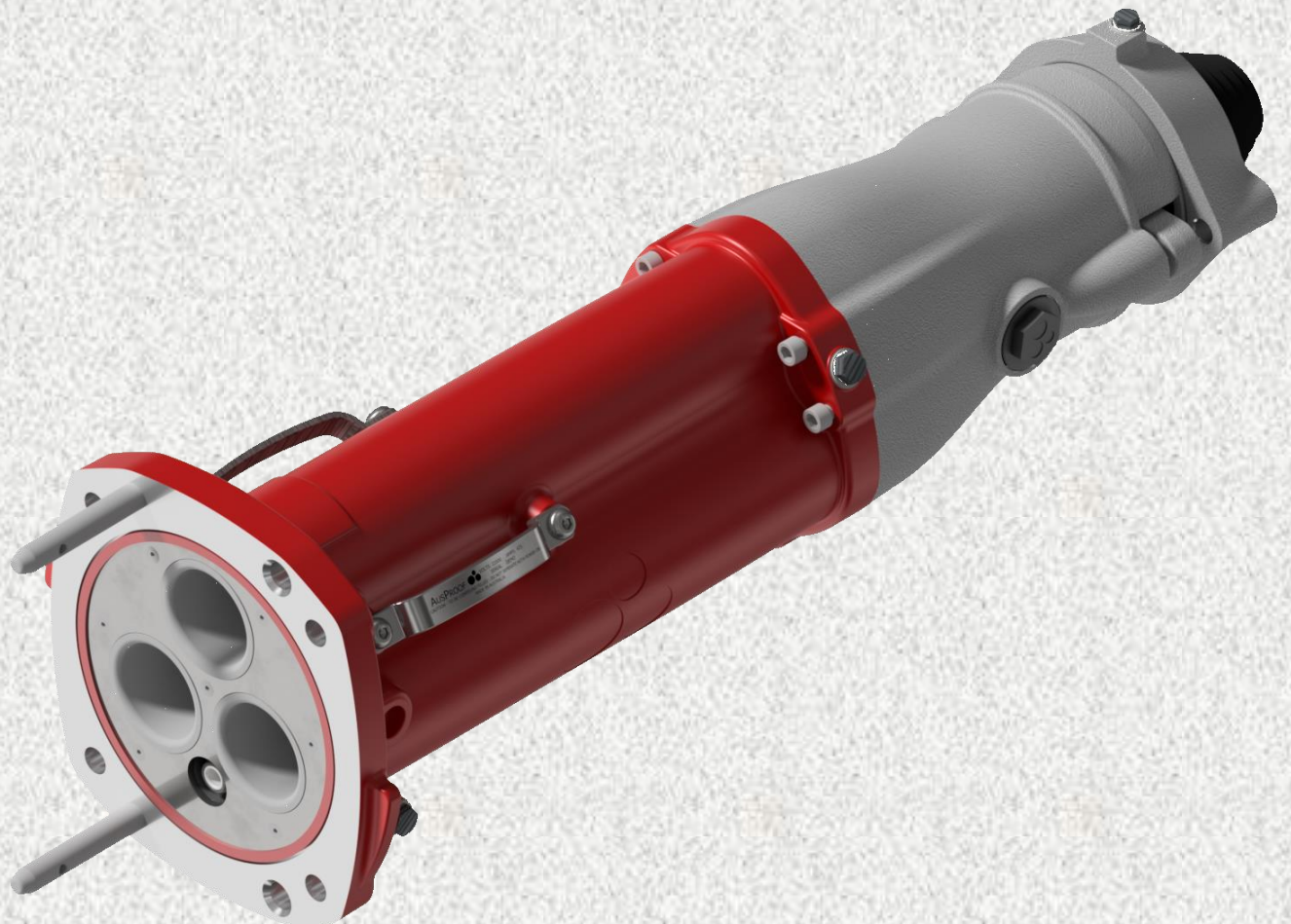




DESIGNERS, MANUFACTURERS AND SUPPLIERS
OF
HIGH VOLTAGE BOLTED COUPLER & ADAPTOR SYSTEMS

**22kV 425 AMP KA STYLE COUPLER
224BKA - Range**



Document Number: TM_461 Ver: 3

The Ausproof high voltage coupler and adaptor system demonstrates state of the art technology with an innovative design which becomes homogeneous with the cable when Terminated. The design offers a continued earth shield, segregating the three phases and maintains the same symmetrical radial distribution of voltage stress, as in the cable Design. This eliminates the risk of a phase to phase fault. The face profile and silicon rubber connector expels all air when connected, eliminating condensation, dust and corona. The type test performed were all based on high voltage, cable specification requirements, and the results prove that the coupler is as good as the cable.

Electrical Type Test Results

11kV 800A Coupler

Through Fault Current

- 20kA for 0.3 seconds
- 20kA for 0.3 seconds
- 20kA for 1.0 seconds

At 10 minute intervals

A/C High Voltage Withstand

- 24kV for 1 minute
- 50kV for 1 minute
- 35kV for 6 hours

Impulse Voltage

- 95 kV 10 pos and 10 neg
- 110kV 10 pos and 10 neg

Partial Discharge

- Prior to 6 hour
High voltage withstand 10pC
- After 6 hour
High voltage withstand 0.6pC

22kV 425A Coupler

Through Fault Current

- 20kA for 0.3 seconds
- 20kA for 0.3 seconds
- 20kA for 1.0 seconds

at 10 minute intervals

Impulse Voltage

- 125 kV 10 pos and 10 neg

A/C High Voltage Withstand

- 50kV for 1 minute

High Voltage Cable Coupler System Technical Guide



Stock No: (see page 4 breakdown)
Description: Half Coupler for Trailing Cable
Rating: 22kV 425A
Material: Aluminium
LOA: 840mm

Mass: 25kg
Volume: 5.5 litres



Stock No: (see page 4 breakdown)
Description: Half Coupler for Armoured Cable
Rating: 22kV 425A
Material: Aluminium
LOA: 840mm

Mass: 25kg
Volume: 5.5 litres



Stock No: RS006
Description: Old Adaptor
Rating: 22kV 425A
Material: Aluminium
LOA: 560mm

Mass: 22kg
Volume: 5.5 litres



Stock No: (see page 4 breakdown)
Description: KA Adaptor
Rating: 22kV 425A
Material: Aluminium
LOA: 560mm

Mass: 22kg
Volume: 5.5 litres



Stock No: RS542
Description: Insulated End Cover
Rating: 22kV
Material: Aluminium

Mass: 5kg



Stock No: 2082
Description: Cast Protection Cover
Rating: 22kV
Material: Aluminium

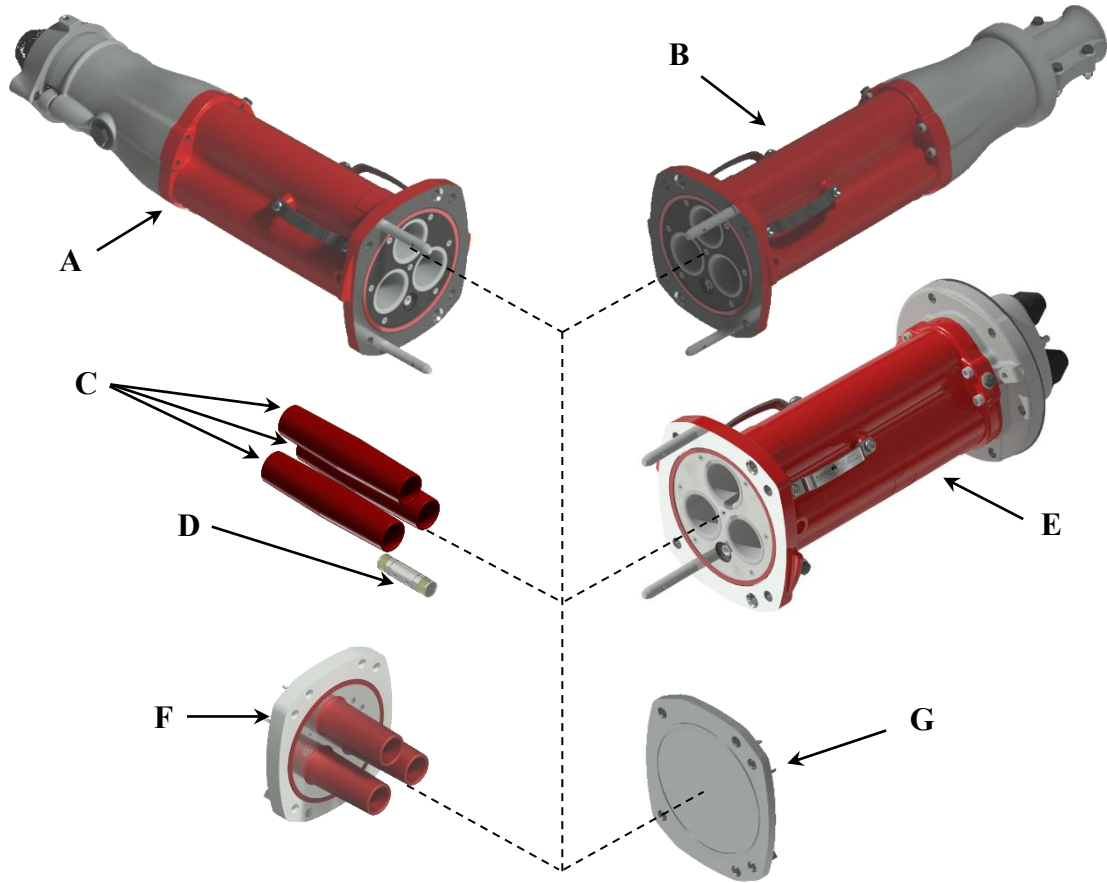
Mass: 3kg



Stock No: RS180 (3 required per joint)
Description: Phase Connectors
Rating: 22kV 425A



Stock No: RS117
Description: Earth Pilot Connector
Rating: 22kV 425A



Description

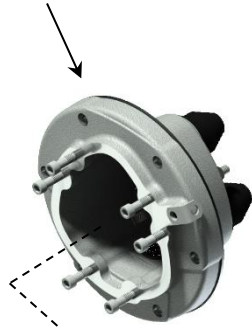
Stock No.

Page

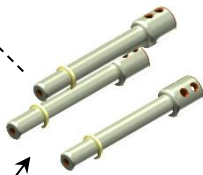
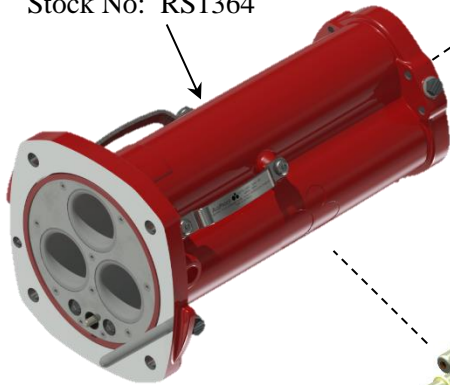
A	Half Coupler – Armoured Cable		4
B	Half Coupler – Unarmoured Cable.....		4
C	425/425 Phase Connectors	RS180	
D	Earth Connector/Pilot Connector	RS117	
E	Adaptor		4
F	Insulated End Cover	RS542	9
G	Cast Protection Cover	2082	10

**High Voltage Cable Coupler System
Stock Selection Guide - 22kV 425A**

Gear Mount Flange
Stock No: RS193



Coupler
Stock No: RS1364

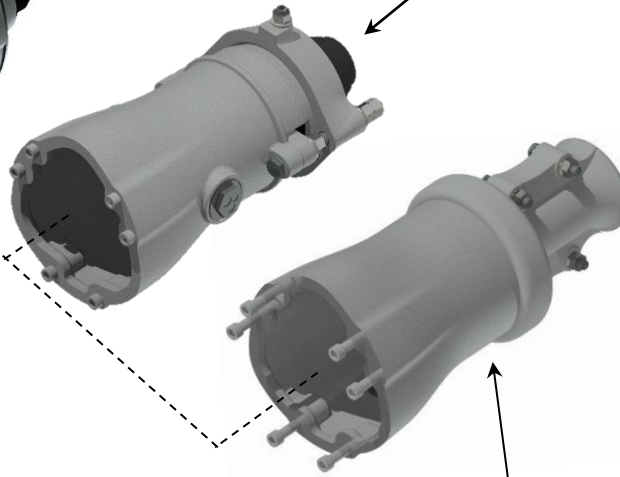


Solder Contacts (Set of 3)

Conductor	Stock No	Conductor	Stock No
35mm ²	RS097	150mm ²	RS102
50mm ²	RS098	185mm ²	RS103
70mm ²	RS099	240mm ²	RS104
95mm ²	RS100	300mm ²	RS105
120mm ²	RS101		

KAN SWA Cable Gland

Cable OD Under Armour	Stock No	Cable OD Under Armour	Stock No
105 - 110mm	RS1343	70 - 65mm	RS1351
100 - 105mm	RS1344	65 - 60mm	RS1352
95 - 100mm	RS1345	60 - 55mm	RS1353
90 - 95mm	RS1346	55 - 50mm	RS1354
85 - 90mm	RS1347	50 - 45mm	RS1355
80 - 85mm	RS1348		
75 - 80mm	RS1349		
70 - 75mm	RS1350		

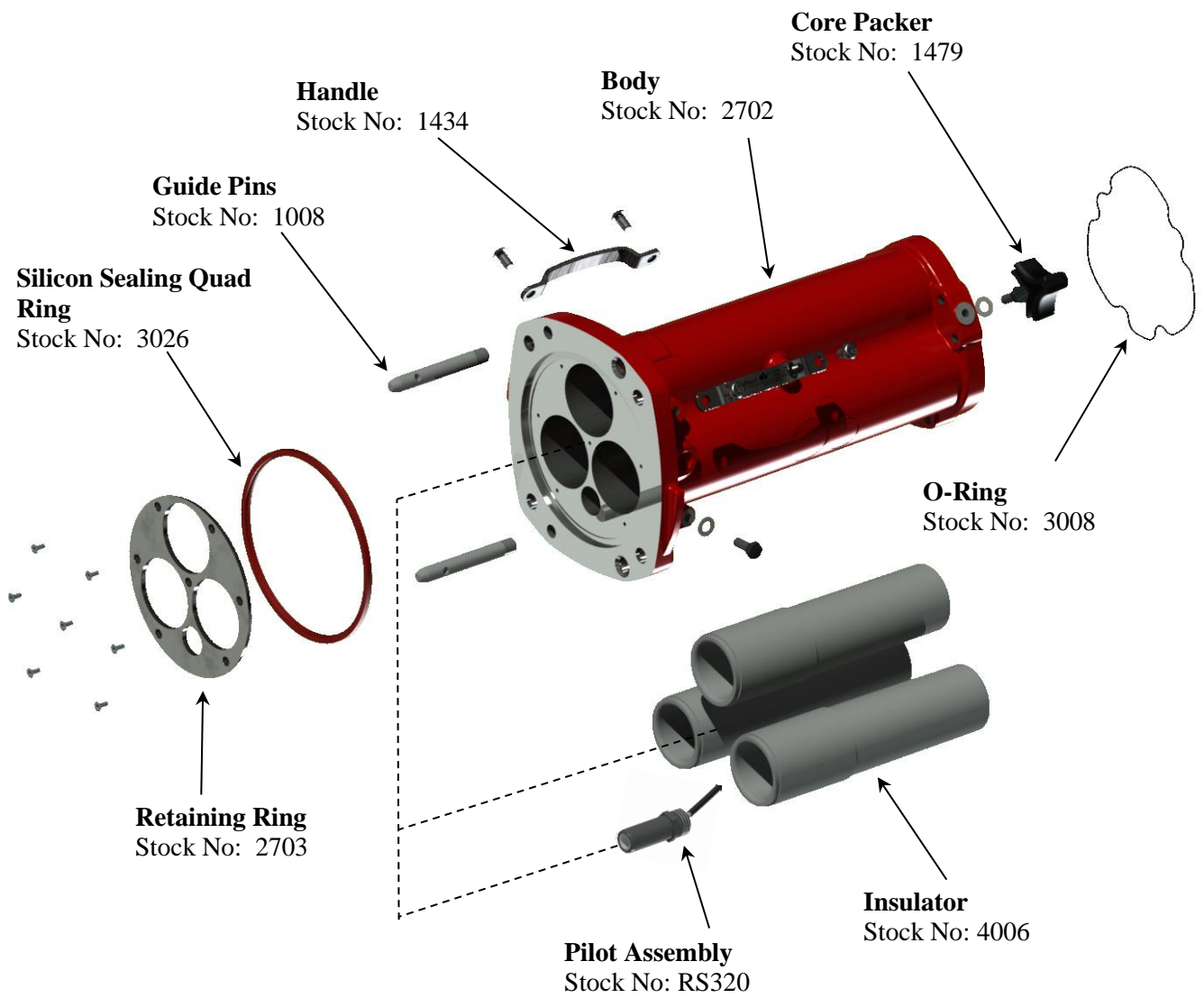


KA Trailing Cable Gland

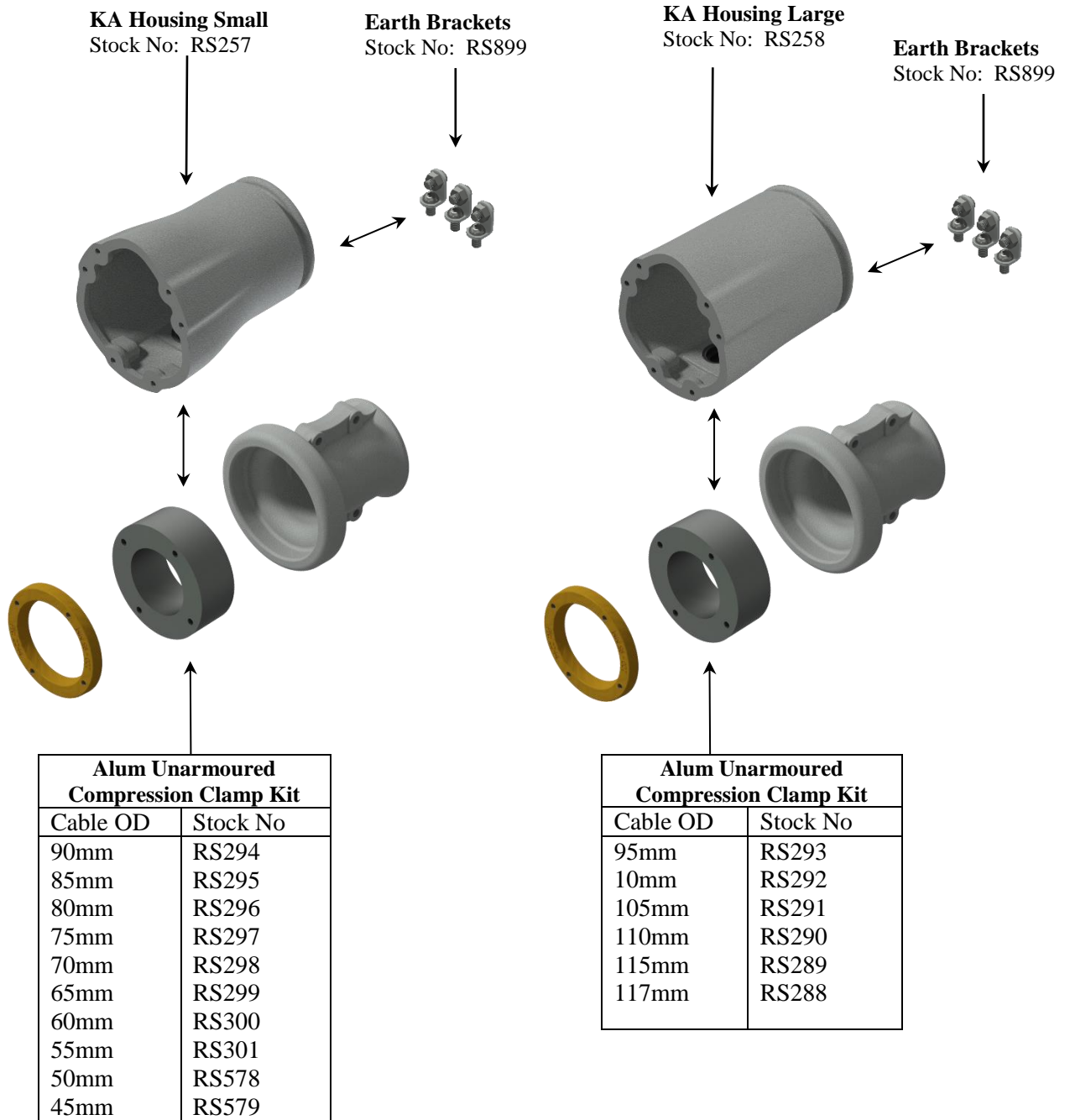
Cable OD	Stock No	Cable OD	Stock No
117mm	RS1867	80mm	RS1875
115mm	RS1868	75mm	RS1876
110mm	RS1869	70mm	RS1877
105mm	RS1870	65mm	RS1878
100mm	RS1871	60mm	RS1879
95mm	RS1872	55mm	RS1880
90mm	RS1873	50mm	RS1881
85mm	RS1874	45mm	RS1882

**High Voltage Cable Bolted Coupler
Body Assembly**

Stock No:	RS1364	– 22kV Aluminum Coupler Body, inc Earth Pilot Combo	
Amps:	425	Volume:	5.5 liters
Volts:	22000	LOA:	840mm
Material:	Aluminum		

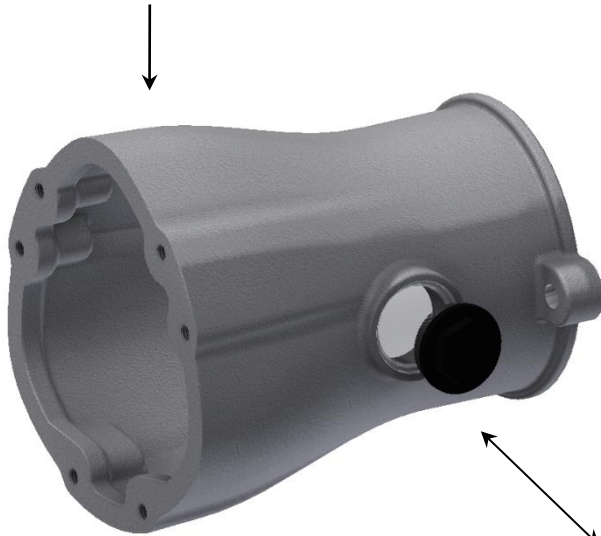


**High Voltage Cable Bolted Coupler
Unarmoured Gland Assembly**

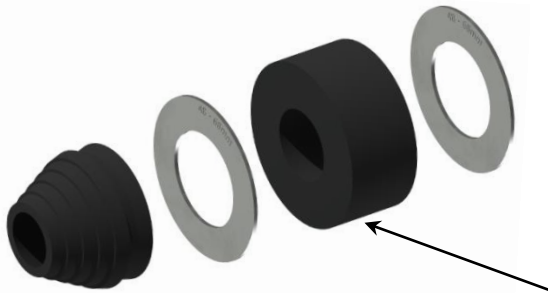
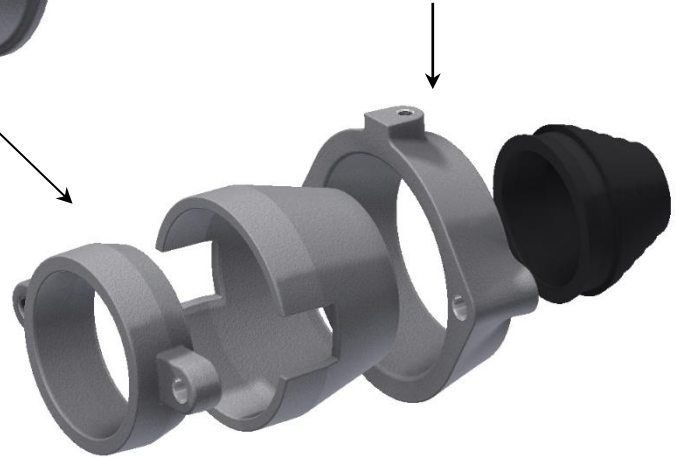


High Voltage Cable Bolted Coupler
Armoured Gland Assembly

KANS - Small Housing
Stock No: RS1342



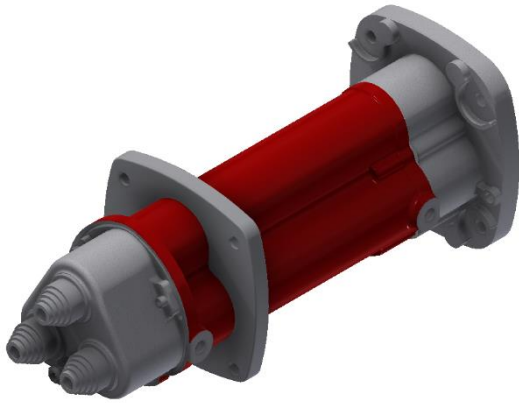
Armoured Gland Kit
Stock No: RS1383



Alum Armoured Compression Clamp Kit	
OD Sizes	Stock No
33mm – 38mm	RS974
38mm – 43mm	RS975
43mm – 48mm	RS976
48mm – 53mm	RS977
53mm – 58mm	RS978
58mm – 63mm	RS979
63mm – 68mm	RS980
68mm – 73mm	RS981
73mm – 78mm	RS982
78mm – 83mm	RS983
83mm – 88mm	RS1122

Panel Mount Adaptor Body Assembly

To fit to existing switch gear stations

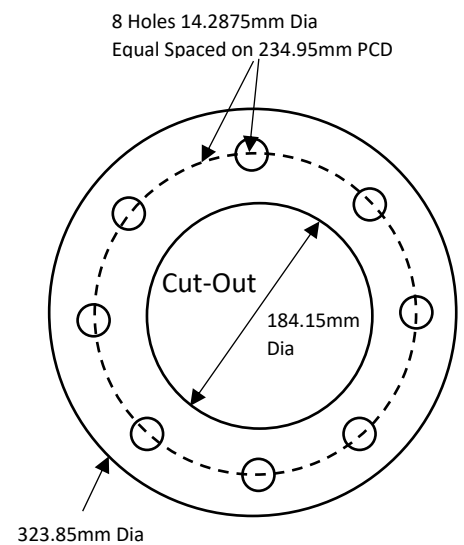
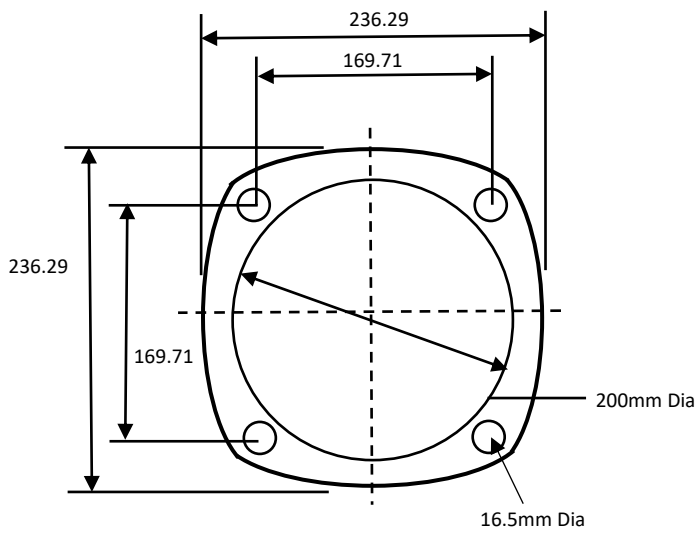


Stock No: RS006
**22kV Aluminium Adaptor
 Body, Earth Pilot Combo**

To fit to new switch gear stations



Stock No: RS193
22kV Gear Mount Flange



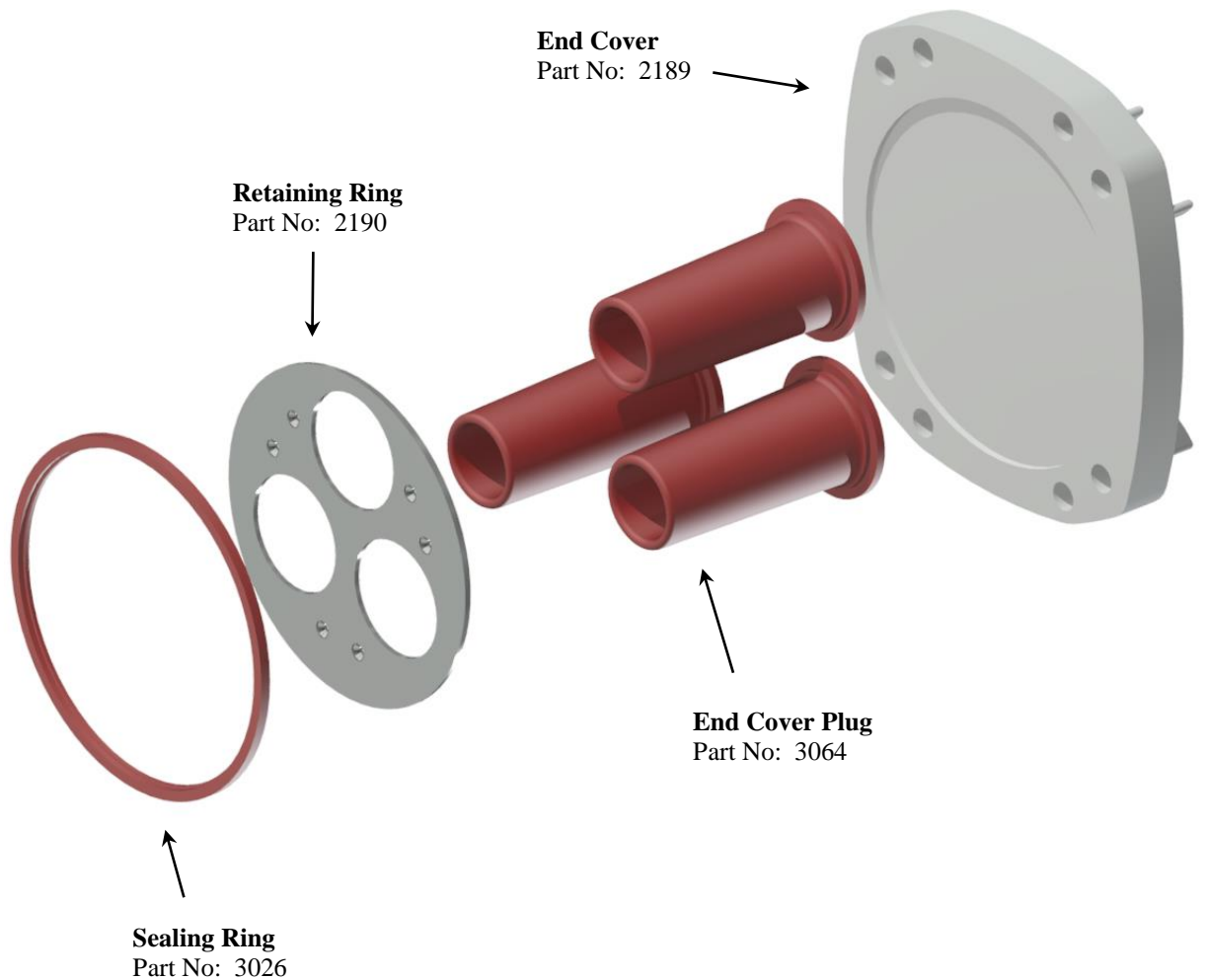
Insulated End Cover Assembly

Stock No: RS542 – 22kV Aluminium Insulated End Cover

Mass: 5 kg

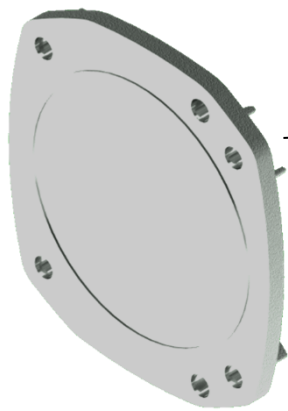
Volts: 22000

Material: Aluminium



Part No: 2082 – 22kV Aluminium Cast Protection Cover

Mass: 3kg
Volts: 22000
Material: Aluminium

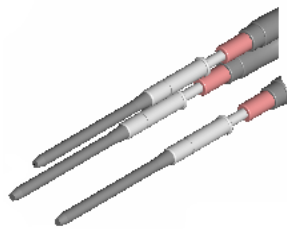


Cast Pro Cover
 Part No: 2082

Alignment Sticks

RS179

Phase guide stick set for assembly (3 included)








RS177

Slide Hammer



Coupler Tool Kit (All Voltages)

Part No. RS284

2 off		1246	Spanners
1 off		RS325	Racking Tool
1 off		RS177	Slide Hammer
15 off		1278	High Voltage Cleaning Tissues
1 off		1274	Tool Box

Open Cut Bolted Coupler Skid for 22kV

Stock No: RS555 - 22kV Alignment Skid

Material: Steel

Mass: 49 kg

Cable Clamp	
ID Sizes	Stock No
120mm	RS326
115mm	RS327
110mm	RS328
105mm	RS329
100mm	RS330
95mm	RS331
90mm	RS332
85mm	RS333
80mm	RS334
75mm	RS335
70mm	RS336
65mm	RS337
60mm	RS338
55mm	RS339
50mm	RS480
45mm	RS481

Protection Bars (4 Required)

Stock No: RS340

End Plate
Part No: 2288

Saddle Assembly with Push Arms

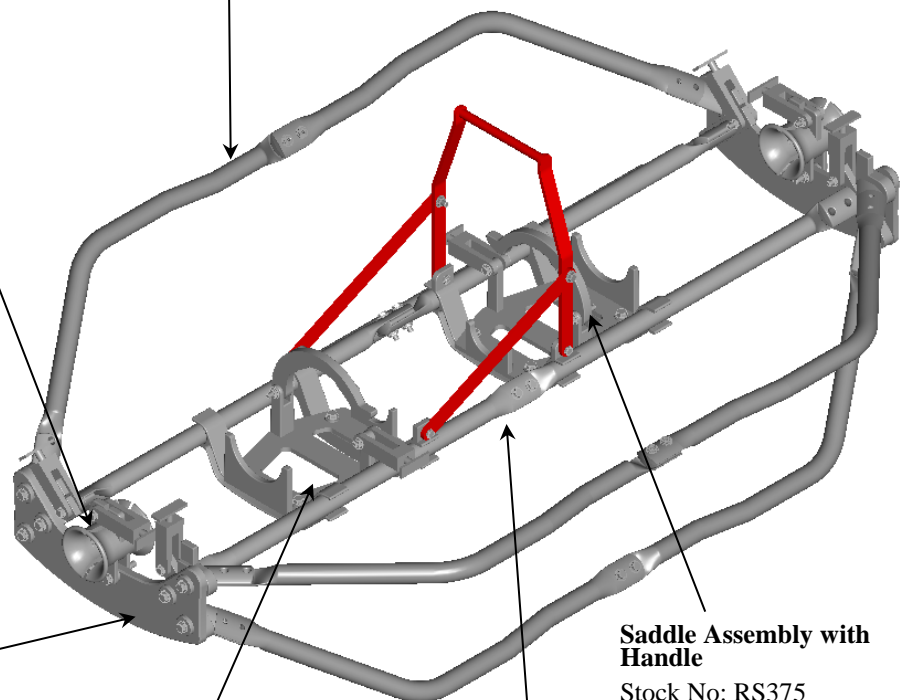
Stock No: RS374

Saddle Assembly with Handle

Stock No: RS375






Main Rails (2 Required)

Stock No: RS342








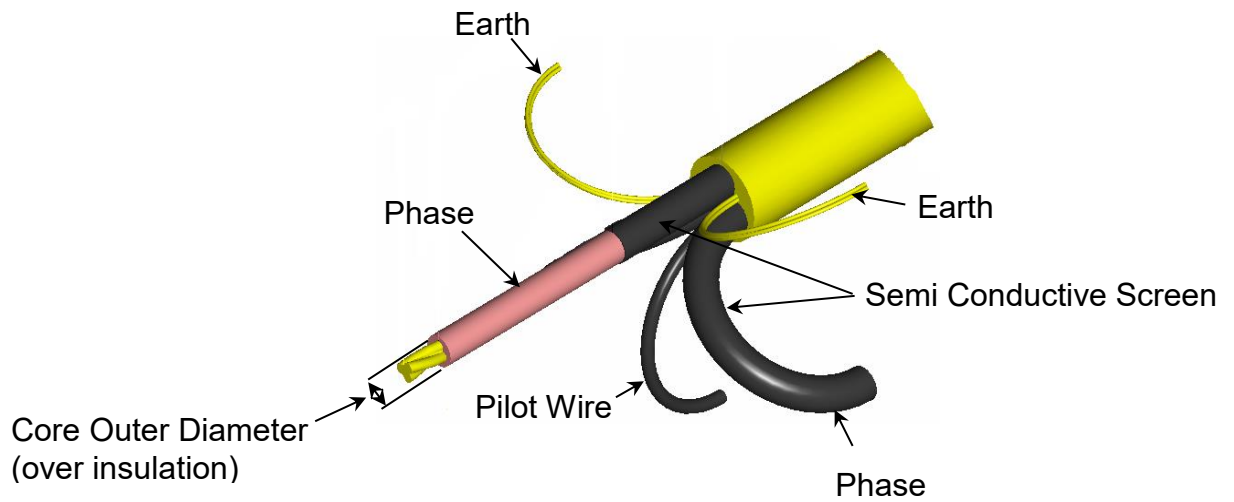
Un-Armoured Termination Kit

**22kV Termination Kit Large
24mm-48mm**

RS540 Large	
(to suit core outer diameter 24mm – 48mm)	
	6L Compound
	3 x QT5672
	1 x CC2
	1 x 13 Tape
	3 x M Tubes








**22kV Termination Kit Small
16mm-28.5mm**

RS541 Small	
(to suit core outer diameter 16mm – 28.5mm)	
	6L Compound
	3 x QT5671
	1 x CC2
	1 x 13 Tape
	3 x M Tubes










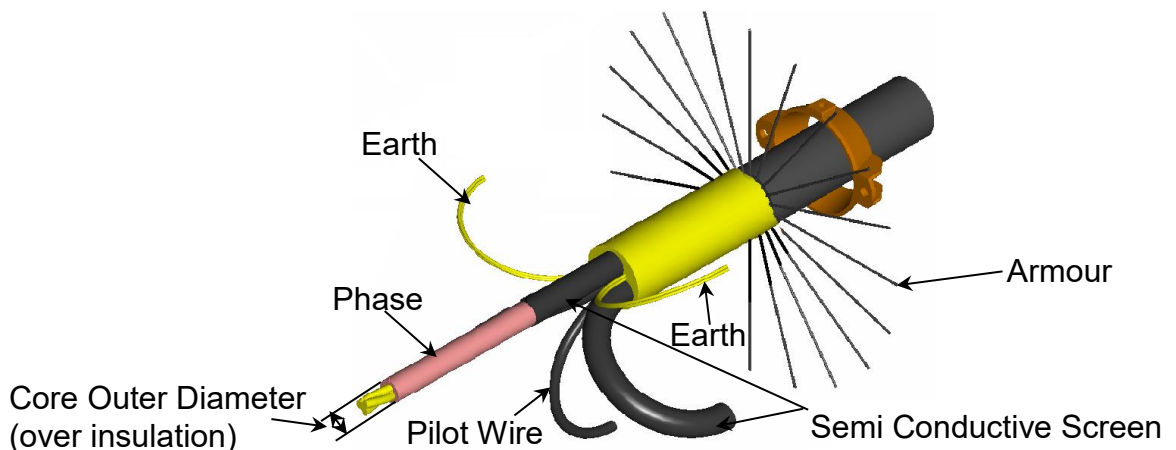
Armoured Termination Kit

22kV SWA Termination Kit Large 24mm-48mm

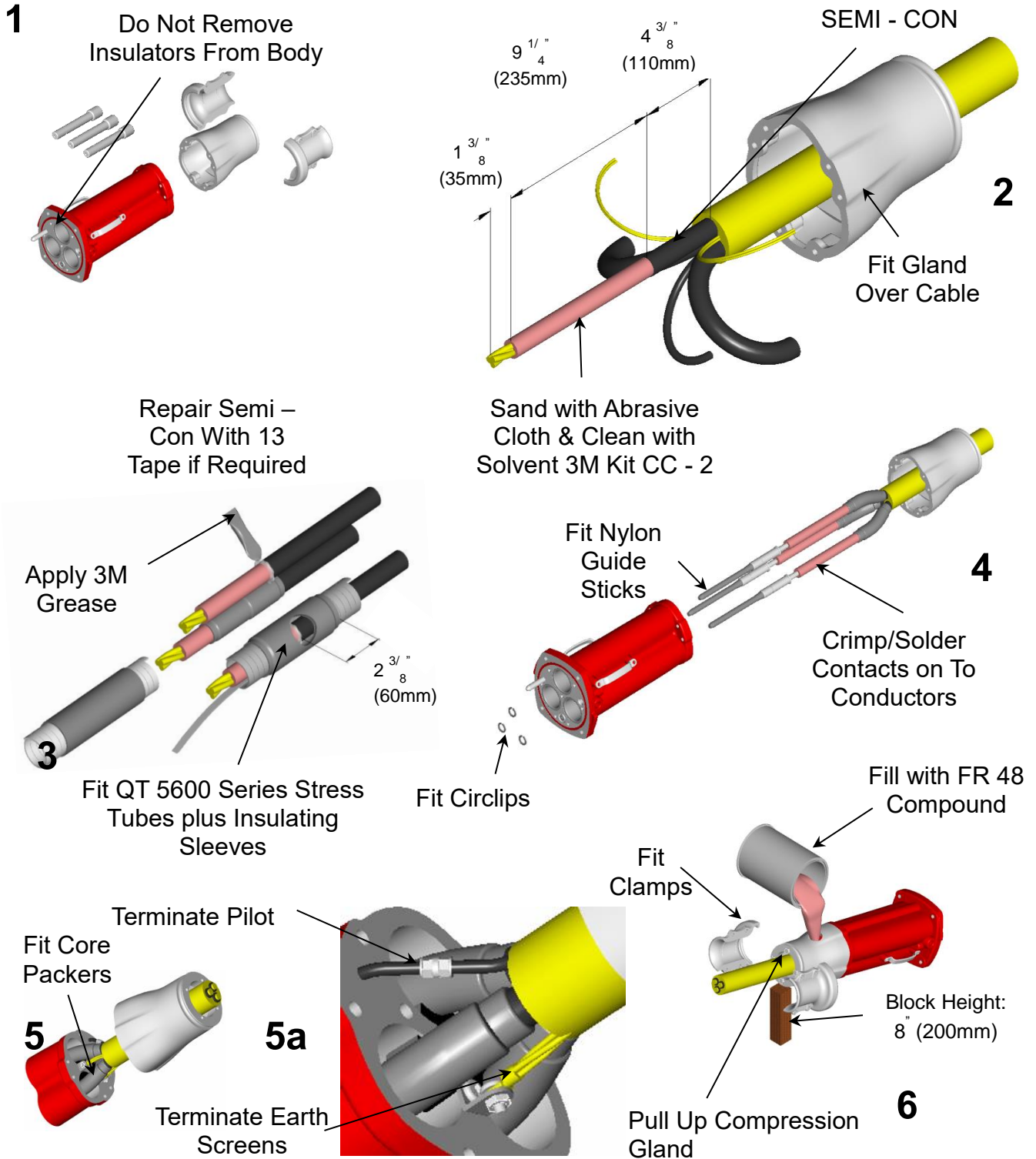
RS681	
(to suit core outer diameter 24mm – 48mm)	
	1 x 6L Compound
	3 x QT5672
	1 x CC2
	1 x 13 Tape
	1 x Heat Shrink
	2 x Steel Cable Ties
	3 x M Tubes

22kV SWA Termination Kit Small 16mm-28.5mm

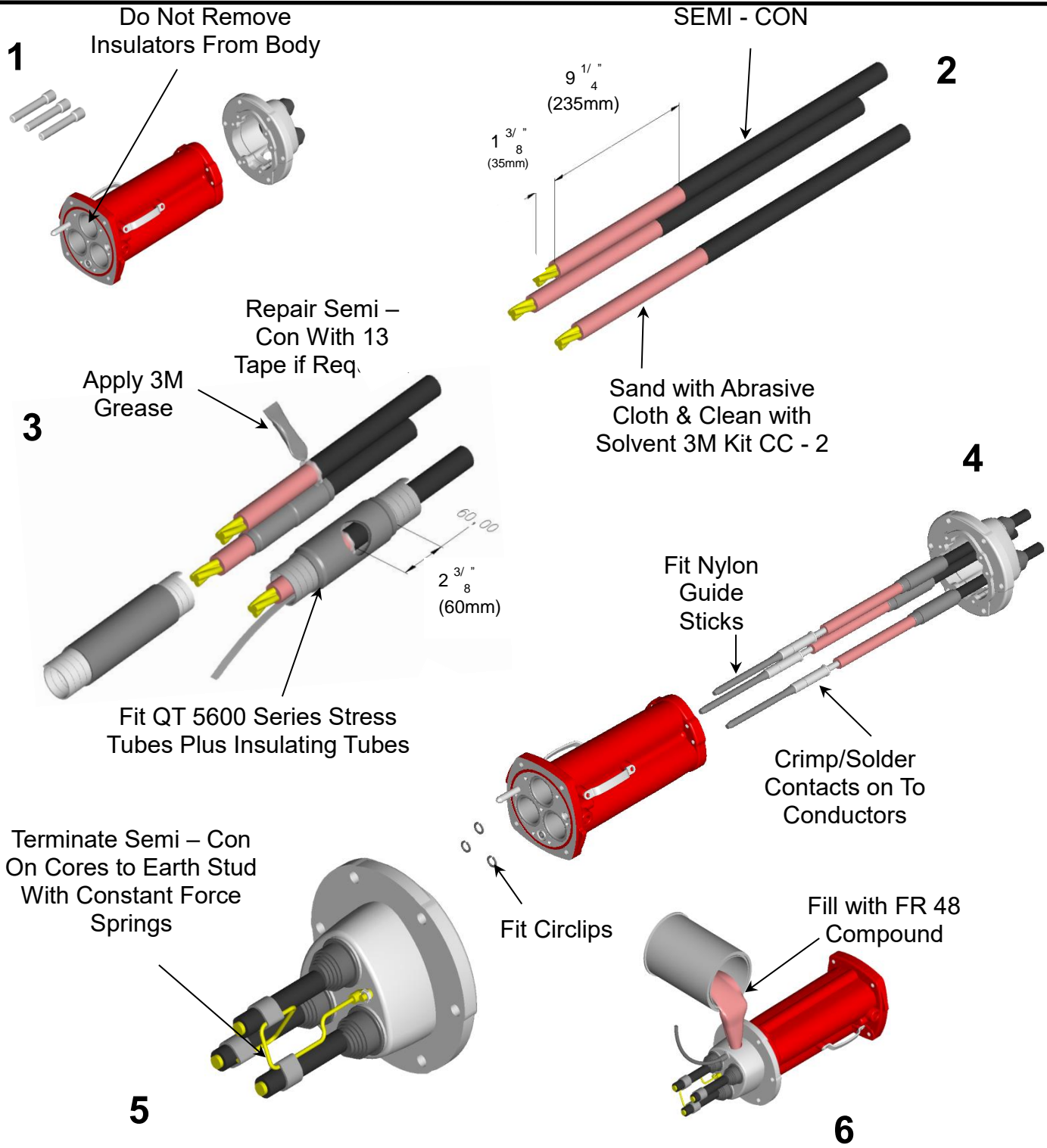
RS680	
(to suit core outer diameter 16mm – 28.5mm)	
	1 x 6L Compound
	3 x QT5671
	1 x CC2
	1 x 13 Tape
	1 x Heat Shrink
	2 x Steel Cable Ties
	3 x M Tubes



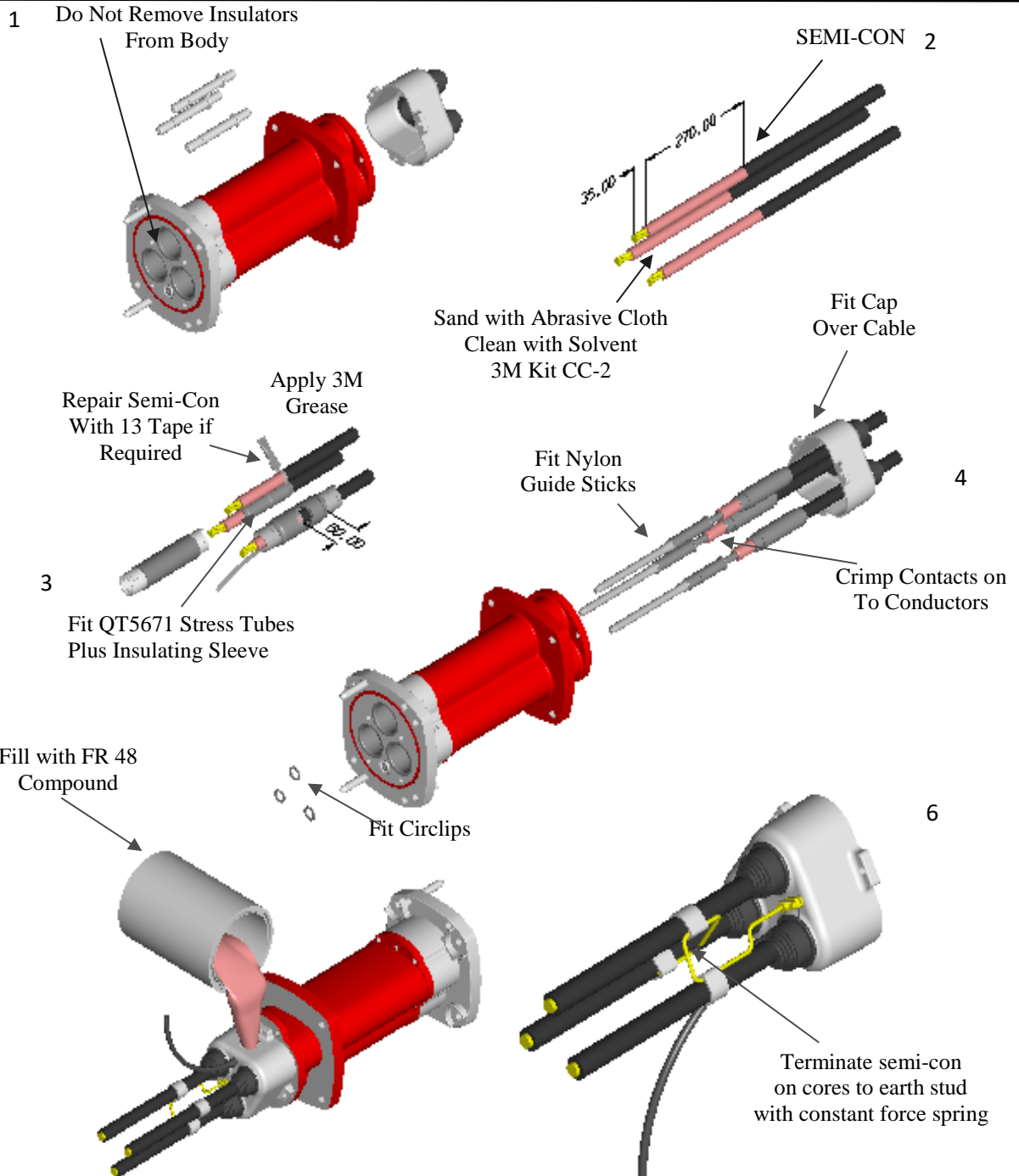
22kV 425A Half Couplers Termination Procedure



**22kV 425A Gear Mount Adaptor
Termination Procedure**



RS006 22kV 425A Adaptor Termination Procedure for Single Core Semi-Conductive Cable



RS575



Observation

Inspect the front end of the coupler or adaptor, paying special note to the condition of the circlip on each phase. Each circlip should be sitting evenly on the contact. If more of the circlip protrudes out of one side, then the circlip needs to be replaced.

If the circlip needs to be adjusted or replaced, the following will need to be performed.

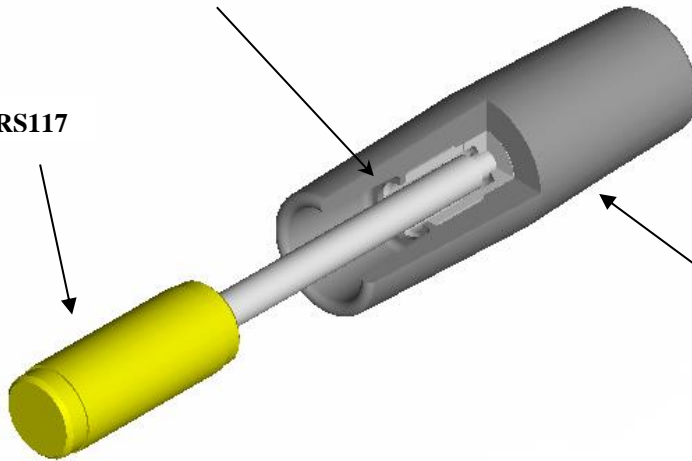
- Ensure power is **not** connected.
- For a coupler, loosen the clamp on the gland to slightly release the grip on the Cable.
- Clean out threaded hole in end of contact with air or cloth.
- Place a new circlip over the end of the contact.
- Screw the bolt of the assembled pulling tool into the end of the contact.
- Push the steel plate up against the face of the coupler.
- Tighten the nut and washer up to the steel plate.
- Using a spanner, tighten the nut against the steel plate to pull the contact back

Into place.

- Whilst in this position, replace the circlip.
- After all three contacts are satisfactory, retighten the gland.

SCREW SLIDE HAMMER INTO
CENTER OF CONNECTOR

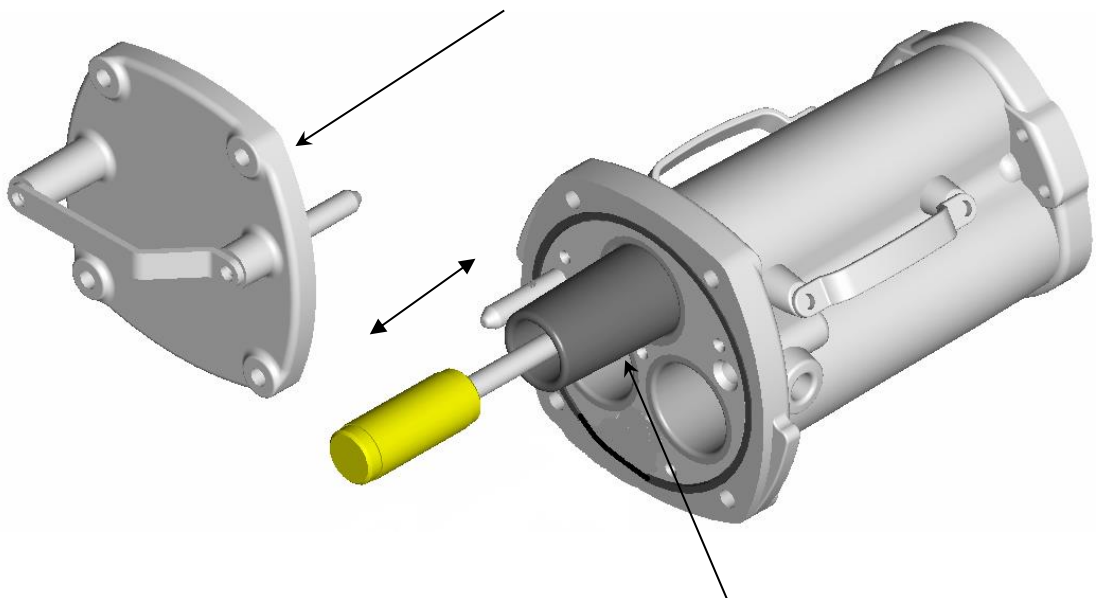
RS117



Using High Voltage Cleaning
Tissue – Clean silicon of any
grime.

PN:1278

REMOVE PROTECTION
COVER



FULLY INSERT CONNECTORS
WITH SLIDE HAMMER

To compliment existing procedures and practices currently existing in cable repair workshop, the following is designed to be completed as a minimum to ensure the safe and long operation of the Ausproof coupler system.

Routine Checks and Inspection

- When cables are not in use or stored, ensure that a cast protection end cover is fitted that provides adequate sealing against moisture.
- Ensure that witness marks are brightly painted on the sheath, located where the cable enters the gland. This needs to be routinely inspected to check if a gap appears between the end of the gland and the witness mark.
 - A gap may indicate that the cable has been under tension and that the termination in the coupler may have moved.
- Inspect the male pin in the coupler for obvious signs of damage. Also inspect the location of the nylon locking circlip to ensure that it is evenly fitted onto the contact.
 - If the circlip appears dislocated or damaged then repairs are necessary. This event indicates that the termination in the coupler has been under tension as a result of handling.
- Ensure the tension on the gland housing compression ring is maintained. This process requires that the four compression ring bolts are tensioned.
- Check silicon seals are clean and are fully intact.
- Thoroughly clean the insulators and face of the coupler with suitably approved solvent.

Testing Precautions

- During cable testing and fault location, high voltage withstand and impulse techniques are used. When the voltage is applied to a cable with couplers fitted then both ends of the phases being tested needs to be connected to the source.

For higher voltages this is necessary to prevent an uncontrolled escalation of voltage at the end of the conductor being tested.