



11kV 800AMP Flameproof Stainless Steel Coupler

Ex118BSS- Range



This drawing forms part of the documentation for
Certification: IECEx SIM 20.0008X Issue: 0
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11kV 800AMP Flameproof Stainles Steel Coupler

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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 tests 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

Impulse Voltage

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

A/C High Voltage Withstan

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

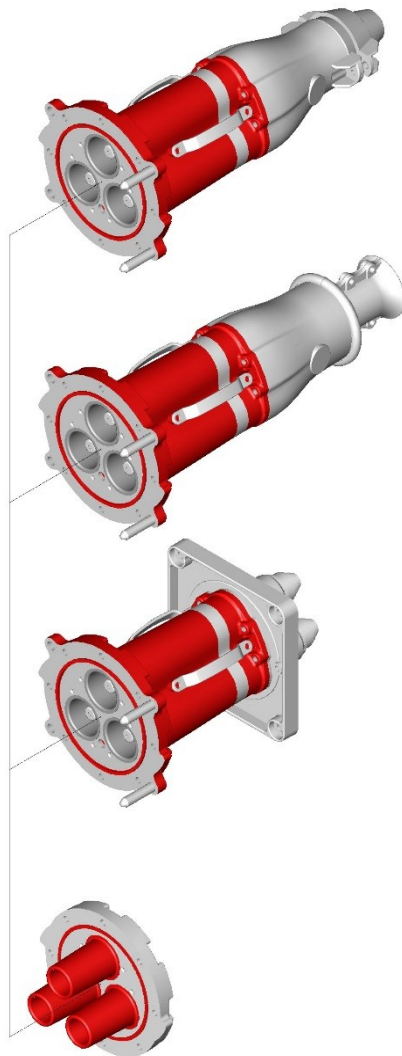
Partial Discharge

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

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High Voltage Cable Coupler System

Technical Guide



Description: Half Coupler for Armoured Cable
Rating: 11kV 800A
Material: High Tensile Brass
Mass: 30kg
Material: Stainless Steel 304
Mass: 30kg
LOA: 580mm
Volume: 3.5L

Description: Half Coupler for Unarmoured Cable
Rating: 11kV 800A
Material: High Tensile Brass
Mass: 30.5kg
Material: Stainless Steel 304
Mass: 30.5kg
LOA: 580mm
Volume: 3.5L

Description: Adaptor
Rating: 11kV 800A
Material: High Tensile Brass
Mass: 30kg
Material: Stainless Steel 304
Mass: 30kg
LOA: 265mm
Volume: 3L

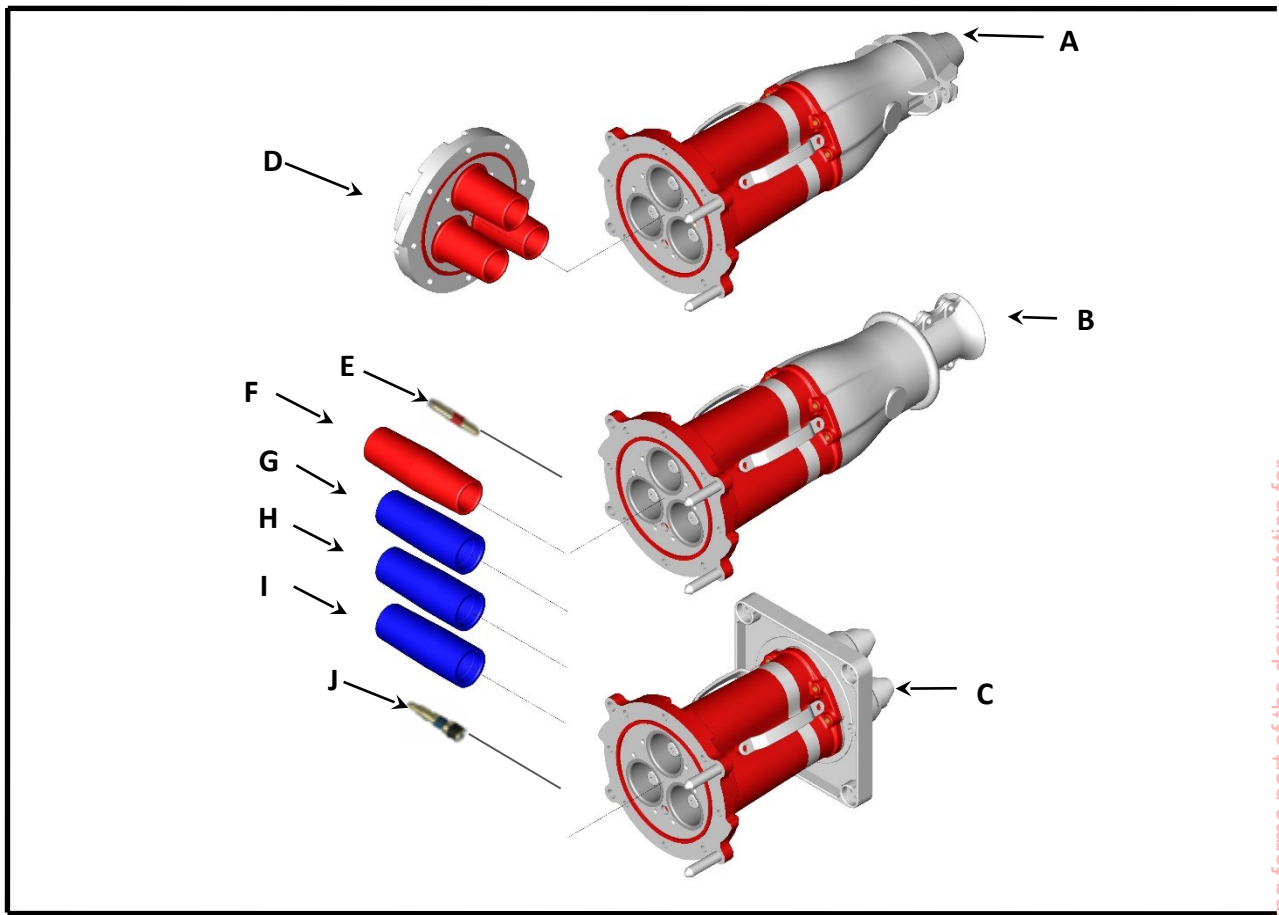
Stock No: RS1001
Description: Insulated End Cover
Rating: 11kV
Material: High Tensile Brass
Mass: 7.5kg
Material: Stainless Steel 304
Mass: 7.5kg

NOTE

MAXIMUM TEMPERATURE ACHIEVED WAS +65°C WITH A REQUIRED AMBIENT TEMPERATURE +40°C

MANUFACTURED TO AS/NZS 1300:2009, AS/NZS 60079.0:2019, AS/NZS 60079.1:2015

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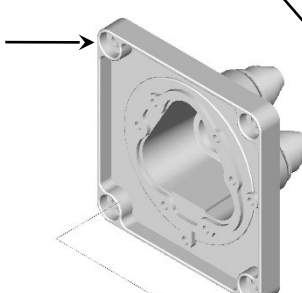
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Description	Stock No.	Page
A Half Coupler For Armoured Cable		4
B For Unarmoured Cable		4
C Adaptor		4
D Insulated End Cover	RS1001SS	9
E Pilot Connector (1 required per join)	RS113	
F 800/800 Amp Phase Connectors (3 required per join)	RS112	
G 150/800 Amp Transition Connector (3 required per join)	RS108	
H 300/800 Amp Transition Connector (3 required per join)	RS109	
I 425/800 Amp Transition Connector (3 required per join)	RS110	
J Pilot Transition Connector (1 required per join)	RS111	

Ex118BSS Coupler System Stock Selection Guide


Ex118BSS Gland Assembly PILC SWA Cable				Ex118BSS Gland Assembly XLPE SWA Cable			
Cable OD Under Armour	Stock No	Cable OD Under Armour	Stock No	Cable OD Under Armour	Stock No	Cable OD Under Armour	Stock No
33mm-38mm	RS945SS	63mm-68mm	RS951SS	33mm-38mm	RS955SS	63mm-68mm	RS961SS
38mm-43mm	RS946SS	68mm-73mm	RS952SS	38mm-43mm	RS956SS	68mm-73mm	RS962SS
43mm-48mm	RS947SS	73mm-78mm	RS953SS	43mm-48mm	RS957SS	73mm-78mm	RS963SS
48mm-53mm	RS948SS	78mm-83mm	RS954SS	48mm-53mm	RS958SS	78mm-83mm	RS964SS
53mm-58mm	RS949SS	83mm-88mm	RS1118SS	53mm-58mm	RS959SS	83mm-88mm	RS965SS
58mm-63mm	RS950SS			58mm-63mm	RS960SS		
PILC Gland Assembly includes earth stud, earth strap and constant force spring.				XLPE Gland Assembly includes earth studs only.			

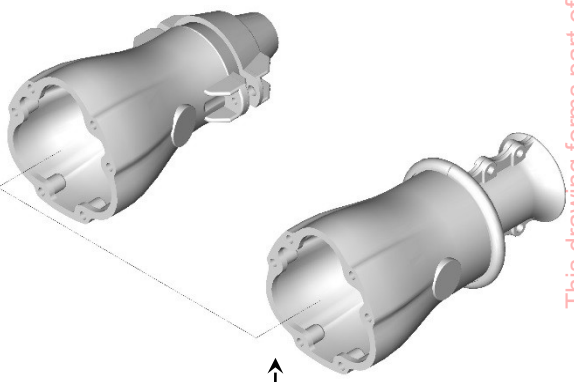
Adaptor Flange Stock No. RS944SS



Stainless Steel Body
Std Stock No. :RS940SS
c/w Pilot Stock No. :RS941SS

Stainless Steel Body with Indicators
Std Stock No. :RS942SS
c/w Pilot Stock No. :RS943SS






Ex118BSS Unarmoured Cable Gland Assembly

Cable OD	Stock No
70mm-75mm	RS967SS
75mm-80mm	RS968SS
80mm-85mm	RS969SS
85mm-90mm	RS970SS
90mm-95mm	RS971SS
95mm-100mm	RS1119SS
100mm-105mm	RS1120SS
105mm-110mm	RS1121SS

Unarmoured Gland Assembly includes earth studs only.

(11kV Contacts - Set of 3)

Size	Soldered	Crimp
25mm sq		Stock No: RS866
35mm sq	Stock No: RS067	Stock No: RS076
50mm sq	Stock No: RS068	Stock No: RS077
70mm sq	Stock No: RS069	Stock No: RS078
95mm sq	Stock No: RS070	Stock No: RS079
120mm sq	Stock No: RS071	Stock No: RS080
150mm sq	Stock No: RS072	Stock No: RS081
185mm sq	Stock No: RS073	Stock No: RS082
240mm sq	Stock No: RS074	Stock No: RS083
300mm sq	Stock No: RS075	Stock No: RS084



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Ex118BSS Body

Technical Data

Stainless Steel Stock No: RS940SS – Body

Stainless Steel Stock No: RS941SS – Body with Pilot.

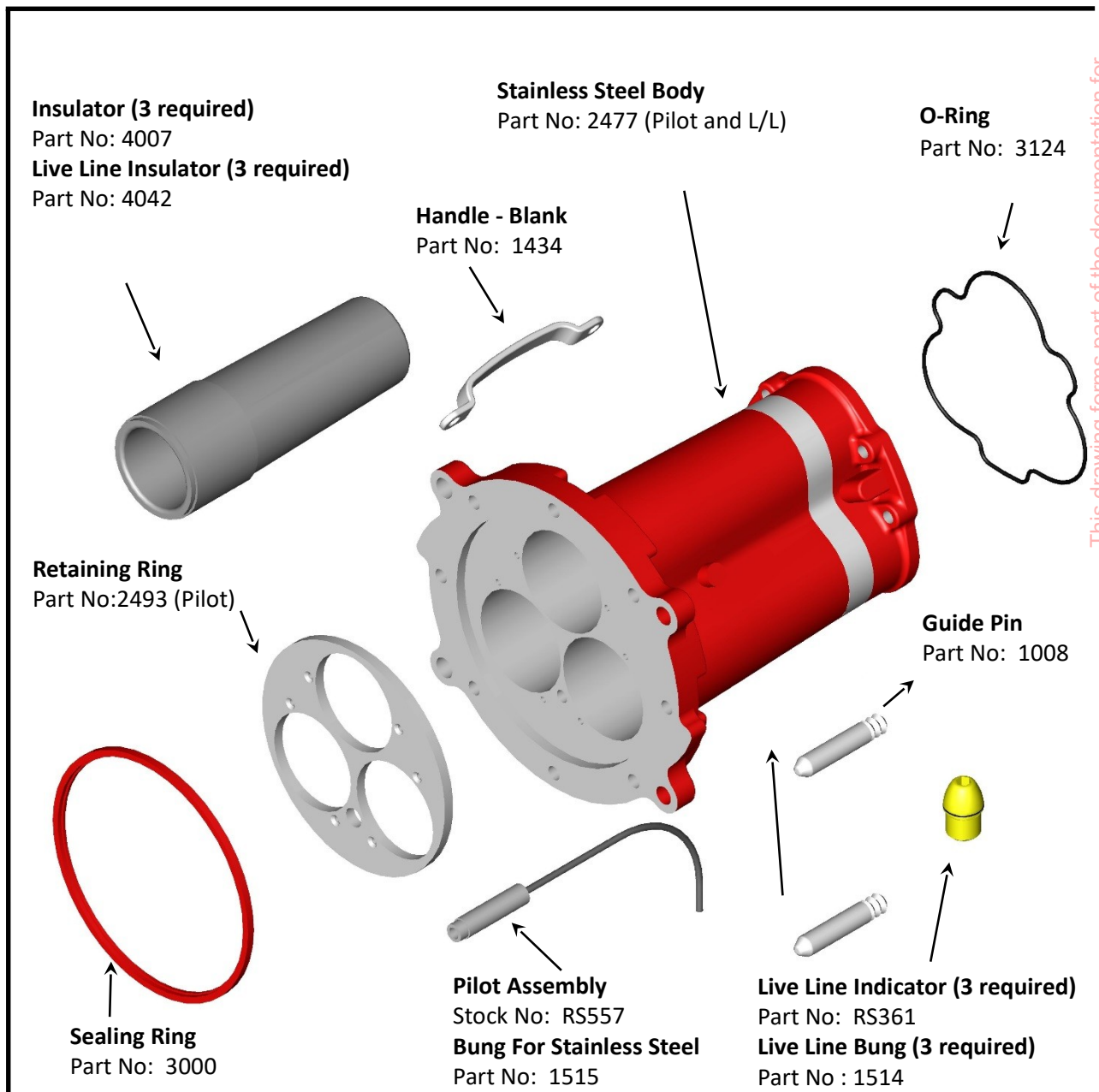
Material: Stainless Steel 304

Stainless Steel Stock No: RS942SS – Body with Indicators.

Stainless Steel Stock No: RS943SS – Body with Indicators and Pilot.

Amps: 800

Volts: 11000



Gland Assembly Selection Guide

Use this table to determine the correct gland size using the cable conductor core size

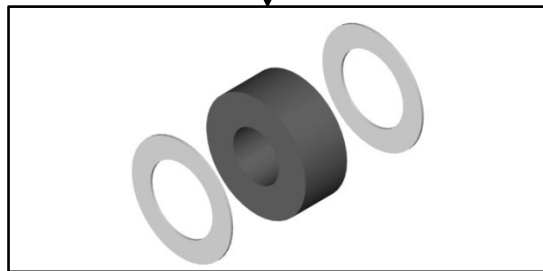
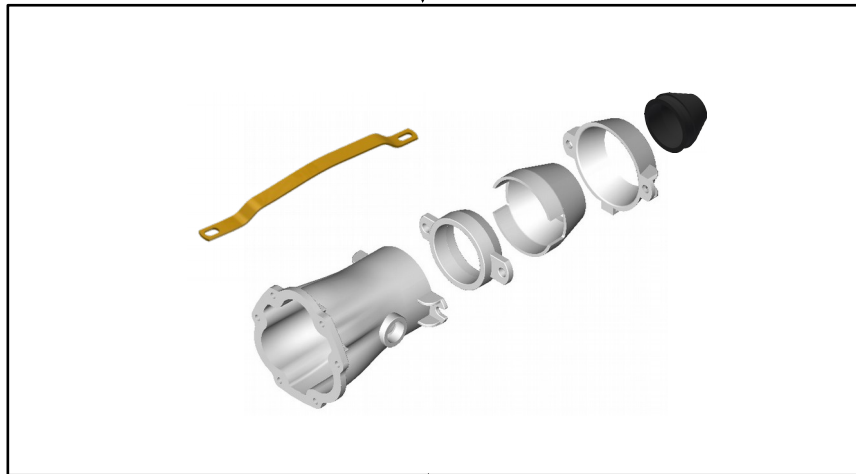
6.35/11kV XLPE mm ²	11/11kV PILC mm ²	12.7/22kV XLPE mm ²	Comp Rubber mm	AusProof Part PILC GLAND	AusProof Part XLPE GLAND
	16		33-38	RS945SS	RS955SS
16	25		38-43	RS946SS	RS956SS
25	35				
	50				
	70		43-48	RS947SS	RS957SS
35	95				
50	120		48-53	RS948SS	RS958SS
70	150	16			
		25	53-58	RS949SS	RS959SS
95	185	35			
		50	58-63	RS950SS	RS960SS
120	240	70			
150			63-68	RS951SS	RS961SS
185	300	95			
		120	68-73	RS952SS	RS962SS
240	400	150			
		150	73-78	RS953SS	RS963SS
300		185			
		240	78-83	RS954SS	RS964SS
		300			
		300	83-88	RS1118SS	RS965SS

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Ex118BSS Coupler Armoured Gland Assembly

Armoured Housing

Stock No: RS972SS



PILC Compression Clamp Kit includes:

3 x Earth Studs
PN: RS1143

1 x Flexible
Earth PN:1212

1 x Constant
Force Spring
PN: 1014

Armoured Compression Clamp Kit

Stock No For PILC	Cable OD	Stock No For XLPE
	Range Under Armour	
RS984	33mm-38mm	RS974
RS985	38mm-43mm	RS975
RS986	43mm-48mm	RS976
RS987	48mm-53mm	RS977
RS988	53mm-58mm	RS978
RS989	58mm-63mm	RS979
RS990	63mm-68mm	RS980
RS991	68mm-73mm	RS981
RS992	73mm-78mm	RS982
RS993	78mm-83mm	RS983
RS1123	83mm-88mm	RS1122

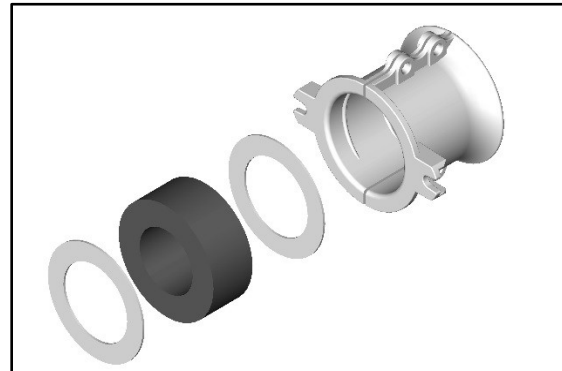
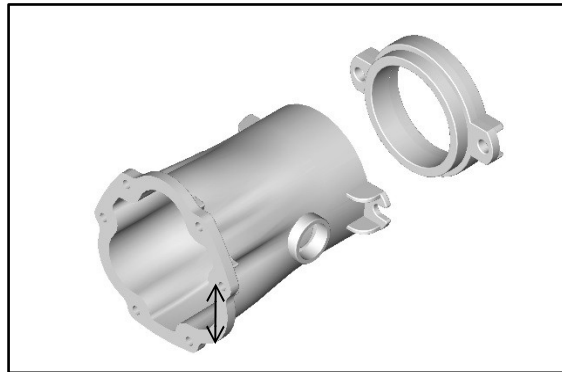
XLPE Compression Clamp Kits includes:

3 x Earth Studs
PN: RS1143

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**Ex118BSS Coupler
Unarmoured Gland Assembly**

Unarmoured Housing
Stock No: RS973SS



Unarmoured Compression Clamp Kit

Cable OD	Stock No
70mm-75mm	RS996SS
75mm-80mm	RS997SS
80mm-85mm	RS998SS
85mm-90mm	RS999SS
90mm -95mm	RS1000SS
95mm-100mm	RS1124SS
100mm-105mm	RS1125SS
105mm-110mm	RS1126SS

Each Compression Clamp Kit includes:
3 x Earth Studs - PN: RS1143

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Ex118BSS Adaptor Flange

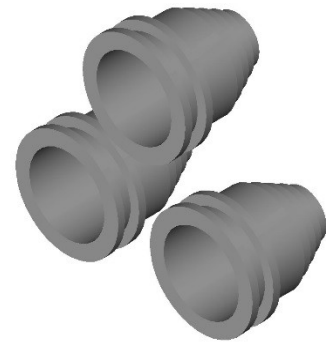
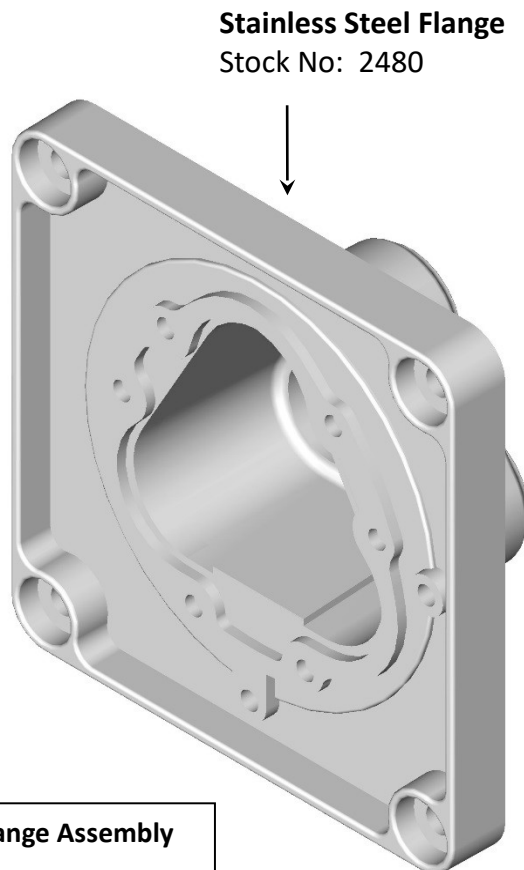
Technical Data

Stainless Steel Stock No: RS944SS - 11kV Adaptor Flange

Material: Stainless Steel 304

Volts: 11000

Amps: 800

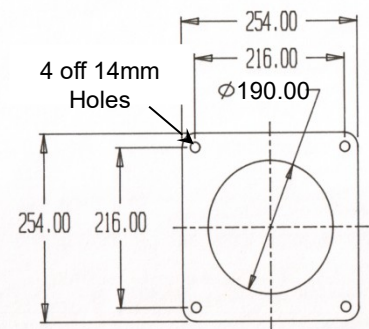


Adaptor Flange Assembly includes:

1 x Earth Bracket
PN: 1423

1 x Flexible Earth
PN:1212

3 x Constant Force Spring
PN: 1014



Adaptor Mounting Sizes

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Ex118BSS Insulated End Cover

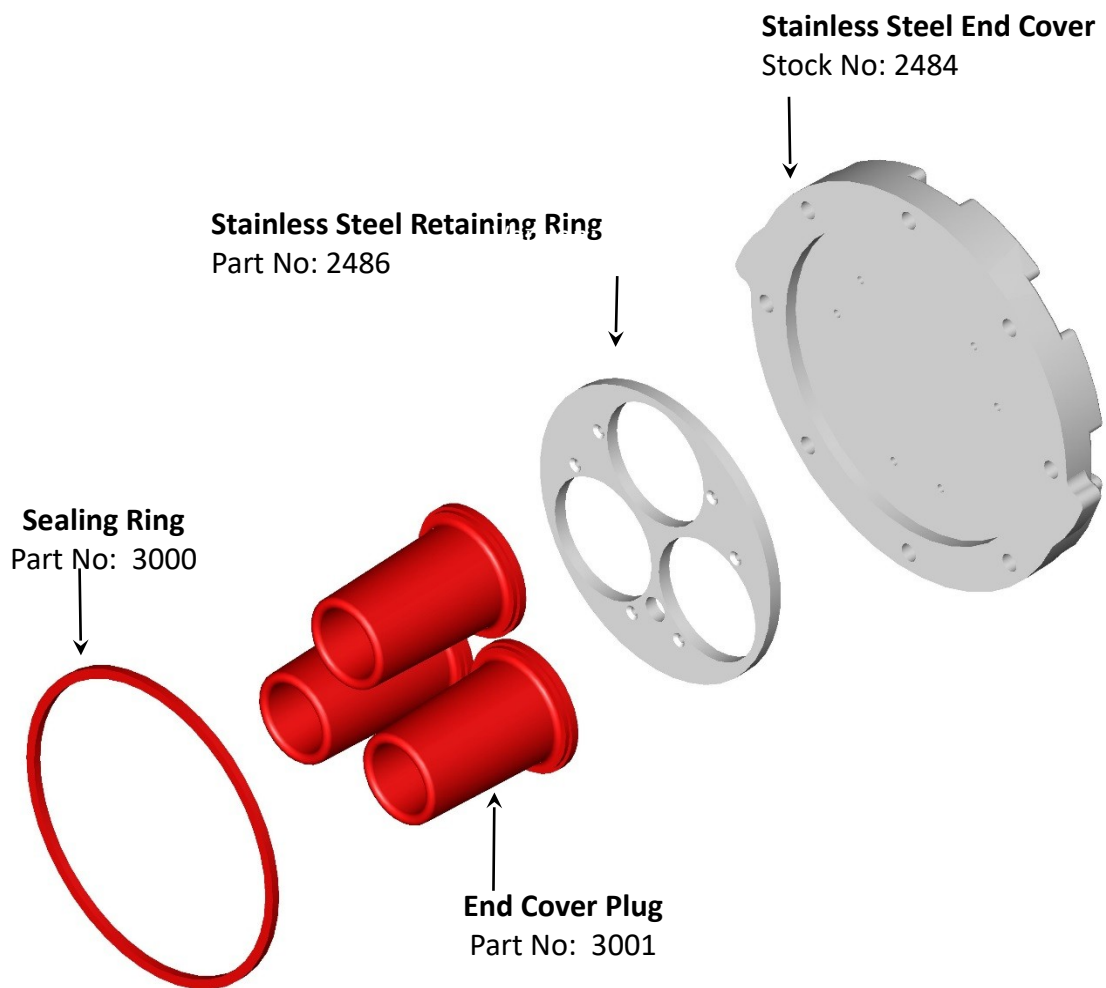
Technical Data

Stainless Steel Stock No: RS1001SS – Insulated End Cover

Material: Stainless Steel 304

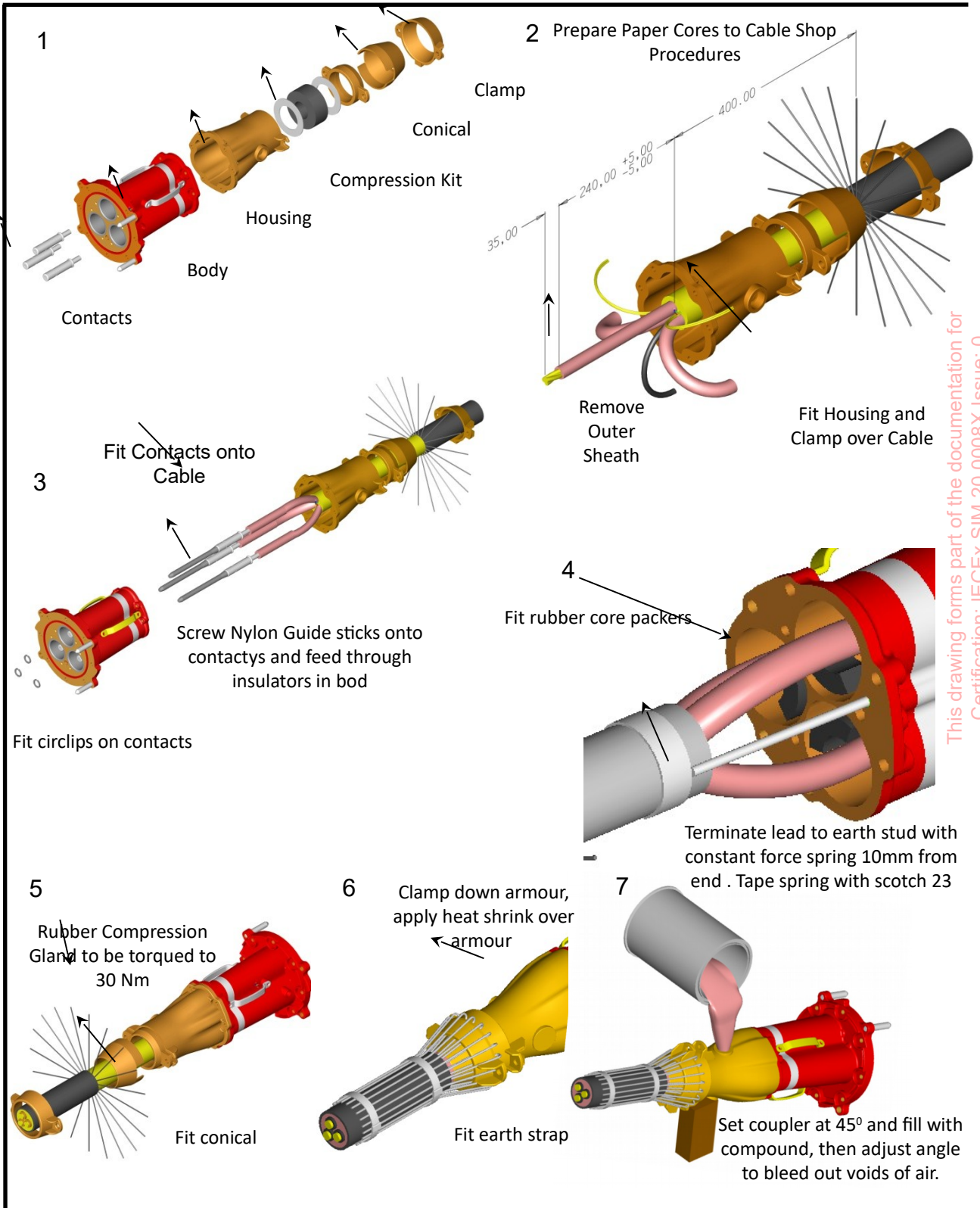
Volts: 11000

Amps: 800



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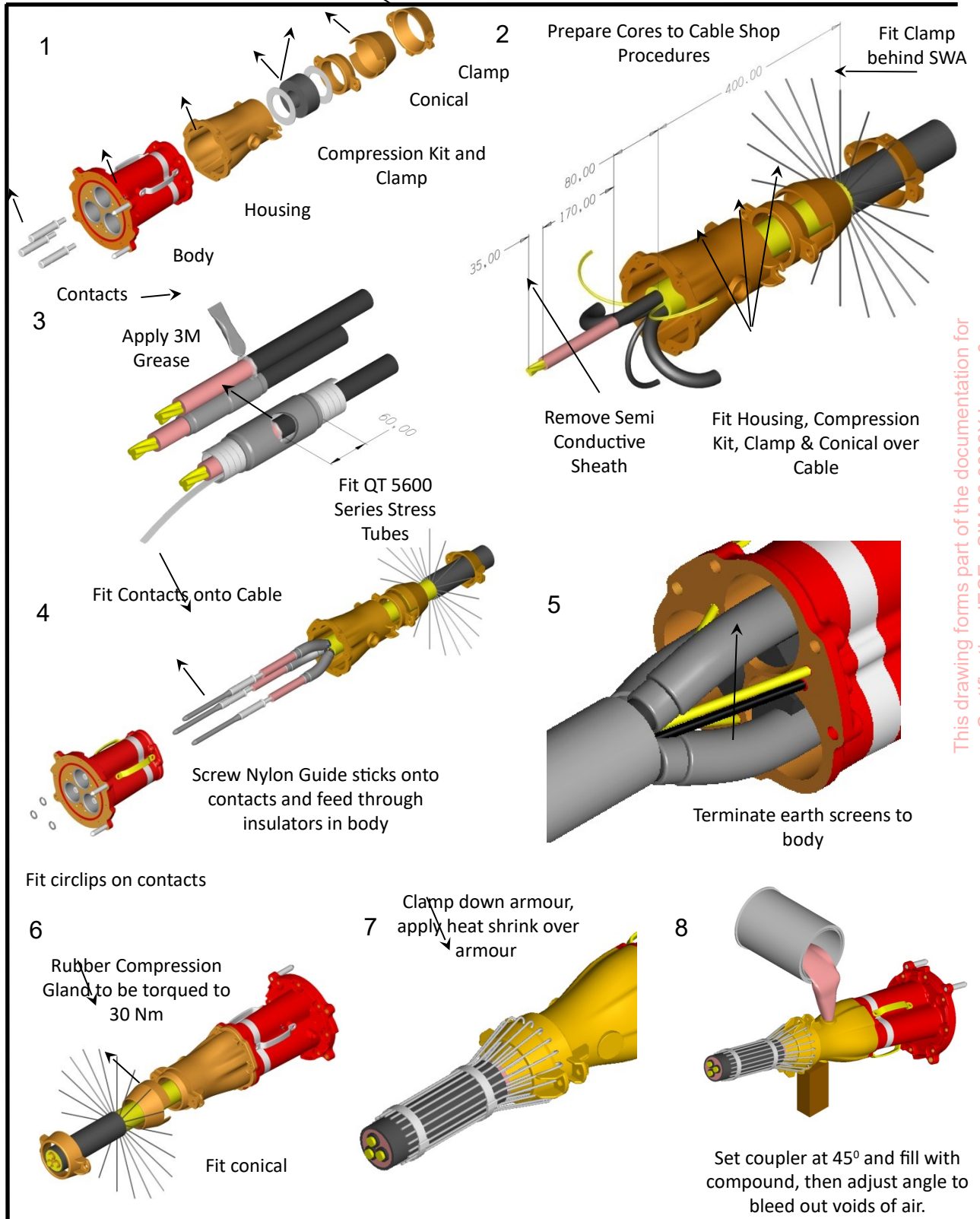
Termination Procedure for Paper Lead Cable



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These instructions are intended for use by Competent Persons.

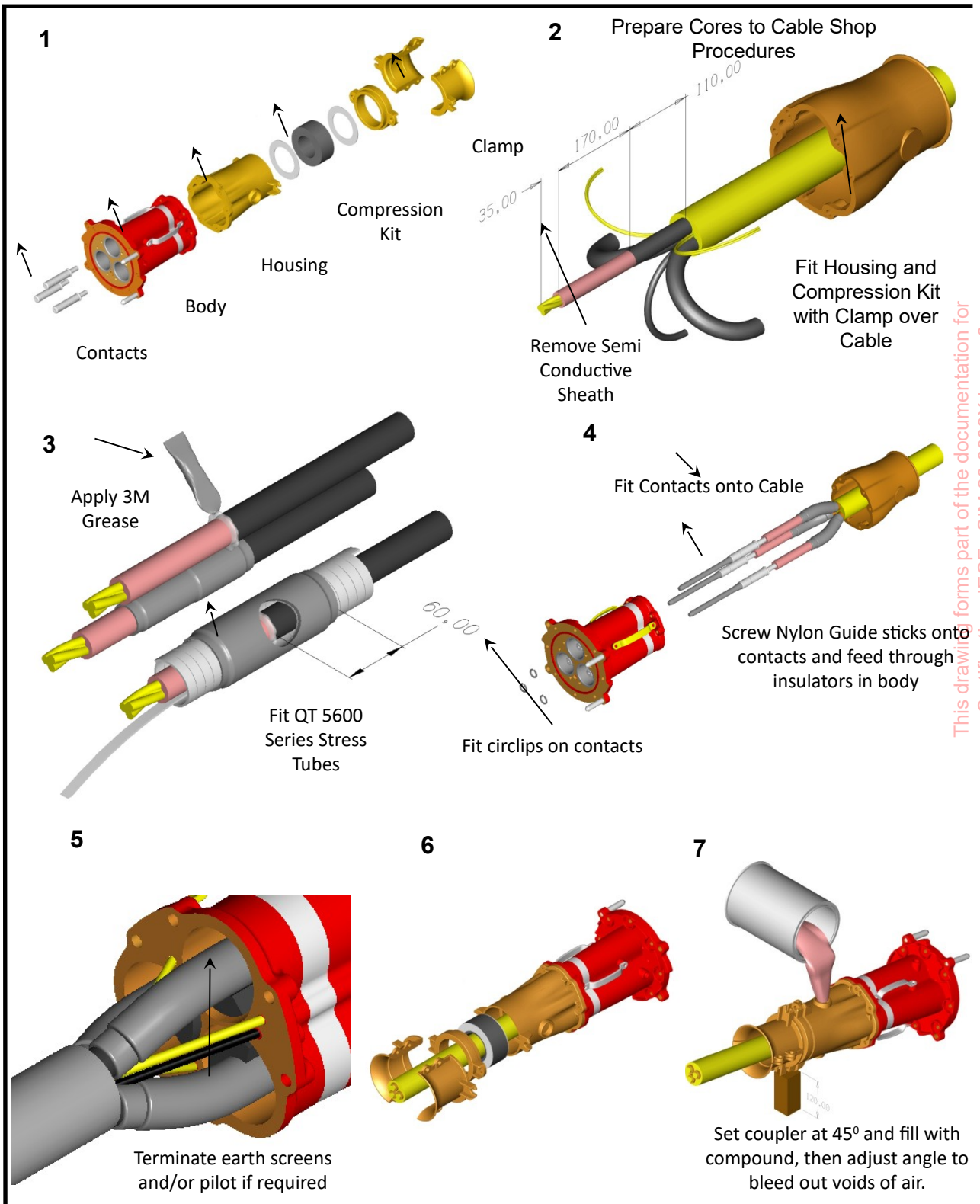
Termination Procedure for XLPE Cable



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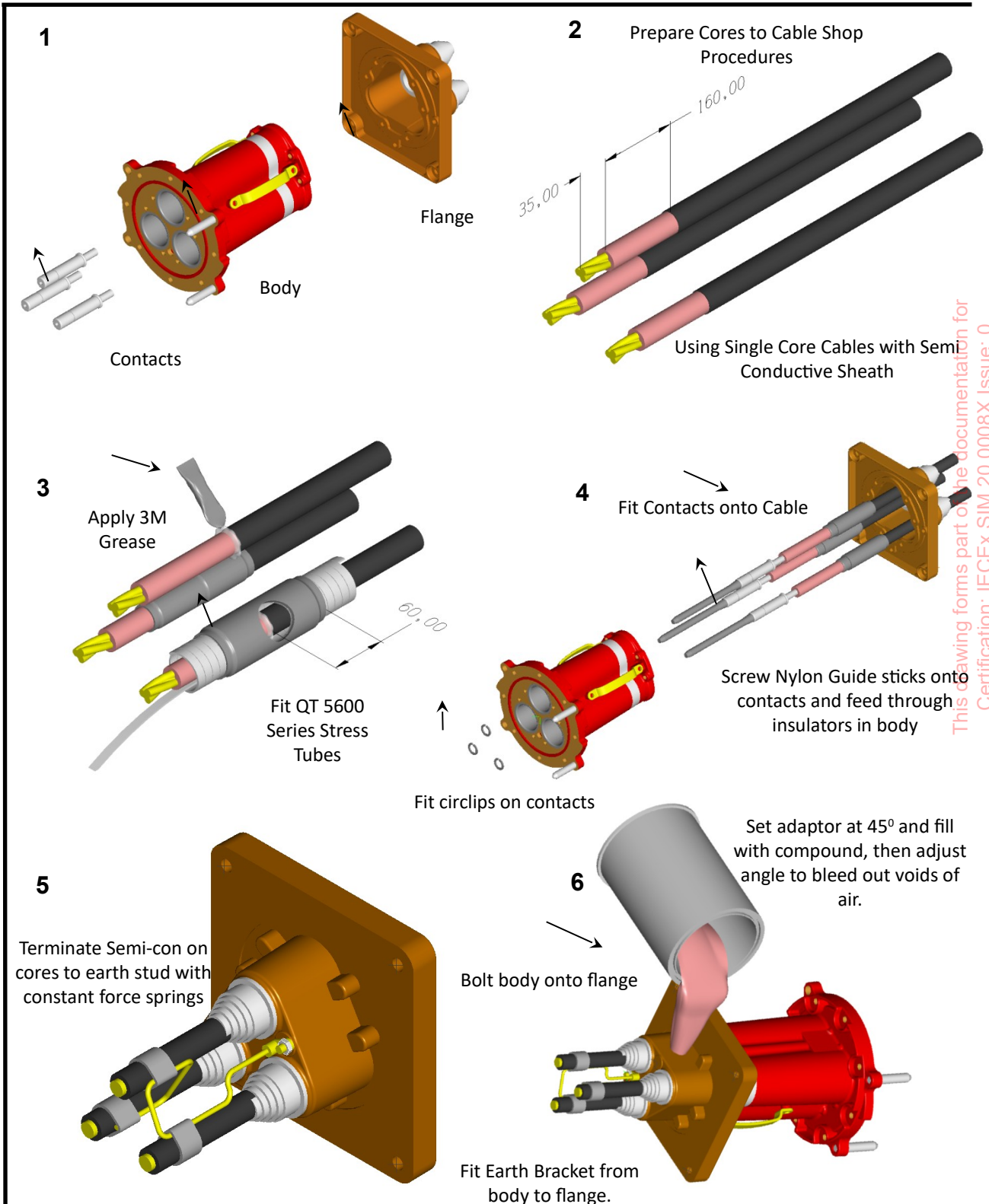
Termination Procedure for Unarmoured Cable



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Termination Procedure for Adaptor



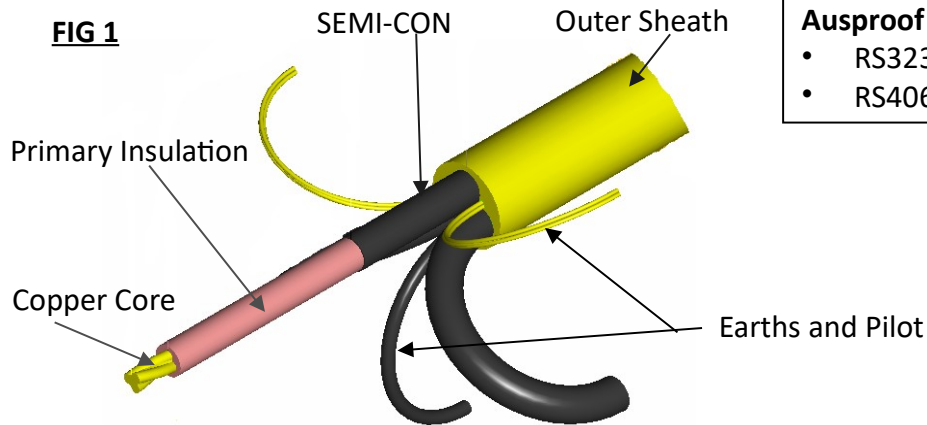
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These instructions are intended for use by Competent Persons

High Voltage Stress Relief Instructions

11kV Unarmoured Cable

FIG 1



Ausproof Termination Kits

- RS323
- RS406

FIG 2

Lightly Sand with Abrasive Cloth to remove any remaining Semi-conductive material.

Note: Direction of sanding must be around insulation.

Clean with Solvent
3M Kit CC-2

Note: Wipe from copper core toward semi-con only

Repair end of Semi-Con With 13 Tape if Required

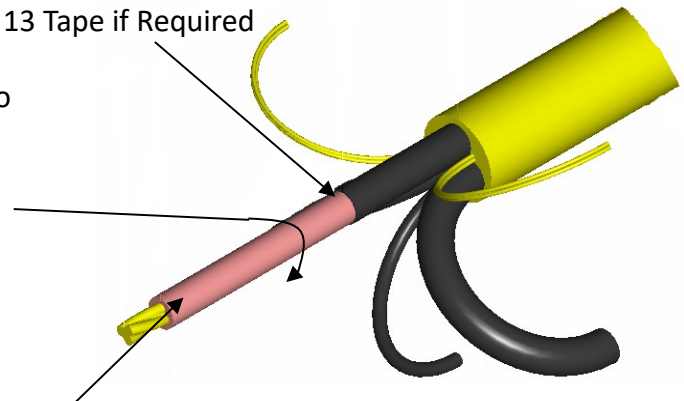
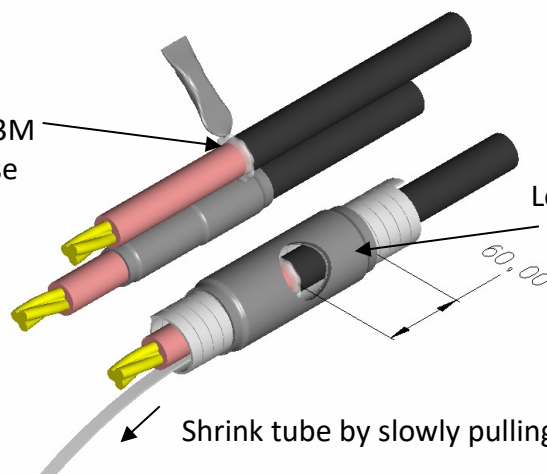


FIG 3

Apply 3M Grease

Locate QT5671 or QT5672 Stress Tubes as shown.



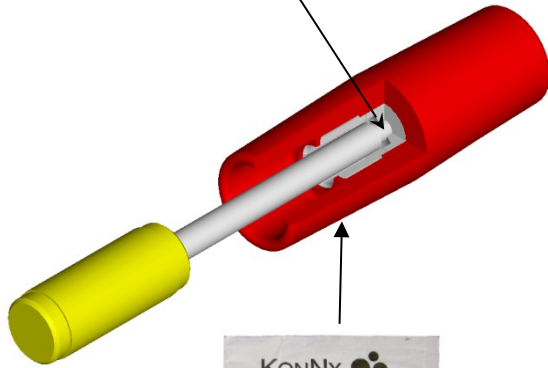
Shrink tube by slowly pulling lead.

These instructions are intended for use by Competent Persons.

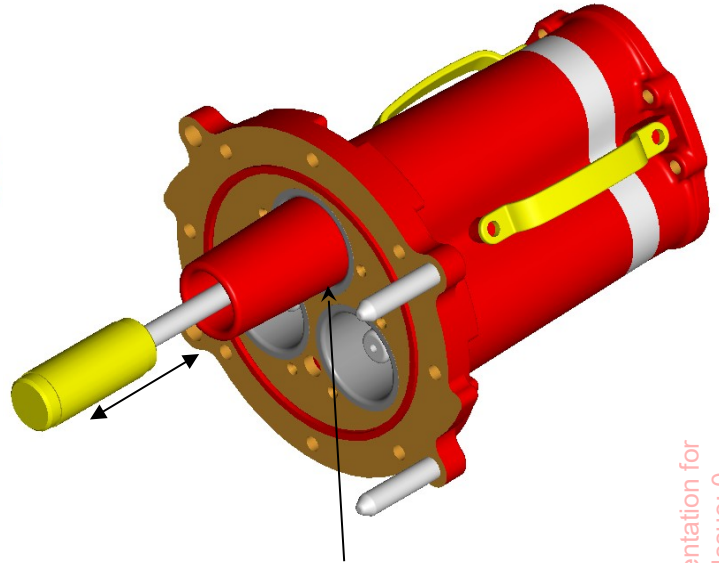
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Inserting Connectors and Coupling Operation

SCREW SLIDE HAMMER INTO CENTER OF CONNECTOR

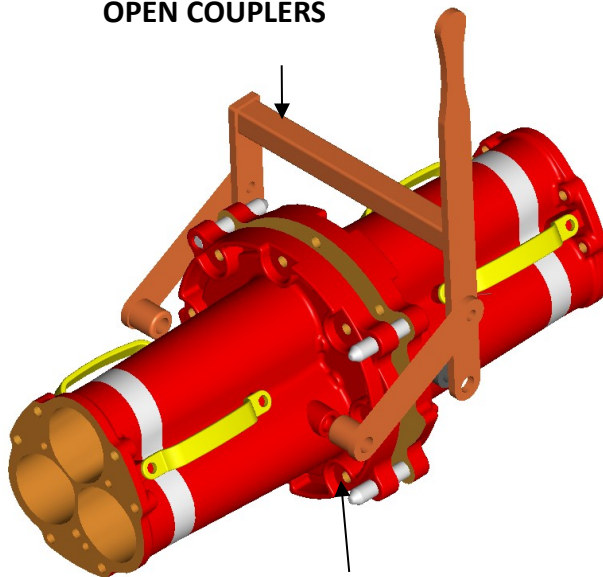


Using High Voltage Cleaning Tissue – Clean silicon of any grime.



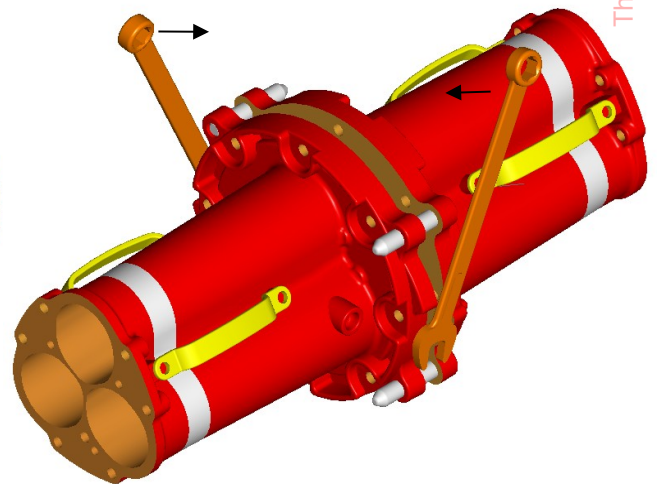
FULLY INSERT CONNECTORS WITH SLIDE HAMMER

FIT RACKING TOOL TO CLOSE OR OPEN COUPLERS



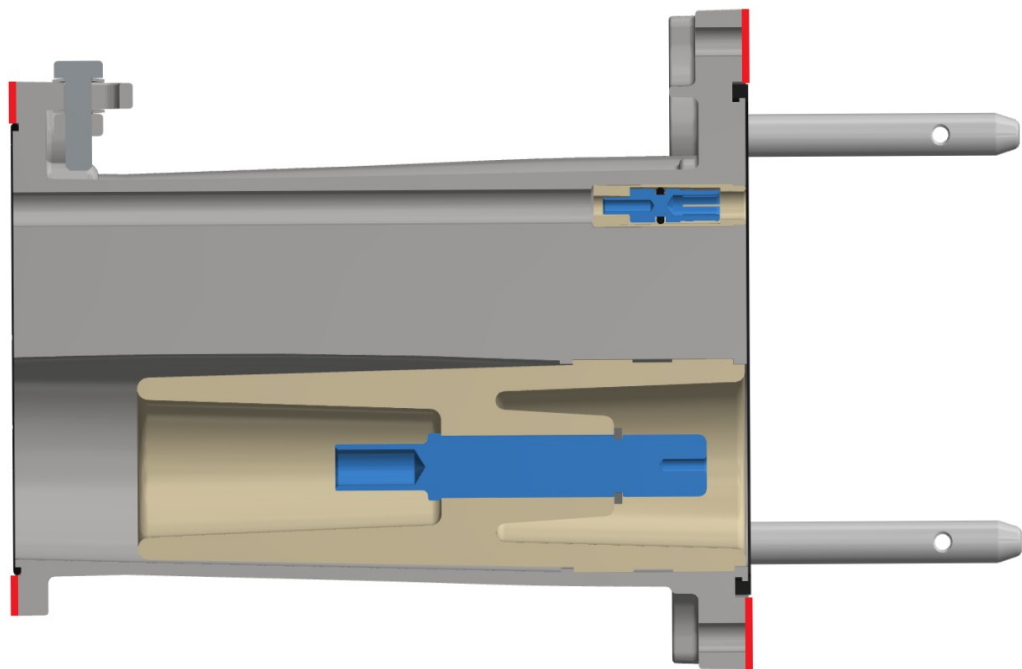
ALIGN AND CLOSE BY HAND. BOLT TOGETHER

TO ASSIST WITH OPENING COUPLERS POSITION SPANNERS AS SHOWN



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Ex118BSS Flamepath Detail Standard Coupler





Legend	
	Flamepath
	Insulators
	Contacts
	Stainless Steel Coupler

Flamepaths are not intended to be repaired. For further specifications on Flamepath joints, contact manufacturer for dimensions and tolerances.

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Ex118BSS Flamepath Detail Housing



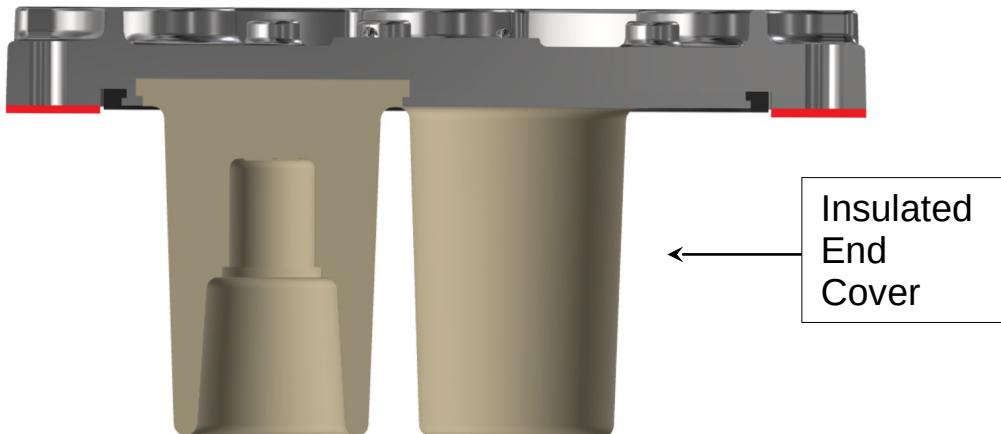
Legend	
	Flamepath
	Stainless Steel Casting

Flamepaths are not intended to be repaired. For further specifications on Flamepath joints, contact manufacturer for dimensions and tolerances.

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Ex118BSS Flamepath Detail

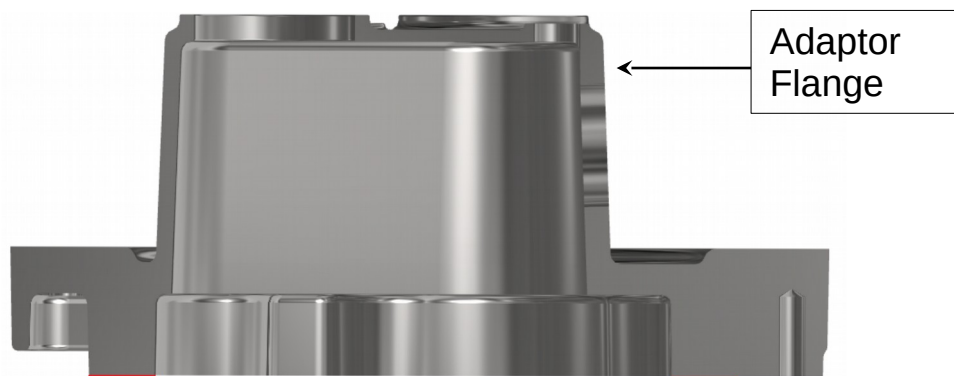
Insulated End Cover and Adaptor Flange



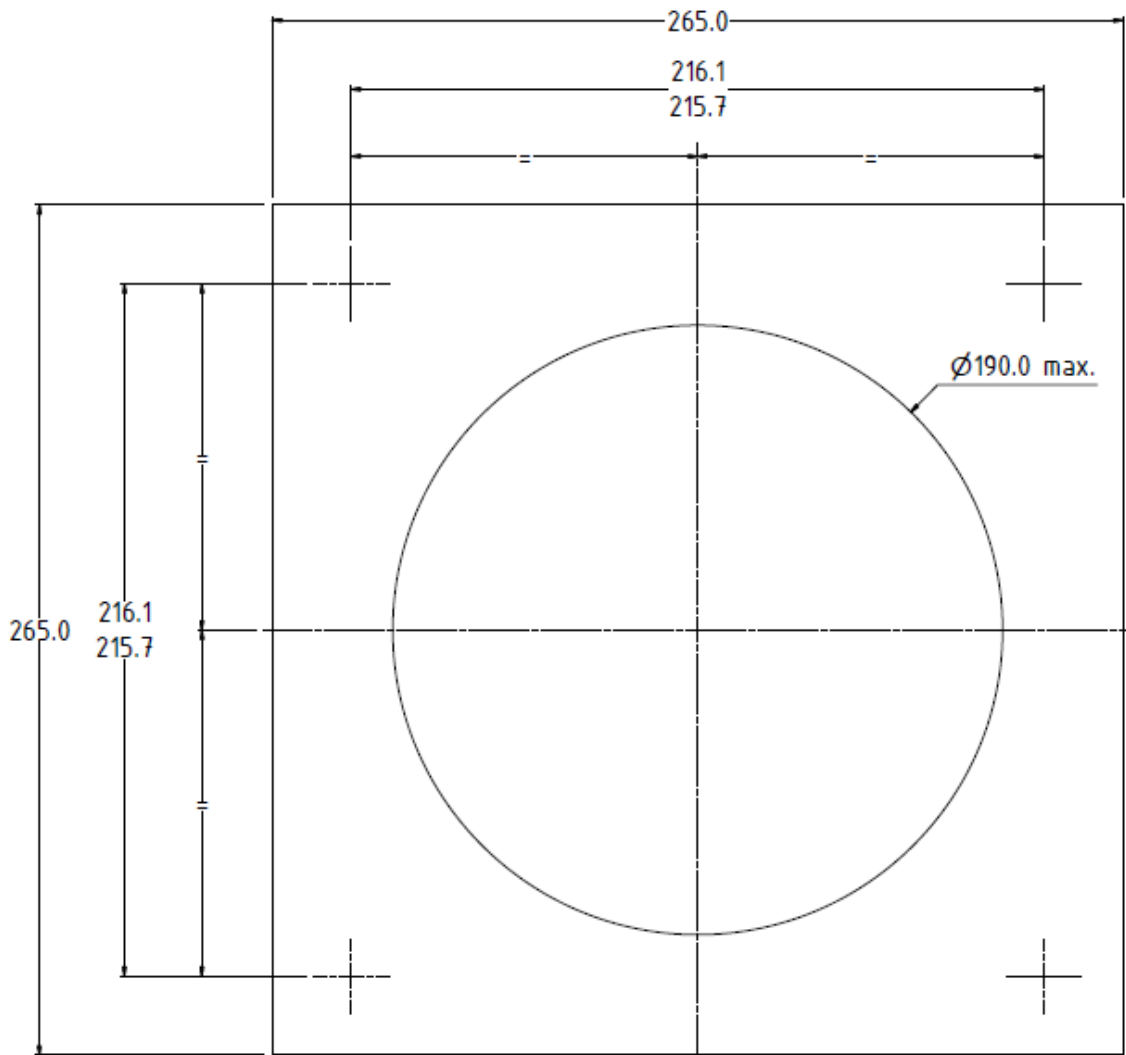
Insulated
End
Cover

Legend	
	Flamepath
	End Cover Plug
	Stainless Steel Casting

Flamepaths are not intended to be repaired. For further specifications on Flamepath joints, contact manufacturer for dimensions and tolerances.



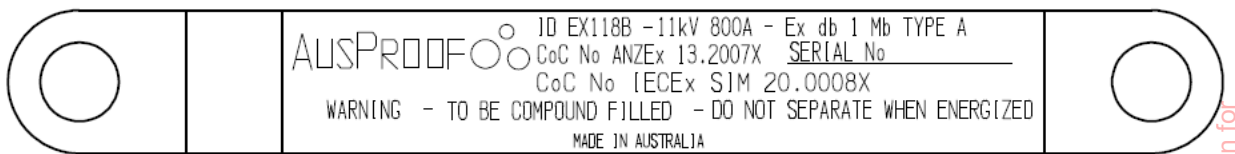
Adaptor
Flange



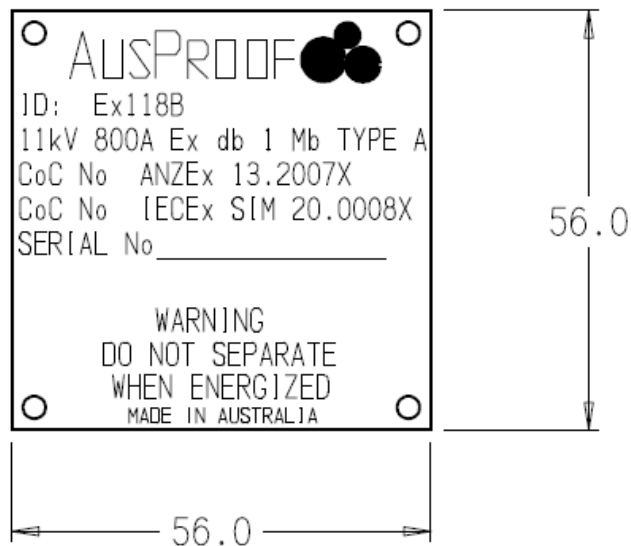
Untoleranced dimensions ± 0.25
Dimensions in millimetres
As per standard: AS/NZS 1300:2009

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Product Label For Coupler



Product Label For Insulated End Covers



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To ensure the safe operation of the mining couplers, personnel should be aware of minimal ongoing care and maintenance.

- When cables are not in use, ensure that an end cover or insulated end cover is fitted that provides adequate sealing against moisture.
- The coupler should never be used as a towing or anchor point.
- Ensure that the connector pins have firm contact pressure or grip on the male pin in the coupler. If grip / pressure is loose then new connectors are required.
- Before bolting couplers together or before fitting an end cover, ensure that the face sealing ring is located correctly in the groove.
- On each occasion before the couplers are bolted together, 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 possibly as a result of handling.
- To ensure the coupler is still fit for purpose, inspections should be performed. As a minimum a 'gap test' should be performed on the faces of two couplers that have been bolted together.
- A maximum of 0.5mm is permissible.

Conditions of Use

In accordance with clause 11.3 of IEC 60079-1:20014, the following fastener property class shall apply for:

- *Fixing two half couplers or coupler and adaptor together: property class ≥ 8.8*
- *Fixing gland housing to coupler body: property class ≥ 8.8*
- *Fixing adaptor flange to coupler body: property class $\geq A2-70$*
- *Fixing replaceable flange to coupler body: property class ≥ 8.8*
- *Fixing cable clamping to housing: property class ≥ 8.8*
- *Fixing adaptor to Ex d closure: property class ≥ 4.6 , or greater that or equal to the fastener property class specified for the Ex enclosure, whichever is greater.*