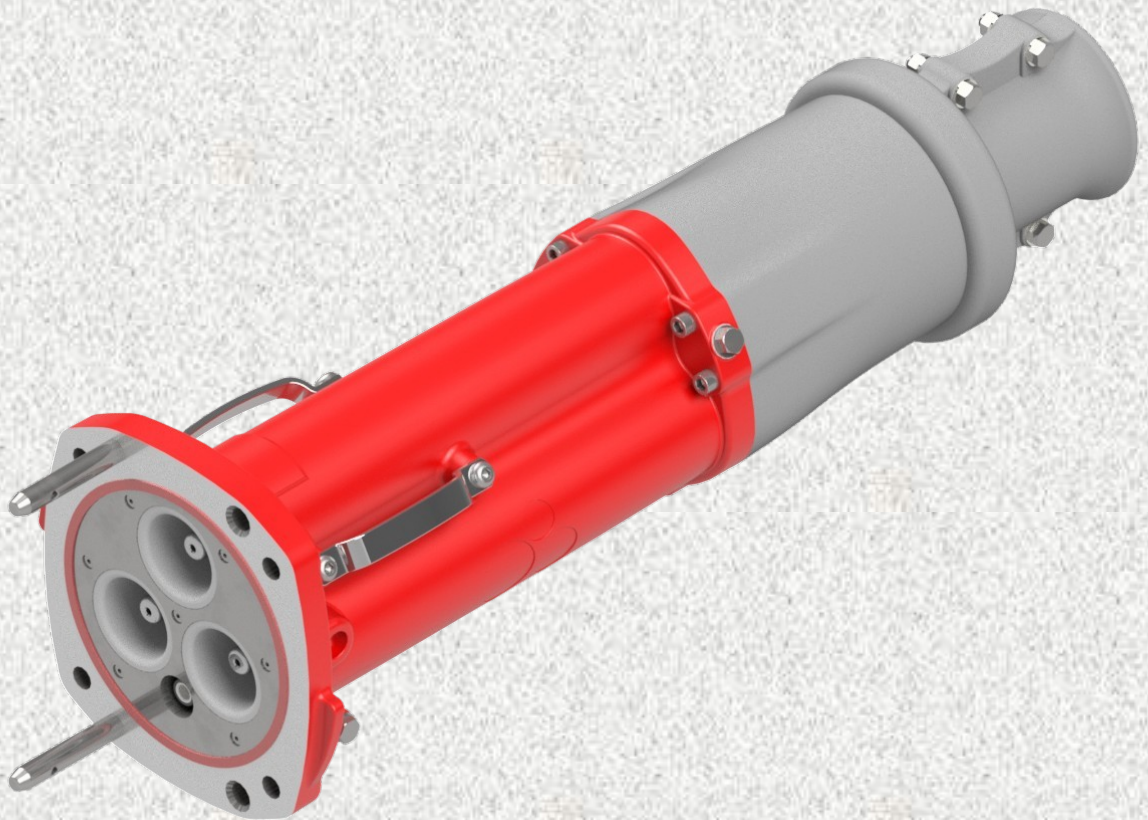




**22kV  
425 AMP Coupler and Adaptor  
Test Report**



*Pioneering the Difference.*

Theory 1.9.3	Developed by	Philip Marks
	DIN	RD_1056
	Version	3



## Test Report

<b>DATE ISSUED:</b>	24 November 2023
<b>DEVICE TESTED:</b>	AusProof 22 kV 425 A Coupler
<b>RANGE NUMBERS:</b>	224BKA, 224BKAFO, 224BKAE, 224BSTDKA, 224B2PKA, 224BSTDKAFO, 224BSTDKAE
<b>CLIENT'S NAME:</b>	AusProof Pty Ltd 6 Shona Avenue Gladstone Queensland 4680 Australia
<b>CLIENT'S REFERENCE:</b>	Email: Clinton Taylor
<b>TEST SPECIFICATION:</b>	Client specification including references to AS/NZS 1300, AS/NZS 1299, C22.2 No 298
<b>DATE OF TEST COMPLETION:</b>	23 November 2023
<b>SUMMARY OF RESULTS:</b>	The sample device tested complied with the requirements of the above test specification.



All tests reported herein  
have been performed in  
accordance with the  
Laboratory's scope of  
accreditation. Accreditation  
Number: 42

Approved Signatory: K Manson



Checked By: G I Dix



International Accreditation New Zealand (IANZ) has a Mutual Recognition Arrangement (MRA) with the National Association of Testing Authorities (NATA), Australia, such that both organizations recognize accreditations by IANZ and NATA as being equivalent. Users of inspection reports / certificates are recommended to accept inspection reports / certificates in the name of either accrediting body.

PowerLab Limited, PO Box 31034 Christchurch 8444 New Zealand, 5 Sheffield Crescent Christchurch  
New Zealand, Info@powerlab.co.nz. This Report must not be quoted except in full.

## Testing notes

The following personnel were present during testing:

Laboratory staff: K Manson and G I Dix

### Tests Performed

Test number	Test	Standard/Clause	Test value
1	Phase to phase + earth AC 50 Hz 1 minute	AusProof Requirement	46 kV for 1 minute
2	Phase to phase + earth AC 50 Hz 4 hours	AusProof Requirement	40 kV for 4 hours
3	Pilot to earth 50 Hz	AusProof Requirement	1000 V for 1 minute
4	Impulse	AusProof Requirement	125 kV and 150 kV
5	Partial Discharge	AusProof Requirement	Inception and extinction 10% greater than 12.7 kV, Max 100 pC
6	Ingress protection	AusProof Requirement	IP68
7	Short circuit test (phase)	AusProof Requirement	20 kA for 1.0 s
8	Bonding (earth) path current test	AusProof Requirement	5.01 kA for 9 s
9	Temperature rise	AusProof Requirement	425 A

### Supplementary Tests Performed

10	Phase to phase + earth AC 50 Hz 6 hours	AusProof Requirement	40 kV for 6 hours
11	Phase to phase + earth AC 50 Hz 1 minute	AusProof Requirement	50 kV for 1 minute
12	Temperature rise	AusProof Requirement	700 A

## Test Laboratory Atmospheric Conditions

Temperature 12 ( $\pm 5$ ) $^{\circ}$ C.  
 Pressure 100 ( $\pm 5$ ) kPa  
 (Approximate height above local sea level is 30 m).

## Laboratory Equipment

Ferranti inverted Marx impulse generator configured with 3 stages rated at 100 kV, 0.24  $\mu$ F per stage;  
 Laboratory manufactured adjustable transfer, tail and front resistors;  
 Laboratory manufactured impulse generator control and firing equipment;  
 Haefely 600 kV peak capacitor voltage divider/chopping gap;  
 Haefely 64M Impulse Peak Voltmeter;  
 Manually set 25cm sphere-gap;  
 Biddle balanced partial discharge detector 665700 (Zm, PDS)  
 Biddle partial discharge system master calibrator 6617250  
 Oscilloscope  
 Heafely 2000 pF discharge free 200 kV capacitor (Ck).  
 Hipotronics 150 kV 150 kVA ac dielectric test set  
 Resistive voltage divider and true RMS indicator (Hipotronics KVM300)  
 Fluke 287 DVM  
 Tektronix TDS3034 Four Channel digitizing oscilloscope;  
 11 kV/440 V short circuit transformer  
 20,000/5 CT  
 1000/5 CT  
 Laboratory constructed point on wave switch  
 Inductors and Resistors  
 Laboratory manufactured current viewing resistor; and  
 Miscellaneous laboratory equipment including: assman hygrometer, barometer, and a mercury-in-glass thermometer.  
 Agilent 34970A data acquisition system

## Measurement Uncertainties

### Compliance Decision rule

Reported compliance decisions do not include Measurement Uncertainty.

1. For minimum limits - Where measurement is on the limit or above the limit it is deemed to comply. Where measurement is below the limit it is deemed not to comply.
2. For maximum limits - Where measurement is on the limit or below the limit it is deemed to comply. Where measurement is above the limit it is deemed not to comply.
3. Where the compliance result is within the window of uncertainty then an “\*” is added to the “C” verdict – “C\*” to indicate such a result.

**Table of measurement uncertainty**

Voltage	up to 1 kHz	$\pm 1$ %
- Up to 1000 V	1 kHz up to 5 kHz	$\pm 1$ %
	5 kHz up to 20 kHz	$\pm 1$ %
	20 kHz and above	$\pm 3$ %
- 1000 V and above	Up to 20 kHz	$\pm 3$ %

	20 kHz and above	±3 %
Current		
- up to 10 A	DC to 60 Hz	±1 %
	60 Hz up to 5 kHz	±4 %
	5 kHz up to 20 kHz	±4 %
	20 kHz and above	±4 %
- Above to 10 A	up to 5 kHz	±4 %
	5 kHz up to 20 kHz	±4 %
	20 kHz and above	±4 %
Leakage (Touch) Current	50 Hz up to 60 Hz	±4 %
	greater 60 Hz up to 5 kHz	±4 %
	greater 5 kHz up to 100 kHz	±4 %
Power (50/60 Hz)	up to 3 kW	± 1 W
	above 3 kW	± 6 W
Power Factor (50/60 Hz)		±4 %
Frequency	up to 100 MHz	±0.01 %
Resistance	100 μΩ to 1 mΩ	±0.5 %
	1 mΩ up to 100 mΩ	±0.5 %
	100 mΩ to 1 MΩ	±0.5 %
	1 MΩ to 1 GΩ	±0.5 %
Temperature	- 25 °C to below 100 °C	± 3 K
	100 °C up to 1000 °C	± 3 %
Time	1 μs up to 1 ms	± 0.001 μs
	1 ms up to 1 s	± 1 μs
	1 s and above	± 1 s
Linear dimensions	up to 1 mm	± 0.01 mm
	1 mm up to 100 mm	± 0.01 mm
	100 mm and above	± 1 mm
(derived angle)		± 3 minutes
Mass	above 1 mg and up to 200 g	
	200 g up to 1 kg	± 0.05 mg
	1 kg and above	± 0.5 g
Force	For all values	± 6 %
Mechanical Energy		±10 %
Torque		±10 %
Relative Humidity	30% to 95 % RH	±5 %
Barometric Air Pressure		±0.5 kPa
Gas & Fluid Pressure	for static measurement	±10 %

### Coupler test connection, terminations and fittings

The sample coupler assemblies tested were terminated with Client supplied cables, potting compound and fittings.

Although these are required for testing, they are not considered to be part of the sample device tested.

## Test procedures, Results

### 1. AC Voltage withstand test (phase conductors)

The specified test voltage was applied between the specified conductors and the coupler body using a Hipotronics 150 kV 150 kVA ac dielectric test set operated from the laboratory mains supply. The voltage was measured using a resistive voltage divider and true RMS indicator (Hipotronics KVM300). A stopwatch was used to monitor time of application.

46 kV rms was applied between the conductors and the coupler body for a period of 1 minute.

During the high voltage test no disruptive discharges, - flashovers or insulation punctures were noted.

The insulation resistance was greater than 1 G $\Omega$ , each phase to earth.

**Result:**

**Complies**

### 2. AC Voltage withstand test (phase conductors)

The specified test voltage was applied between the specified conductors and the coupler body using a Hipotronics 150 kV 150 kVA ac dielectric test set operated from the laboratory mains supply. The voltage was measured using a resistive voltage divider and true RMS indicator (Hipotronics KVM300). A stopwatch was used to monitor time of application.

40 kV rms was applied between the conductors and the coupler body for a period of 4 hours.

During the high voltage test no disruptive discharges, - flashovers or insulation punctures were noted.

The insulation resistance was greater than 1 G $\Omega$ , each phase to earth.

**Result:**

**Complies**

### 3. AC Voltage withstand test (pilot conductors)

The specified test voltage was applied between the specified conductors and the coupler body using a Hipotronics 150 kV 150 kVA ac dielectric test set operated from the laboratory mains supply. The voltage was measured using a resistive voltage divider and true RMS indicator (Hipotronics KVM300). A stopwatch was used to monitor time of application.

1 kV rms was applied between the pilot conductor and the coupler body for a period of 1 minute.

Report Number: PL1792 22 kV Issue 3

During the high voltage test no disruptive discharges, - flashovers or insulation punctures were noted.

**Result:**

**Complies**

#### **4. Impulse test**

A Ferranti impulse generator with a Haefley voltage divider and peak voltmeter was used. The wave shape was adjusted by means of interchangeable front and tail resistors to be within the allowed tolerances.

Ten impulses of each polarity were applied as specified in the Standard. Each impulse was monitored by digital comparison with a stored reference.

The applied impulse was monitored using a Tektronix digitising oscilloscope.

Wave shape was 1.0/44  $\mu$ s. Refer to Figure 1

The test voltage was 125 kV peak.

The test was then repeated with a test voltage of 150 kV peak

During the application the 125 kV impulses no disruptive discharges, flashovers or insulation punctures were noted.

**Result (125 kV):**

**Complies**

During the application the 150 kV impulses no disruptive discharges, flashovers or insulation punctures were noted.

Refer to Figure 1.

**Result (150 kV):**

**Complies**

#### **5. Partial discharge test**

The specified test voltage was applied between the conductors and the coupler body using a Hipotronics 150 kV 150 kVA ac dielectric test set operated from the laboratory mains supply. The voltage was measured using a resistive voltage divider and true RMS indicator (Hipotronics KVM300).

Discharge levels were measured using a Biddle balanced bridge discharge detector. The bridge was balanced according to the bridge manufacturer's instructions. The measurements system was calibrated by injecting a known discharge between the conductor and the cable sheath. The system calibration was checked at 10 pC and at 100 pC. Background discharge levels were recorded. Discharge levels were measured using an oscilloscope and the bridge meter.

Background discharge level was less than 2 pC

	Voltage (kV)	Discharge Level
Inception	19.1	200 pC after inception
Extinction	16.7	< 2 pC after extinction

**Result:**

**Complies**

## 6. Ingress Protection

Two sample couplers were assessed according to AS 60529 to determine compliance with IP 68.

CI 13.3	Ingress of Solid Objects Test (AS 60529)			P
Ingress Test Performed	Location of probe applied	Force applied (N)	Clearance measured	Verdict
Unit 3				
IP1X	Enclosure Ends, Cable Rubber Entry, Bungs.	50	No entry/damage	P
IP2X	Enclosure Ends, Cable Rubber Entry, Bungs.	30	No entry/damage	P
IP3X	Enclosure Ends, Cable Rubber Entry, Bungs.	3	No entry/damage	P
IP4X	Enclosure Ends, Cable Rubber Entry, Bungs.	1	No entry/damage	P
Unit 4				
IP1X	Enclosure Ends, Cable Rubber Entry, Bungs.	50	No entry/damage	P
IP2X	Enclosure Ends, Cable Rubber Entry, Bungs.	30	No entry/damage	P
IP3X	Enclosure Ends, Cable Rubber Entry, Bungs.	3	No entry/damage	P
IP4X	Enclosure Ends, Cable Rubber Entry, Bungs.	1	No entry/damage	P



CI 13.6		Ingress of Dust Test (AS 60529)				P
EUT identification	Degree of protection (Dust)	Duration of test (hr)	Ambient temperature (°C)	EUT ambient (°C)	Verdict	
Unit 3	IP6X	6.8	15.4	20.1	P	
Unit 4	IP6X	6.8	15.1	20.5	P	

CI 14.3		Ingress of Water Test (AS 60529)				P
EUT identification	Degree of protection (Water)	Depth of EUT from surface (m)	Duration of test (min)	Ambient temperature (°C)	Water Ambient temperature (°C)	Verdict
Unit 3	IPX8	1.1	60.0	15.2	17.0	P
Unit 4	IPX8	1.1	60.0	15.4	17.2	P

**Result**

**Complies**

### 7. Short-circuit (though-fault) test

The device was subjected to the test currents by use of a step down three phase transformer and inductors from an 11 kV supply and a phase controlled on switch and time controlled off circuit breaker:

#### Test 20 kA 0.2 s

Results: 0.22 s, 21.4 kA, n=2.0 (power factor = 0.3), 50 Hz, mean of 3 tests applied with 10 minutes between. Refer to Figure 2.

#### Test 20 kA 1.0 s

Results: 1.02 s, 19.7 kA, n=2.5 (power factor = 0.3), 50 Hz. Refer to Figure 3.

After current applications, there were no visible disturbance, pitting or burning.

**Result**

**Complies**

Report Number: PL1792 22 kV Issue 3

## 8. Bonding (earth) path current test

The earth continuity circuit was subjected to the following current waveform by use of a step down transformer and inductors from an 11kV supply and a phase controlled on switch and time controlled off circuit breaker:

### Test 5.01 kA for 9 s

Results: 9.04 s, 5.1 kA, n=2.1, 50 Hz. Refer to Figure 4.

The earth continuity was measured on test completion.

After the current application the measured continuity was 0.0001  $\Omega$ .

**Result**

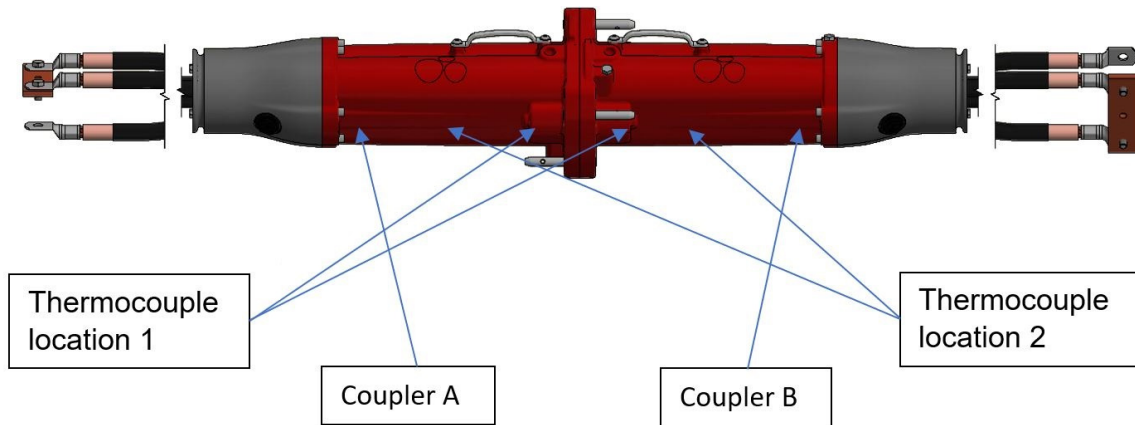
**Complies**

## 9. Temperature rise

All conductors were connected in series and thermocouples were placed as required by Clause 3.3.8.4 of AS/NZS 1300.

Thermocouple locations included:

- (a) Main contact adjacent to connecting device (1)
- (b) Main contact adjacent to cable conductor (2)
- (c) Cable conductor 1 m from cable gland



Location	Coupler	Thermocouple location	Phase ID
A	A	1	White
B	A	2	White
C	A	1	Blue
D	A	2	Blue
E	A	1	Red
F	A	2	Red
G	B	1	Blue
H	B	2	Blue
I	B	1	Red
J	B	2	Red
K	B	1	White
L	B	2	White

A current of 425 A was passed through the test object until the temperature variation did not exceed 2 K/h.

Location	A	B	C	D	E	F	G	H	I	J	K	L
Rise	25	25	29	26	25	25	29	17	28	25	29	26
Difference from cable	-13	-13	-9	-12	-13	-13	-9	-21	-10	-13	-9	-12

(Values are degrees Kelvin)

**Result**

**Complies**

## Supplementary test procedures, Results

### 10. AC Voltage withstand test (phase conductors)

The specified test voltage was applied between the specified conductors and the coupler body using a Hipotronics 150 kV 150 kVA ac dielectric test set operated from the laboratory mains supply. The voltage was measured using a resistive voltage divider and true RMS indicator (Hipotronics KVM300). A stopwatch was used to monitor time of application.

40 kV rms was applied between the conductors and the coupler body for a period of 6 hours.

During the high voltage test no disruptive discharges, - flashovers or insulation punctures were noted.

The insulation resistance was greater than 1 G $\Omega$ , each phase to earth.

**Result:**

**Complies**

### 11. AC Voltage withstand test (phase conductors)

The specified test voltage was applied between the specified conductors and the coupler body using a Hipotronics 150 kV 150 kVA ac dielectric test set operated from the laboratory mains supply. The voltage was measured using a resistive voltage divider and true RMS indicator (Hipotronics KVM300). A stopwatch was used to monitor time of application.

50 kV rms was applied between the conductors and the coupler body for a period of 1 minute.

During the high voltage test no disruptive discharges, - flashovers or insulation punctures were noted.

**Result:**

**Complies**

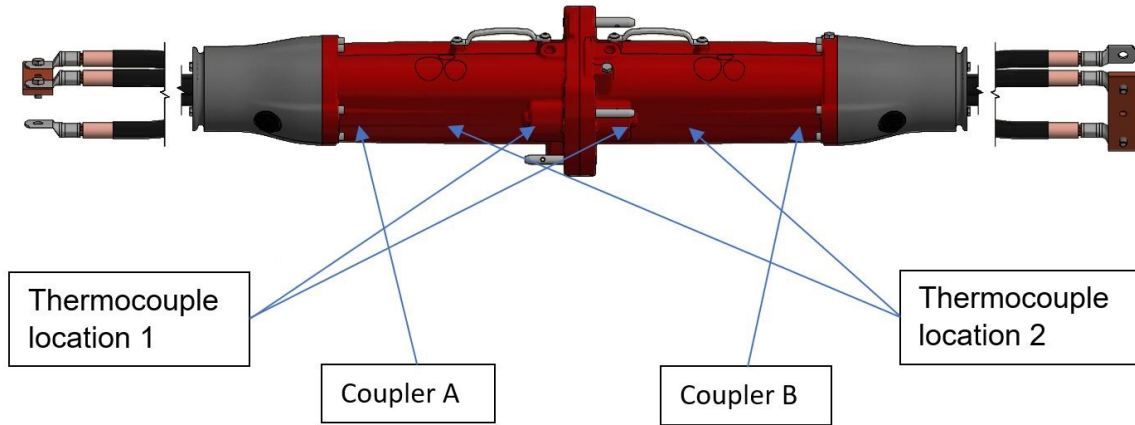
### 12. Temperature rise (Supplementary test)

All conductors were connected in series and thermocouples were placed as required by Clause 3.3.10.4 of ASNZS 1299.

Thermocouple locations included:

- (a) Main contact adjacent to connecting device (1)
- (b) Main contact adjacent to cable conductor (2)
- (c) Cable conductor 1 m from cable gland

Report Number: PL1792 22 kV Issue 3



Location	Coupler	Thermocouple location	Phase ID
A	A	1	White
B	A	2	White
C	A	1	Blue
D	A	2	Blue
E	A	1	Red
F	A	2	Red
G	B	1	Blue
H	B	2	Blue
I	B	1	Red
J	B	2	Red
K	B	1	White
L	B	2	White

A current of 700 A was passed through the test object until the temperature variation did not exceed 2 K/h.

Location	A	B	C	D	E	F	G	H	I	J	K	L
Rise	26	30	37	34	21	27	27	32	25	27	29	31
Difference from cable	-5	-1	6	4	-10	-4	-4	2	-5	-4	-1	0

(Values are degrees Kelvin)

**Result:**

**Complies**

## Oscillograms

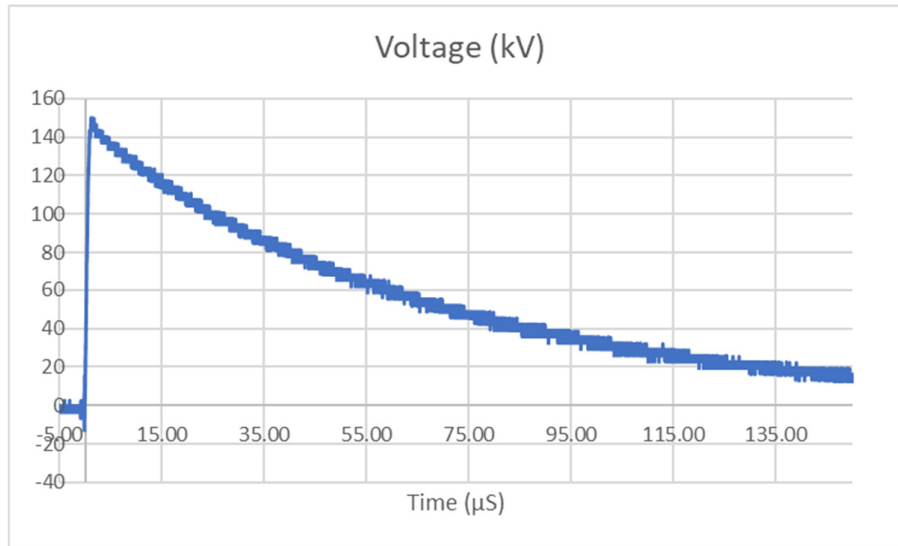


Figure 1. Last 150 kV impulse

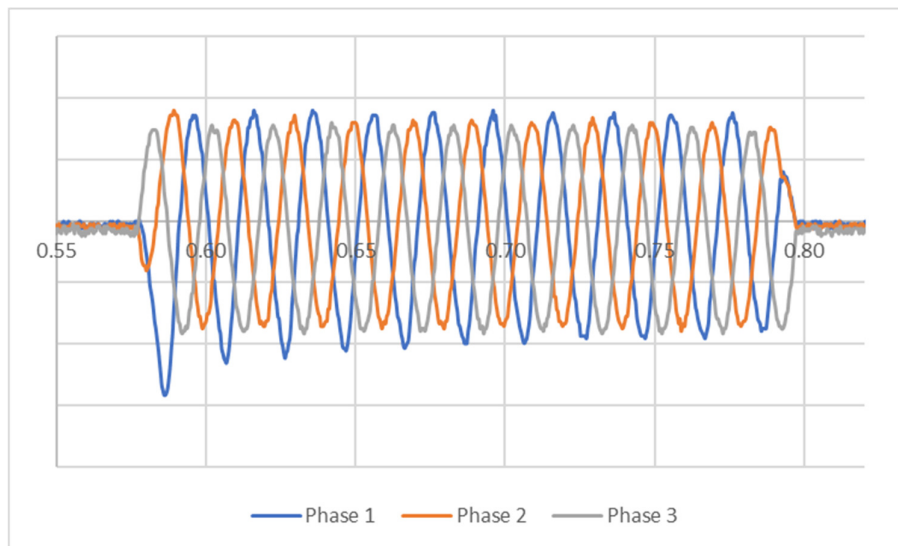


Figure 2. 20 kA for 0.2 s short circuit test number 3

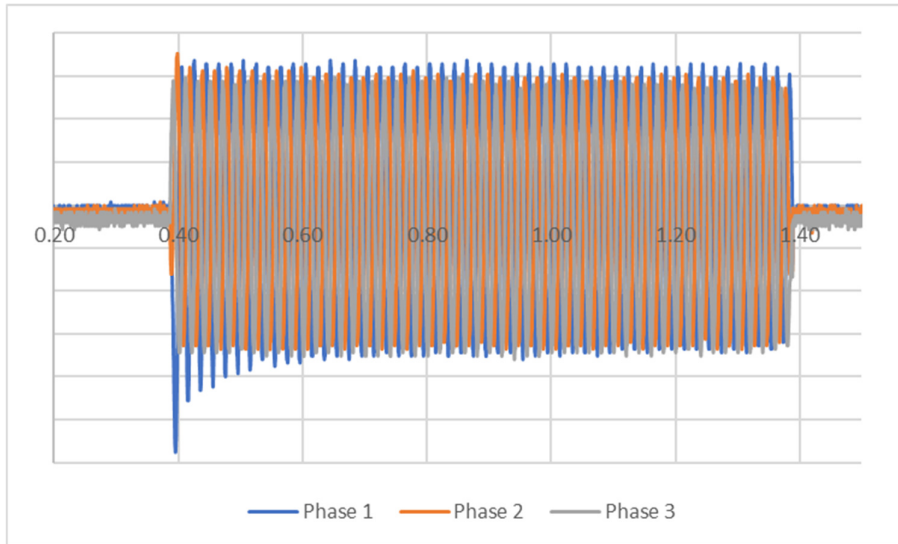


Figure 3. 20 kA for 1 s short circuit test

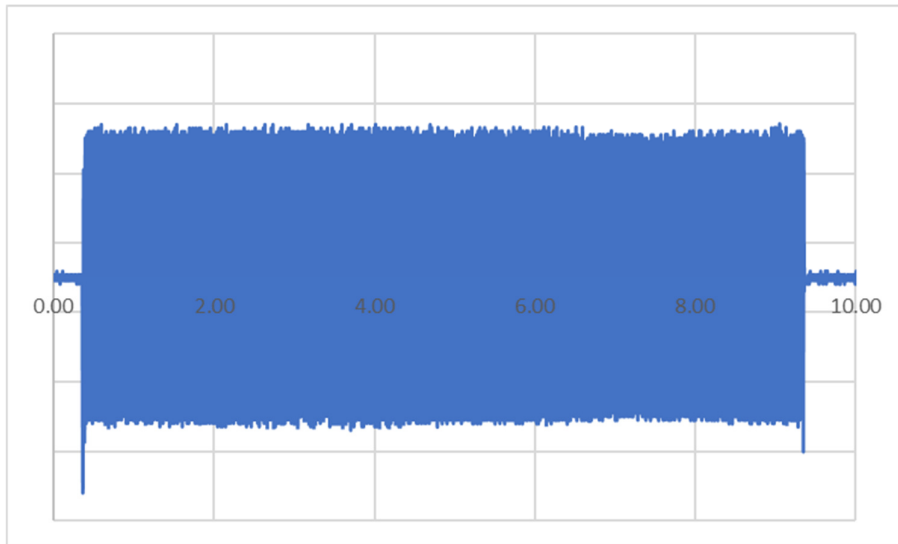


Figure 4. 5 kA for 9 s short circuit test

**Pictures:**

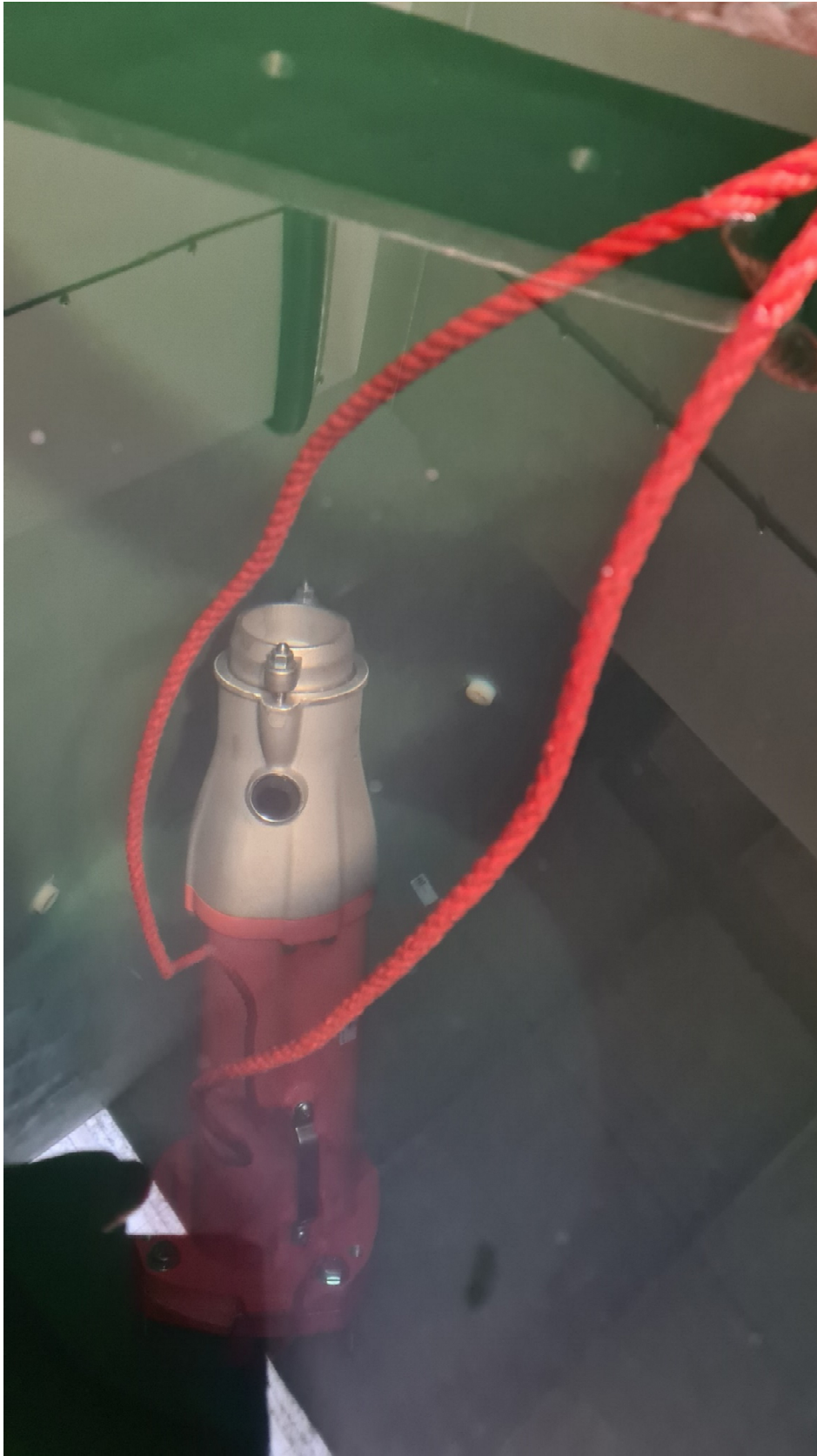


Picture 1 General view of coupler



Picture 2 Coupler in dust test





Picture 3 Coupler in 1 m water



Picture 4 Contacts after short circuit test

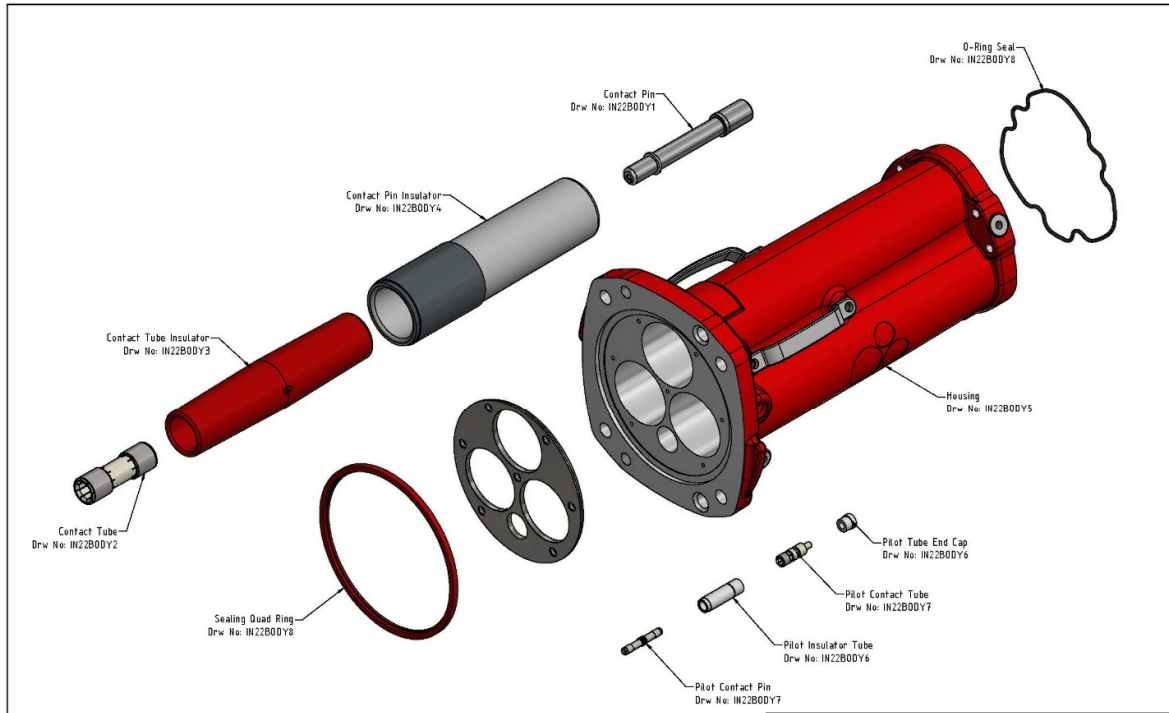


Picture 5 Contacts after short circuit test

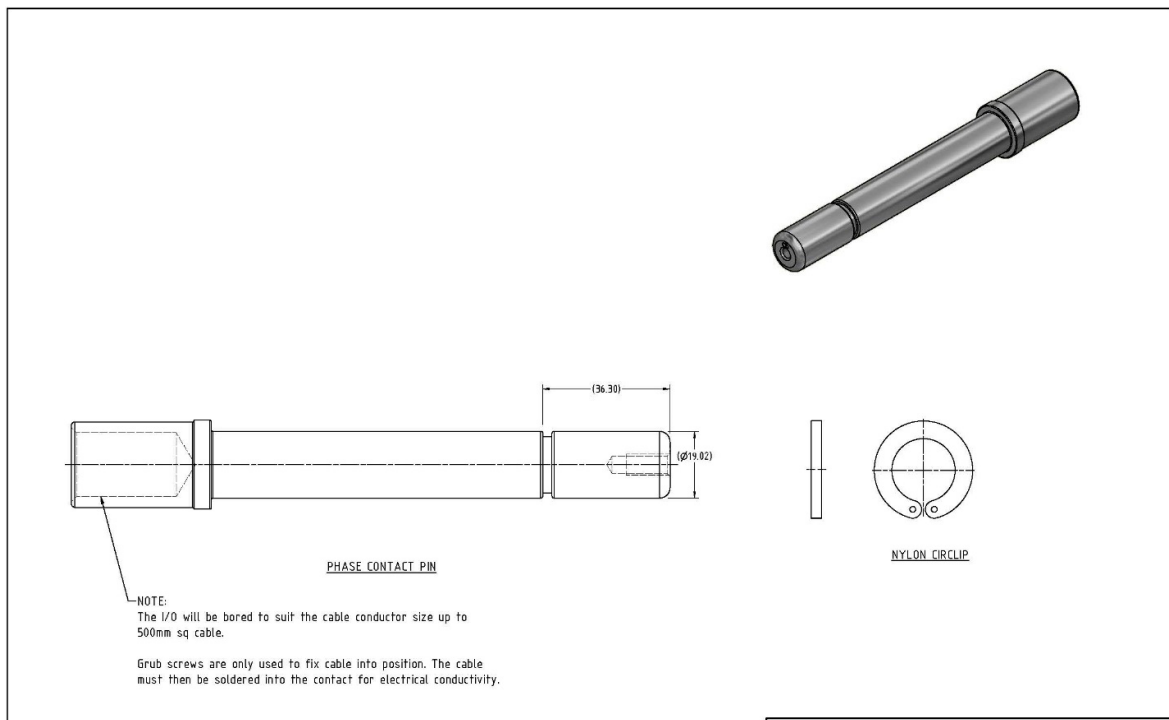
## Drawings:

List of drawings:

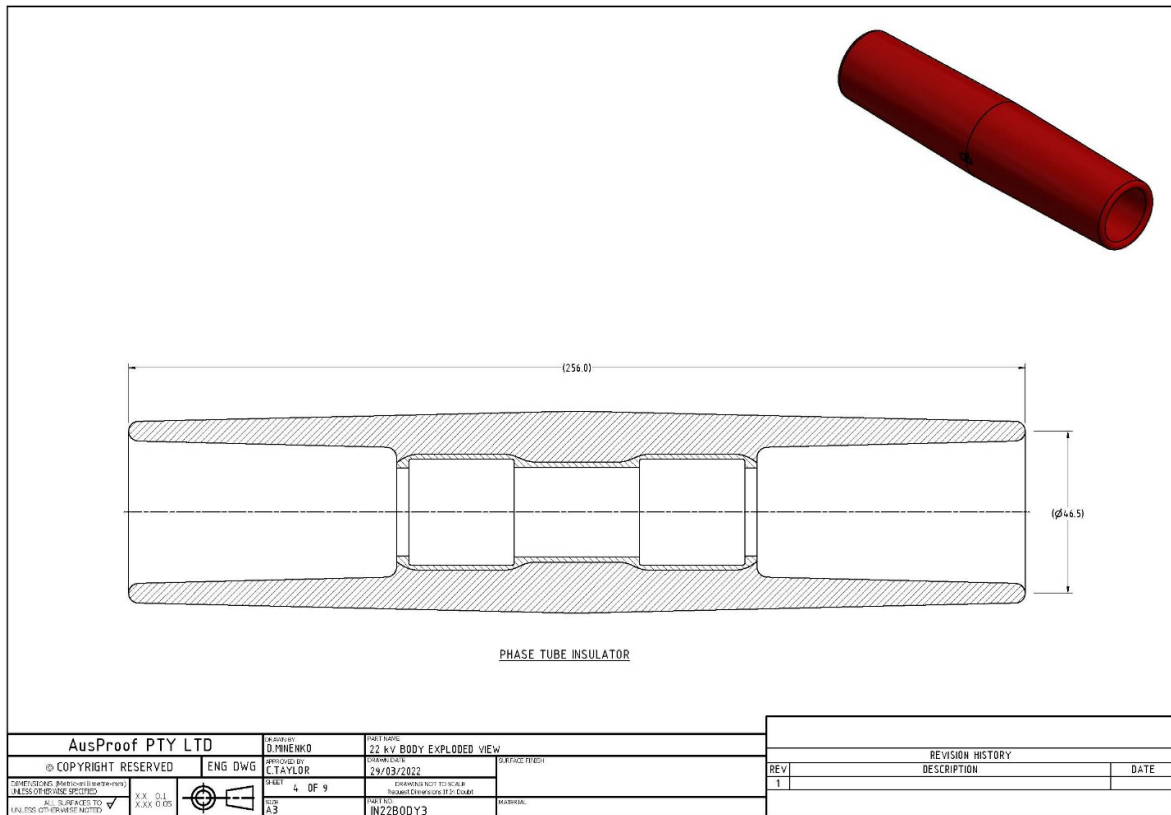
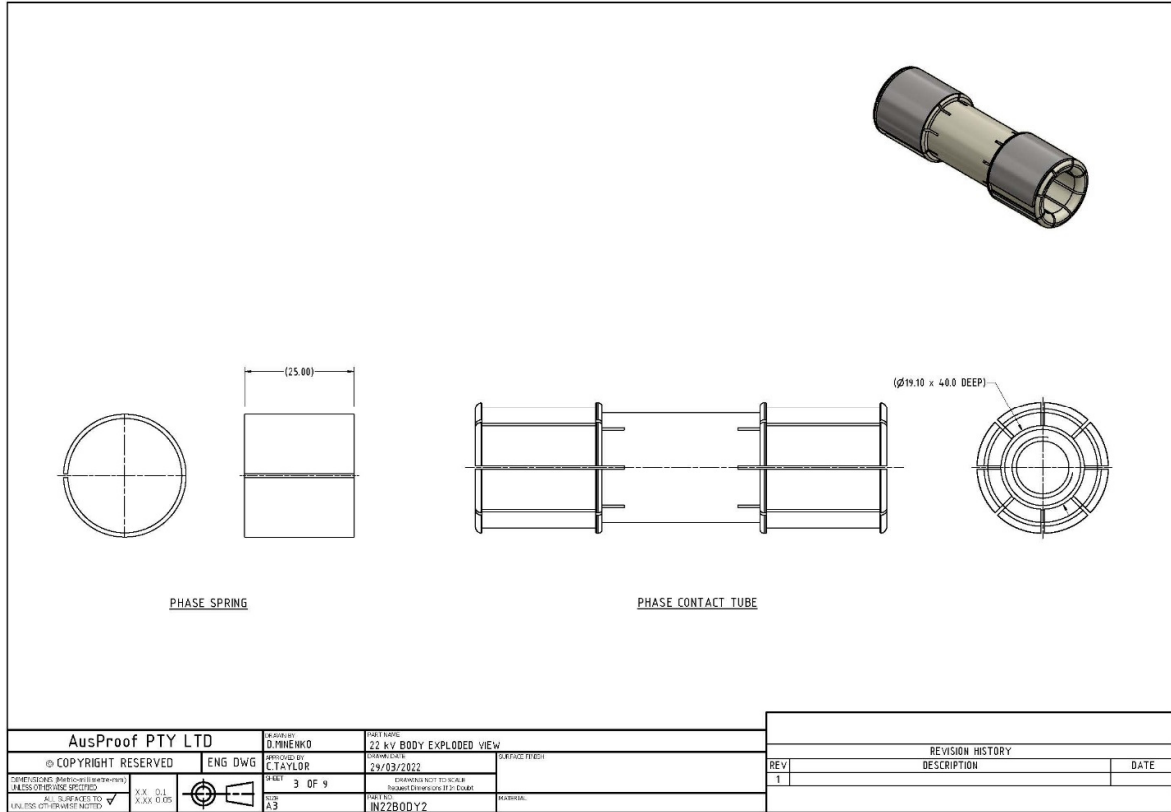
No	Drawing No.	Title	Revision	Date
1	IN22BODY	Cable coupler & components	2	15/11/2023
2	IN22BODY1	Phase contact pin	2	15/11/2023
3	IN22BODY2	Phase contact tube	2	15/11/2023
4	IN22BODY3	Phase Tube insulator	2	15/11/2023
5	IN22BODY4	Phase Pin insulator	2	15/11/2023
6	IN22BODY5	Housing	2	15/11/2023
7	IN22BODY6	Pilot Insulator tube	2	15/11/2023
8	IN22BODY7	Pilot Pin/Tube	2	15/11/2023
9	IN22BODY8	Sealing quad ring/O-ring seal	2	15/11/2023
10	IN22COVER	End covers & components	1	07/11/2023
11	IN22COVER1	Cast pro cover	1	07/11/2023
12	IN22COVER2	Insulated end cover	1	07/11/2023
13	IN22COVER3	Sealing quad ring	1	07/11/2023
14	IN22COVER4	End cover plug	1	07/11/2023
15	IN22GLANDKA	KA Glands & components	1	15/11/2023
16	IN22GLANDKA1	KA Small/KA Large	1	15/11/2023
17	IN22GLANDKA2	KA OCS Comp ring/KA OCL Comp ring	1	15/11/2023
18	IN22GLANDKA3	KA OCS Pressure ring/KA OCL Pressure ring	1	15/11/2023
29	IN22GLANDKA4	Filler bung/O-ring	1	15/11/2023
20	IN22GLANDKAN	KAN Glands & components	1	07/11/2023
21	IN22GLANDKAN1	KAN Small Housing/KAN Large Housing	1	07/11/2023
22	IN22GLANDKAN2	KAN Small Comp washer/KAN Large Comp washer	1	07/11/2023
23	IN22GLANDKAN3	KAN OCS Comp ring/KAN OCL Comp ring	1	07/11/2023
24	IN22GLANDKAN4	KAN Small ss comp ring/KAN Large ss comp ring	1	07/11/2023
25	IN22GLANDKAN5	Filler bung/O-ring	1	07/11/2023

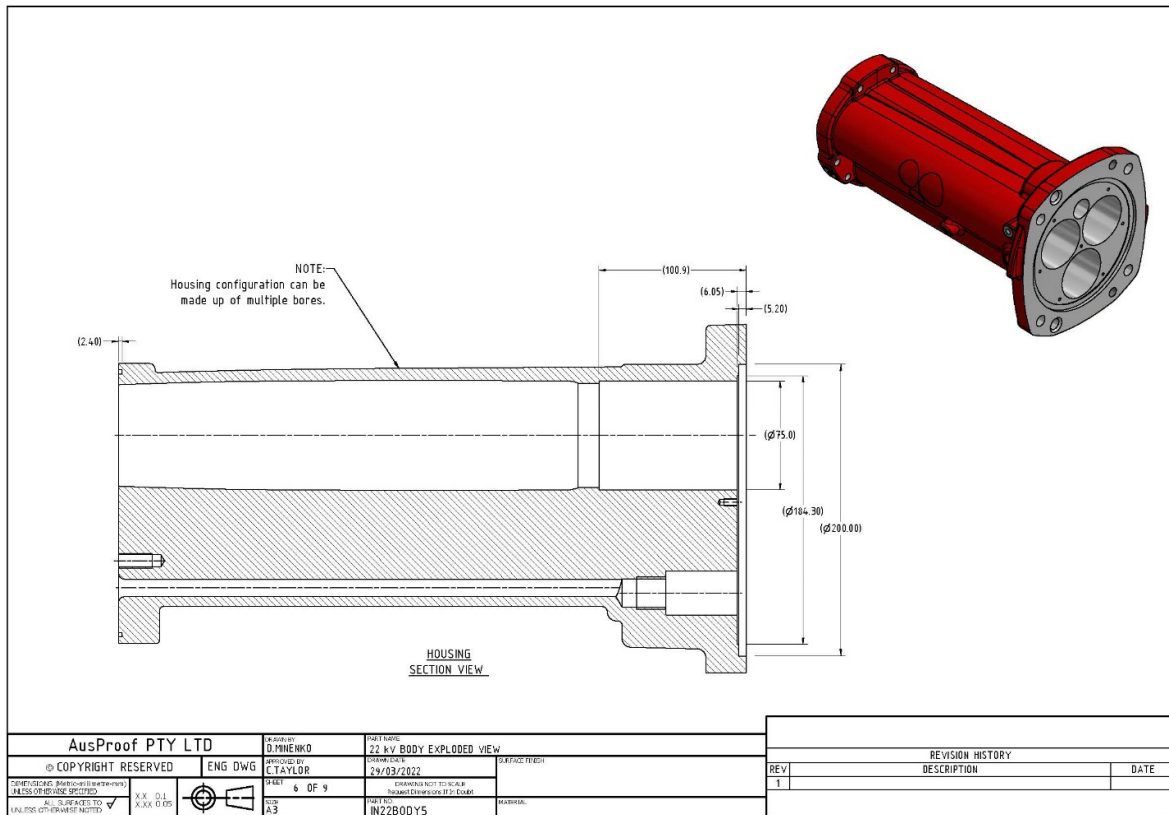
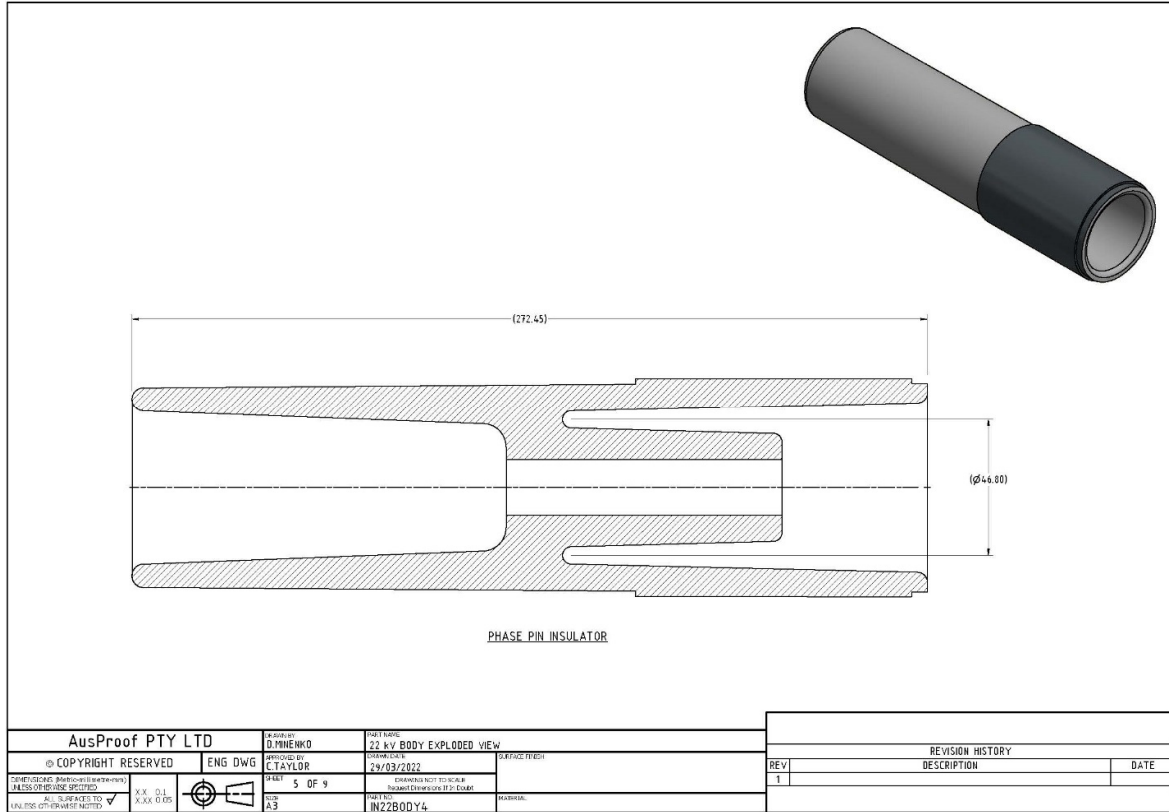


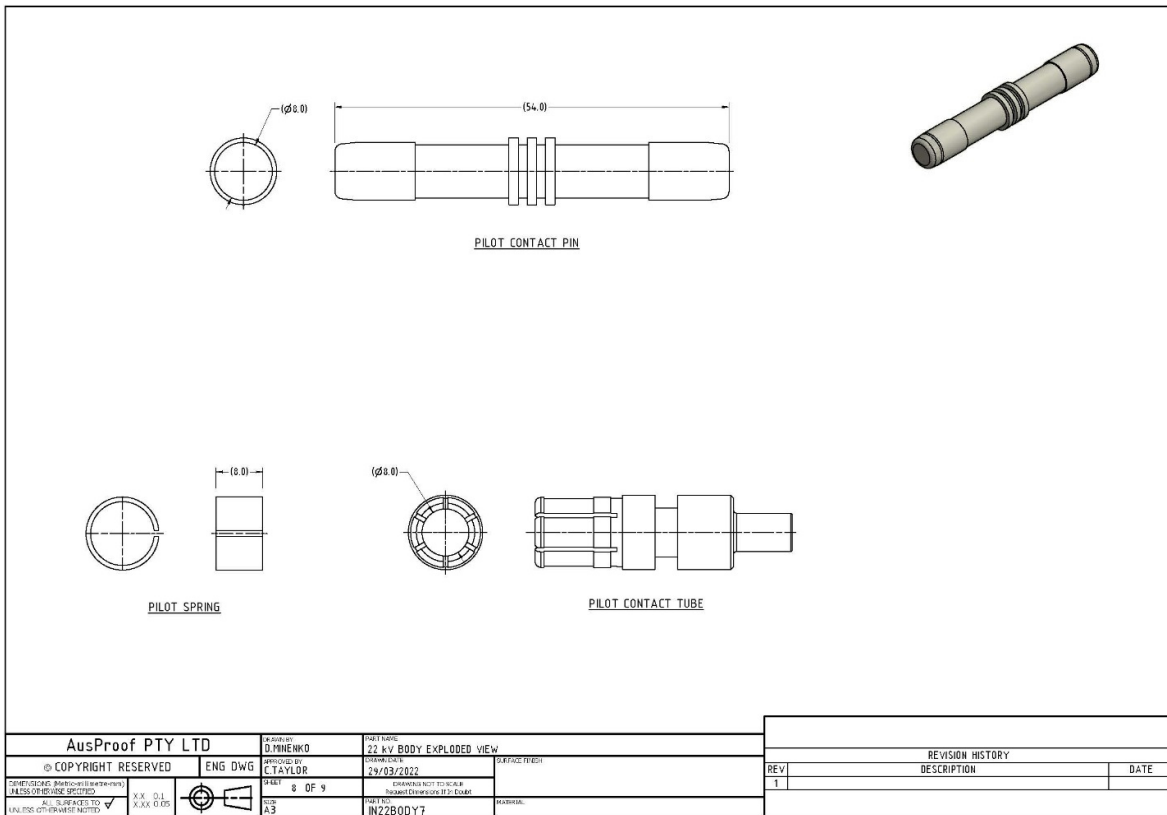
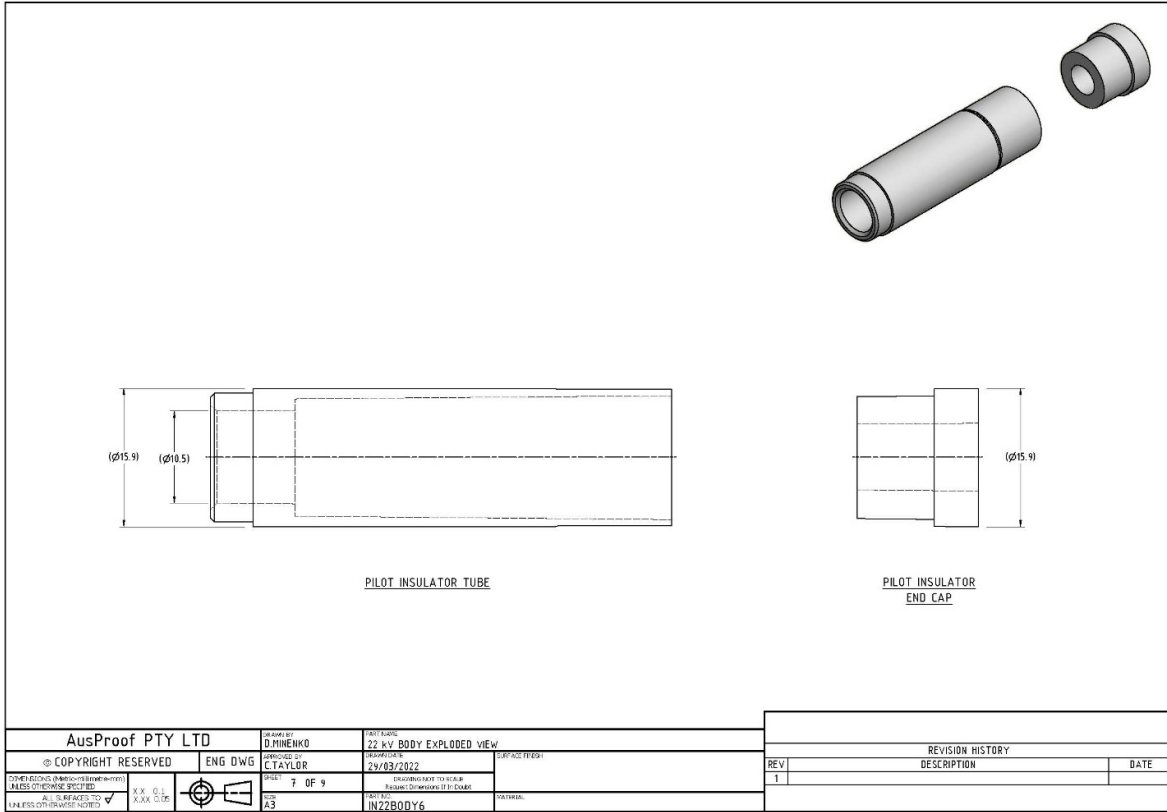
AusProof PTY LTD		DESIGNED BY: D.MINENKO	PART NAME: 22 kV BODY EXPLODED VIEW	DATE: 29/03/2022	
© COPYRIGHT RESERVED		ENGINEER: C.TAYLOR	PROJECT: 29/03/2022	DRAWN BY: C.TAYLOR	
CHECKED BY: C.TAYLOR		SCALE: 1 OF 9	REVISED BY: C.TAYLOR	REVISION HISTORY	
ALL DIMENSIONS TO UNLESS OTHERWISE SPECIFIED		UNIT: mm	SCALE: 1 OF 9	REV	DESCRIPTION
X X 0.1 / X.XX 0.05		CD: A3	PART NO: IN22BODY	1	DATE



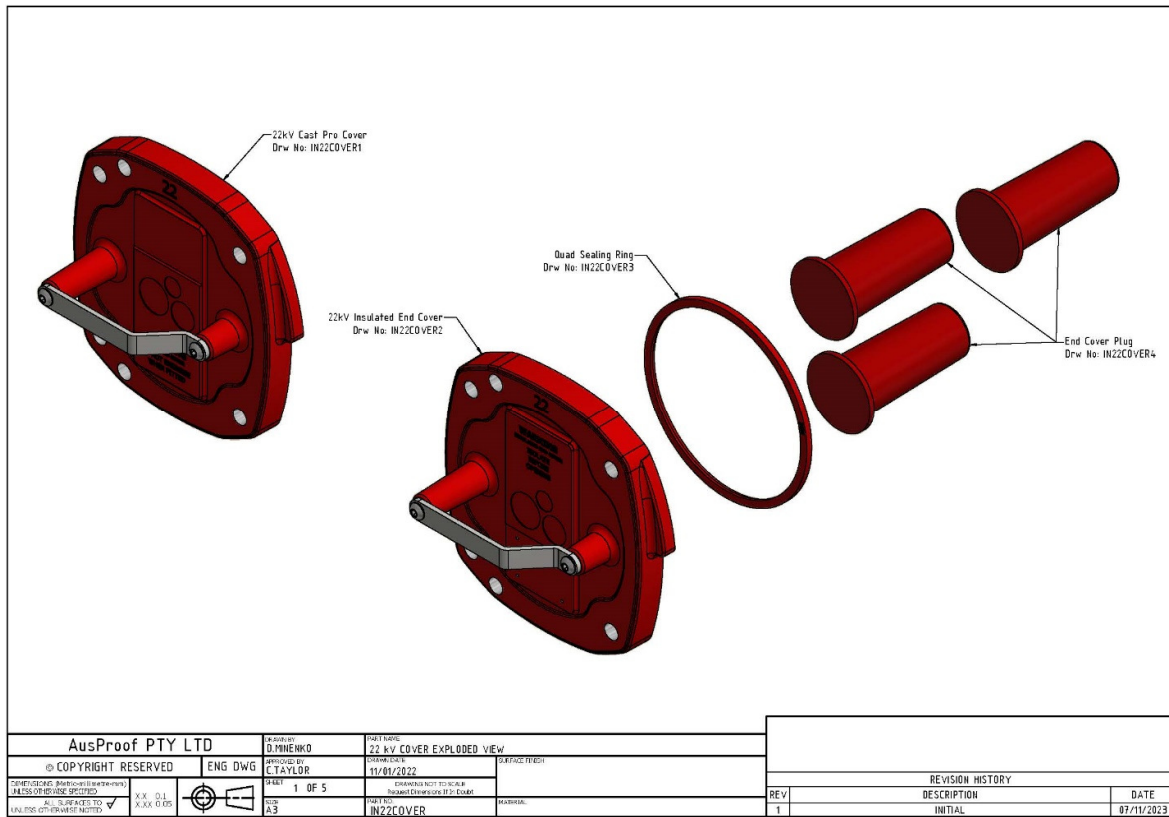
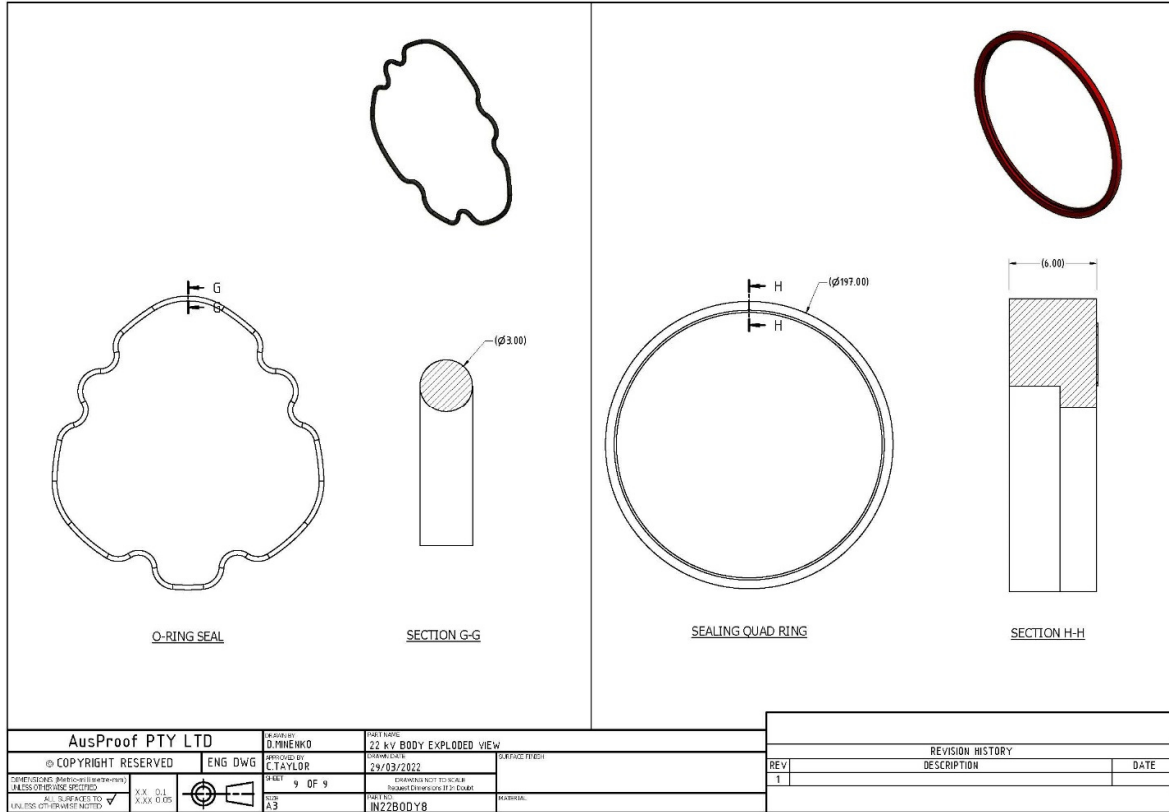
AusProof PTY LTD		DESIGNED BY: D.MINENKO	PART NAME: 22 kV BODY EXPLODED VIEW	DATE: 29/03/2022	
© COPYRIGHT RESERVED		ENGINEER: C.TAYLOR	PROJECT: 29/03/2022	DRAWN BY: C.TAYLOR	
CHECKED BY: C.TAYLOR		SCALE: 2 OF 9	REVISED BY: C.TAYLOR	REVISION HISTORY	
ALL DIMENSIONS TO UNLESS OTHERWISE SPECIFIED		UNIT: mm	SCALE: 2 OF 9	REV	DESCRIPTION
X X 0.1 / X.XX 0.05		CD: A3	PART NO: IN22BODY1	1	DATE

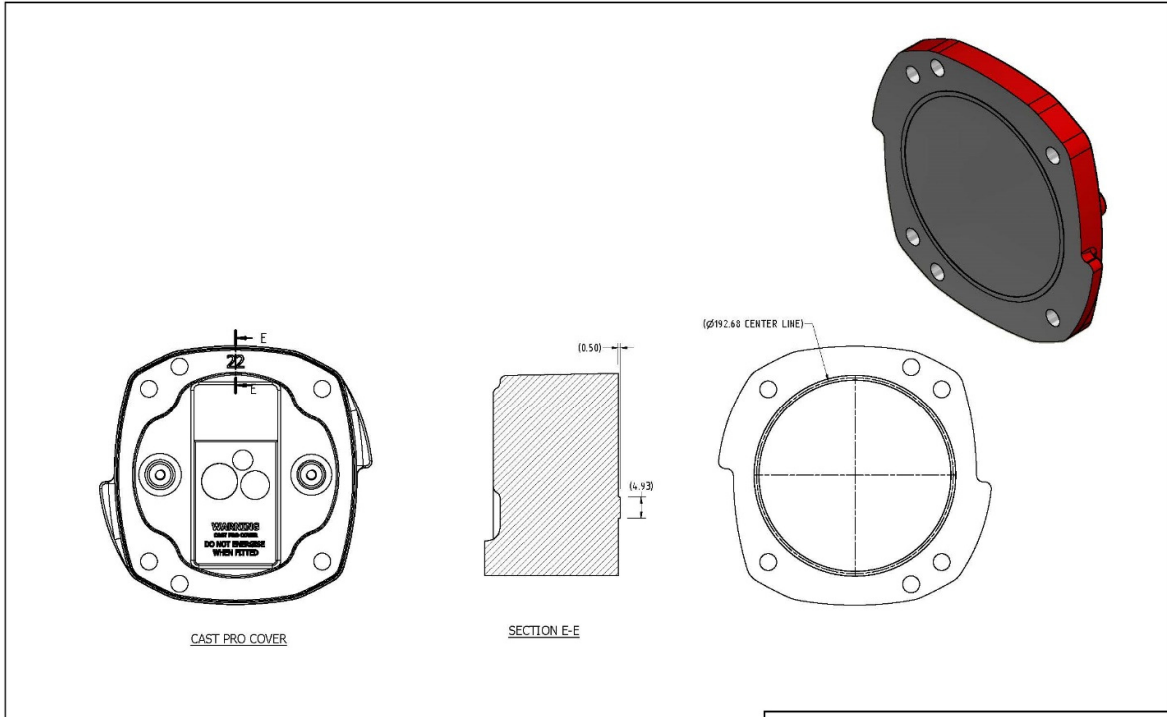




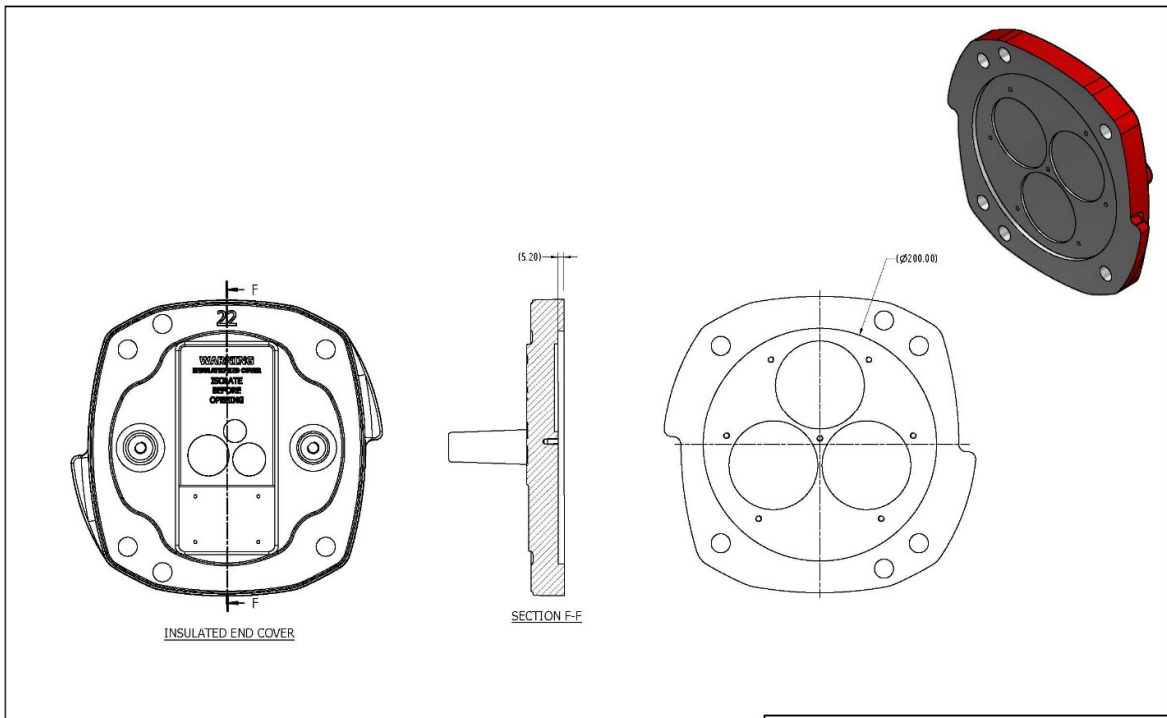




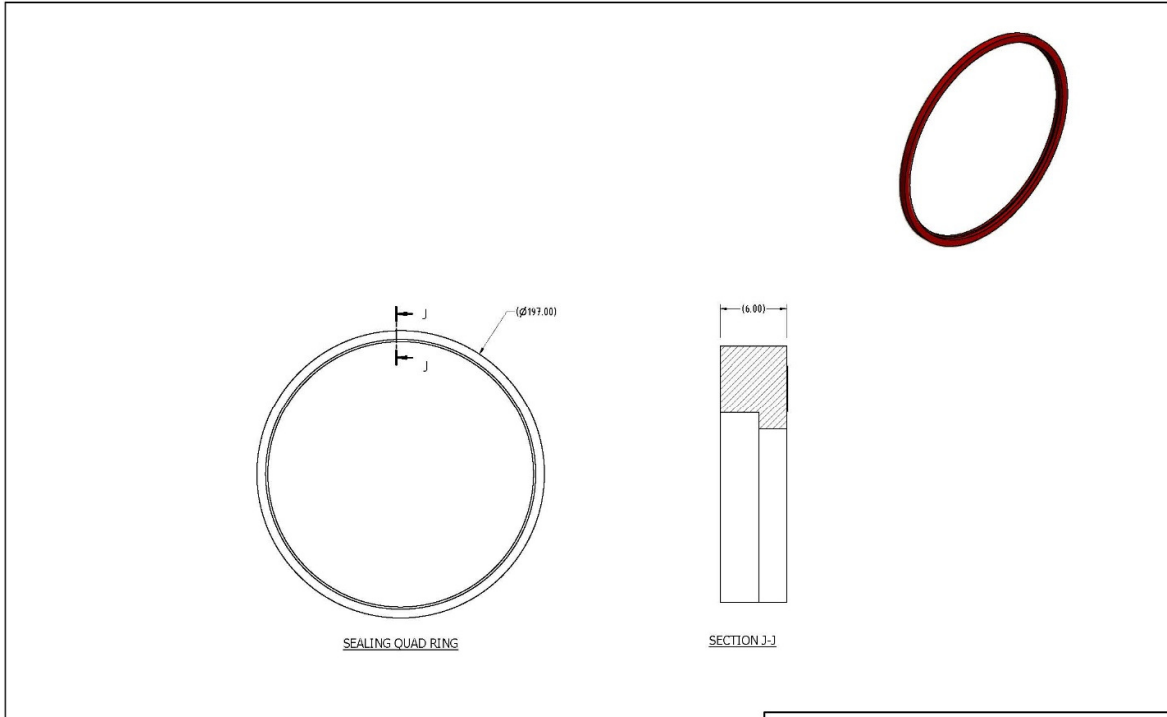




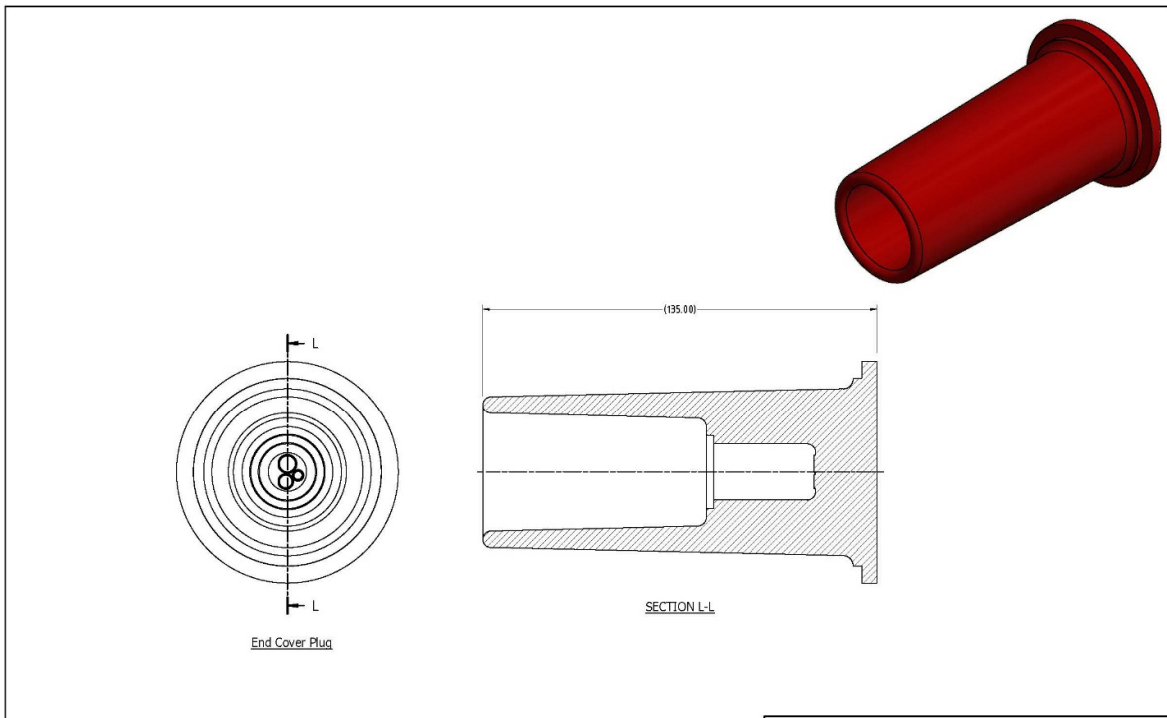
AusProof PTY LTD		DESIGNED BY D.MINENKO	PART NAME 22 kV COVER EXPLODED VIEW	DRAWN BY C.TAYLOR		DATE 11/01/2022	REVISION HISTORY		
© COPYRIGHT RESERVED		ENG DWG	PROJ NO 2 OF 5	CHECKED BY C.TAYLOR		ISSUE DATE 11/01/2022	REV	DESCRIPTION	
<input checked="" type="checkbox"/> ALL DIMENSIONS TO UNLESS OTHERWISE SPECIFIED <input checked="" type="checkbox"/> ALL DIMENSIONS TO UNLESS OTHERWISE NOTED		<input checked="" type="checkbox"/> X.X 0.1 <input checked="" type="checkbox"/> X.XX 0.05	<input checked="" type="checkbox"/> 2 OF 5 SHEET NO A3	<input checked="" type="checkbox"/> ENDS TO BE KEPT TO SCALE <input checked="" type="checkbox"/> ALL DIMENSIONS TO UNLESS OTHERWISE NOTED		PART NO IN22COVER1	REV	DATE	
							1	INITIAL	07/11/2023



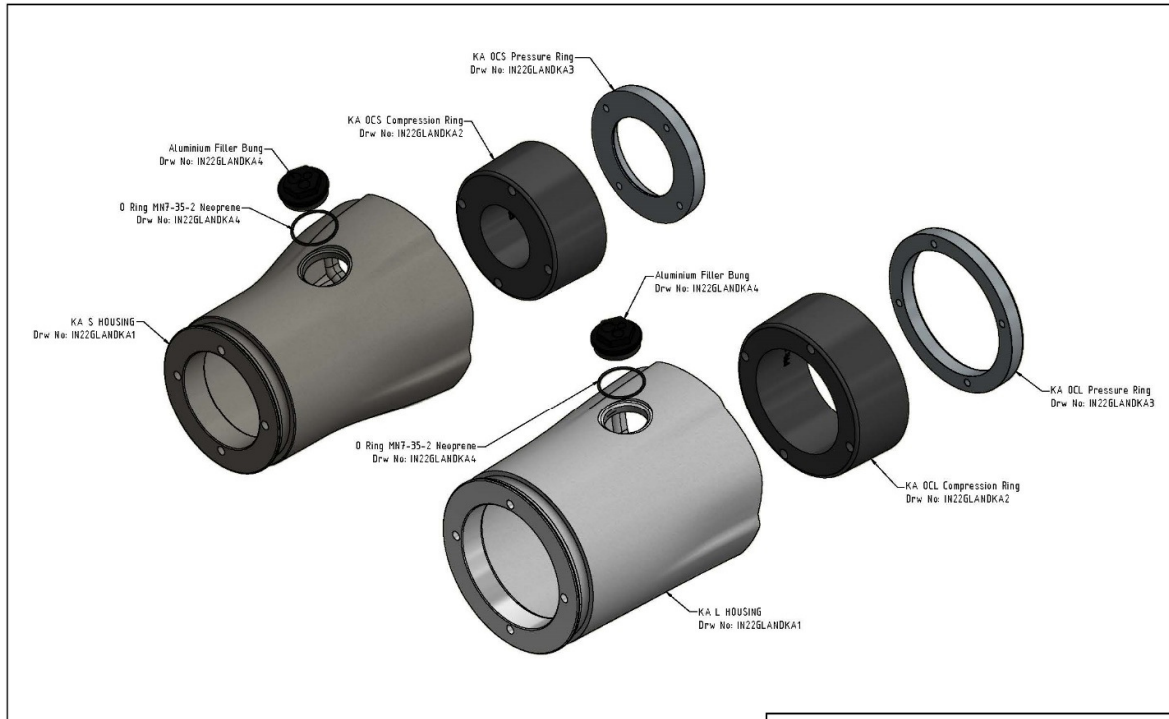
AusProof PTY LTD		DESIGNED BY D.MINENKO	PART NAME 22 kV COVER EXPLODED VIEW	DRAWN BY C.TAYLOR		DATE 11/01/2022	REVISION HISTORY		
© COPYRIGHT RESERVED		ENG DWG	PROJ NO 3 OF 5	CHECKED BY C.TAYLOR		ISSUE DATE 11/01/2022	REV	DESCRIPTION	
<input checked="" type="checkbox"/> ALL DIMENSIONS TO UNLESS OTHERWISE SPECIFIED <input checked="" type="checkbox"/> ALL DIMENSIONS TO UNLESS OTHERWISE NOTED		<input checked="" type="checkbox"/> X.X 0.1 <input checked="" type="checkbox"/> X.XX 0.05	<input checked="" type="checkbox"/> 3 OF 5 SHEET NO A3	<input checked="" type="checkbox"/> ENDS TO BE KEPT TO SCALE <input checked="" type="checkbox"/> ALL DIMENSIONS TO UNLESS OTHERWISE NOTED		PART NO IN22COVER2	REV	DATE	
							1	INITIAL	07/11/2023



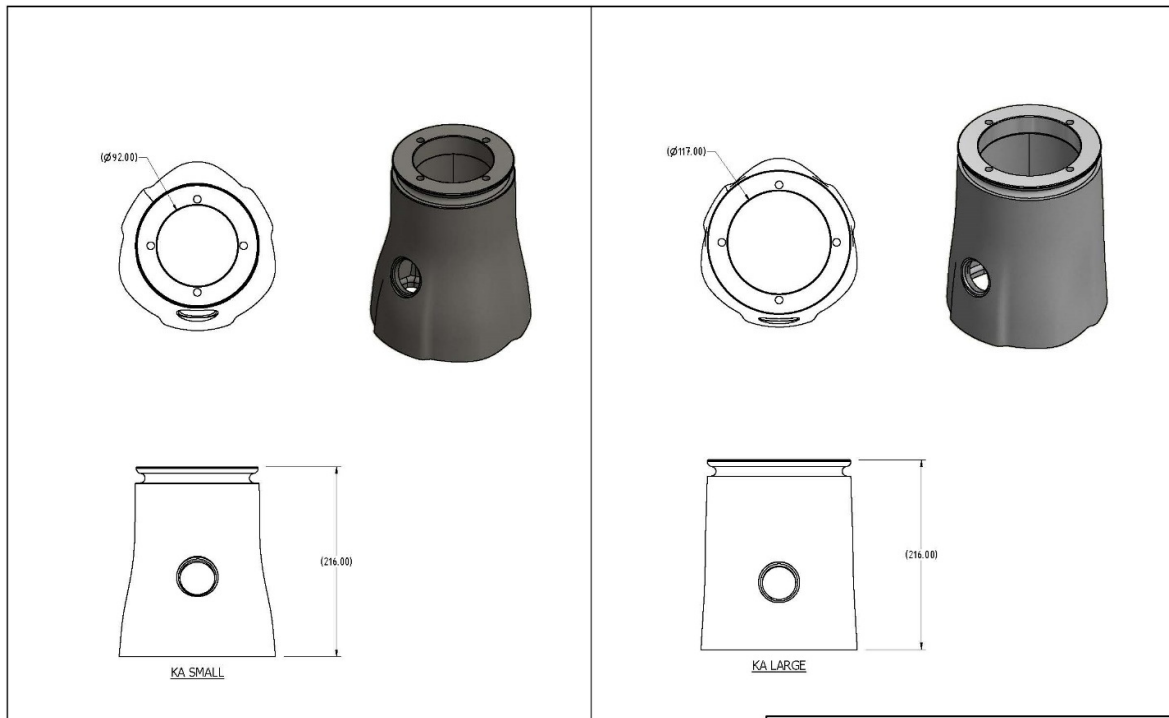
AusProof PTY LTD		DESIGNED BY D.MHENKO	PART NAME 22 kV COVER EXPLODED VIEW		SURFACE TREATMENT
© COPYRIGHT RESERVED		ENGINEERED BY C.TAYLOR	DATE 11/01/2022		
CONFIRMED: MANUFACTURER'S PARTS OR EQUIV. SPECIFIED ALL DIMENSIONS TO UNLESS OTHERWISE NOTED	X.X 0.1 X.XX 0.05	PART 4 OF 5	DRAWN BY C.TAYLOR	DRAWN TO SCALE UNLESS OTHERWISE STATED	REVISION HISTORY
ALL DIMENSIONS TO UNLESS OTHERWISE NOTED		Dwg No A3	Part No IN22COVER3	Material	REV 1
				DESCRIPTION INITIAL	DATE 07/11/2023



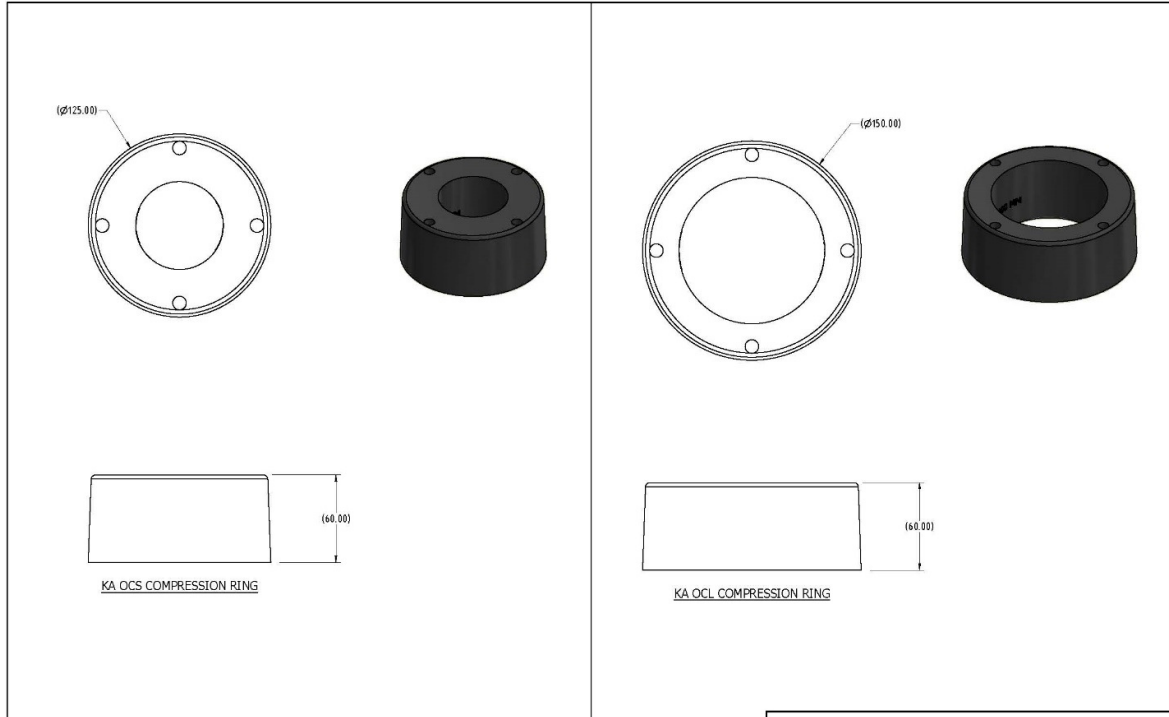
AusProof PTY LTD		DESIGNED BY D.MHENKO	PART NAME 22 kV COVER EXPLODED VIEW		SURFACE TREATMENT
© COPYRIGHT RESERVED		ENGINEERED BY C.TAYLOR	DATE 11/01/2022		
CONFIRMED: MANUFACTURER'S PARTS OR EQUIV. SPECIFIED ALL DIMENSIONS TO UNLESS OTHERWISE NOTED	X.X 0.1 X.XX 0.05	PART 5 OF 5	DRAWN BY C.TAYLOR	DRAWN TO SCALE UNLESS OTHERWISE STATED	REVISION HISTORY
ALL DIMENSIONS TO UNLESS OTHERWISE NOTED		Dwg No A3	Part No IN22COVER4	Material	REV 1
				DESCRIPTION INITIAL	DATE 07/11/2023



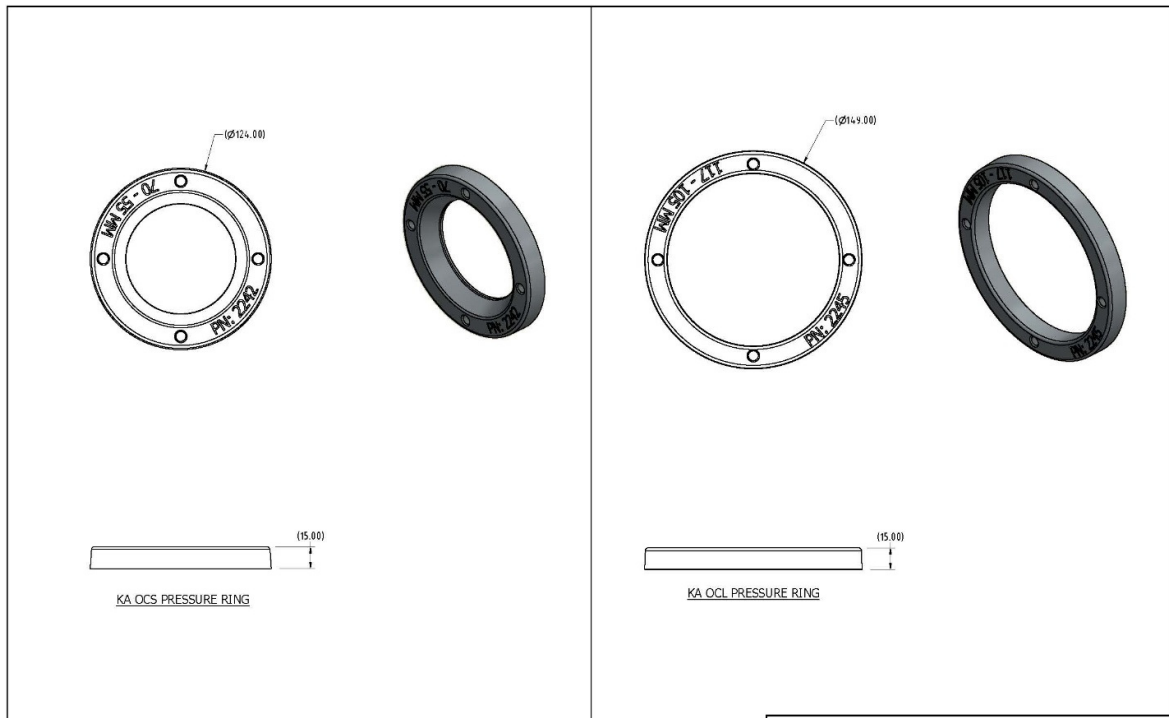
<b>AusProof PTY LTD</b>		DESIGNED BY D. MINENKO	DATE 11/01/2022	PROJECT NAME 22 kV GLAND KA EXPLODED VIEW	REV	REVISION HISTORY	
© COPYRIGHT RESERVED		ENGINEER C. TAYLOR	DATE 11/01/2022	ISSUED TO C. TAYLOR	1	DESCRIPTION	DATE
CHECKED BY: [Signature] ALL DIMENSIONS SPECIFIED UNLESS OTHERWISE NOTED		PART 1 OF 5 SUB A3	DRAWN BY: [Signature] ISSUED TO: [Signature]	PART NO. IN22GLANDKA	1	INITIAL	07/11/2023



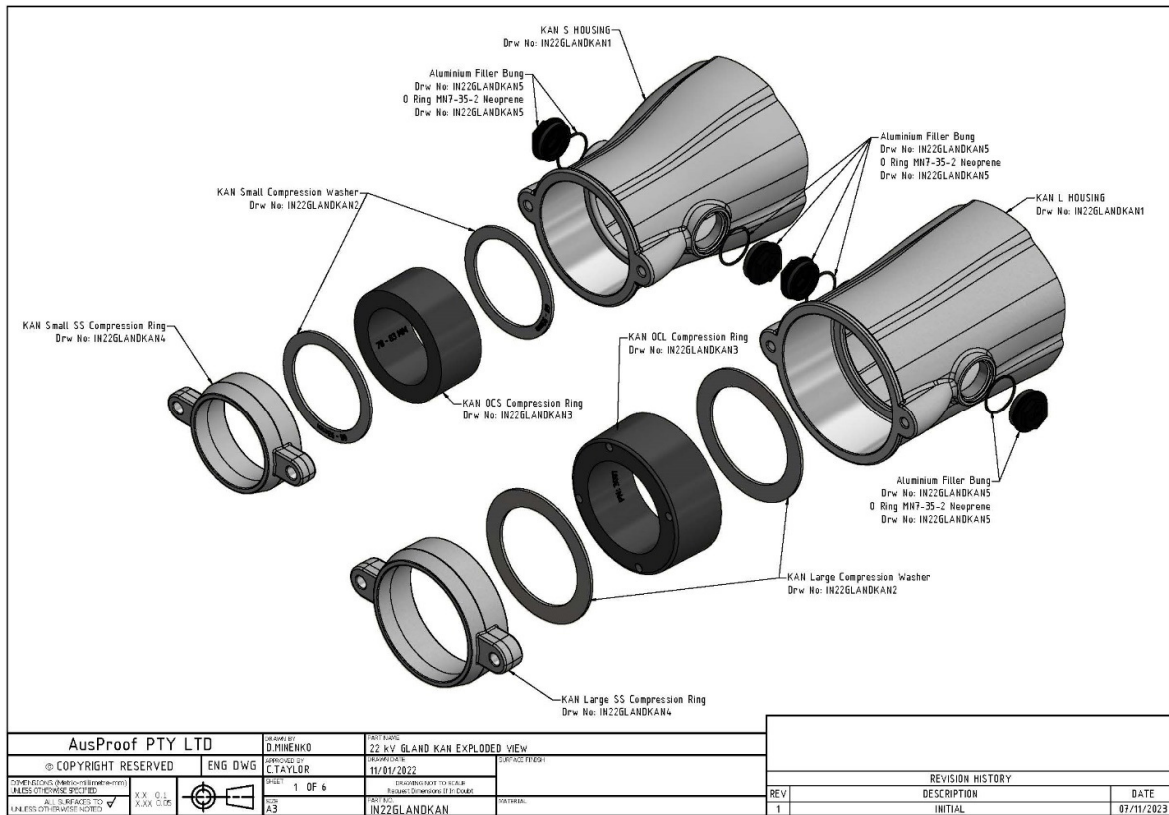
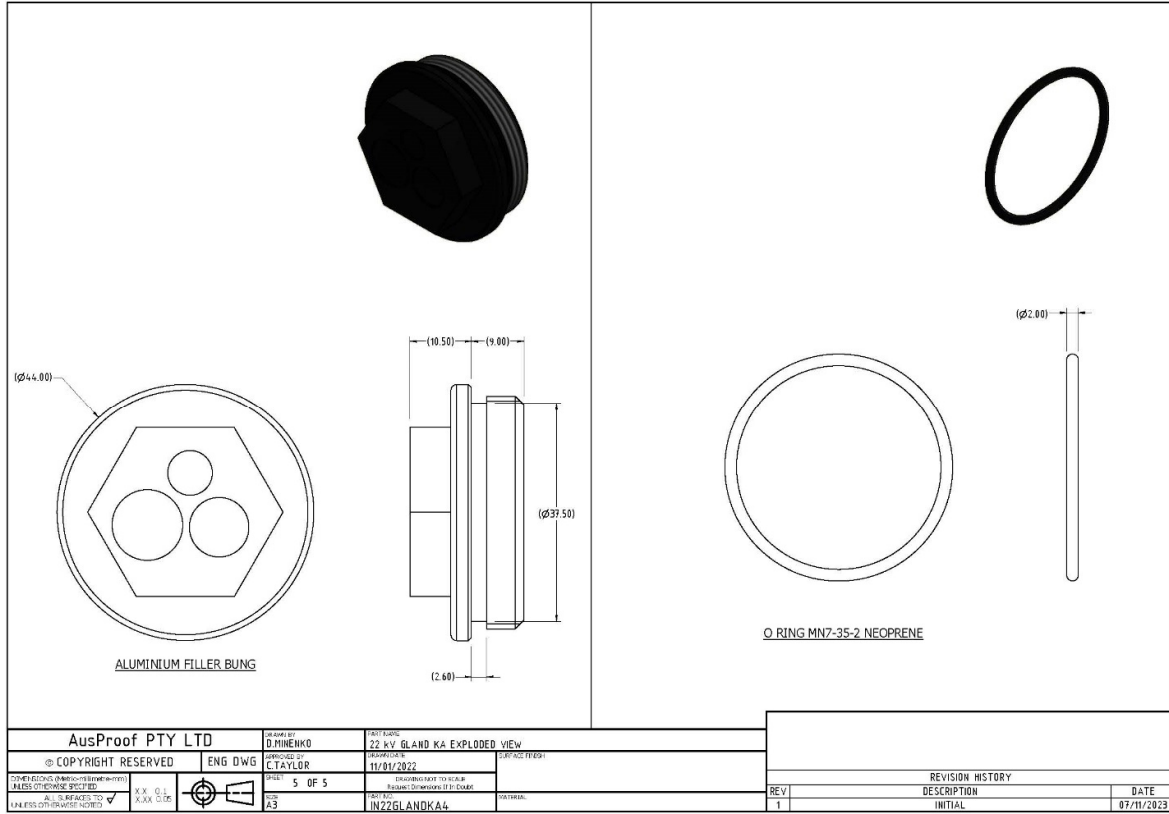
<b>AusProof PTY LTD</b>		DESIGNED BY D. MINENKO	DATE 11/01/2022	PROJECT NAME 22 kV GLAND KA EXPLODED VIEW	REV	REVISION HISTORY	
© COPYRIGHT RESERVED		ENGINEER C. TAYLOR	DATE 11/01/2022	ISSUED TO C. TAYLOR	1	DESCRIPTION	DATE
CHECKED BY: [Signature] ALL DIMENSIONS SPECIFIED UNLESS OTHERWISE NOTED		PART 2 OF 5 SUB A3	DRAWN BY: [Signature] ISSUED TO: [Signature]	PART NO. IN22GLANDKA1	1	INITIAL	07/11/2023



AusProof PTY LTD		DESIGNED BY D.MINENKO	PART NAME 22 kV GLAND KA EXPLODED VIEW		LIFT OFF TIGHTEN
© COPYRIGHT RESERVED		ENGINEER C.TAYLOR	ISSUED DATE 11/01/2022	DATE	
CHECKED BY (Signature) CHECKED BY (Signature)	X X O L X X X O L O	SHEET 3 OF 5	DRAWN BY (Signature)	REVISION HISTORY	DATE
ALL DIMENSIONS TO UNLESS OTHERWISE SPECIFIED UNLESS OTHERWISE NOTED		PART NO. IN22GLANDKA2	REVISION 1	DESCRIPTION INITIAL	DATE 07/11/2023



AusProof PTY LTD		DESIGNED BY D.MINENKO	PART NAME 22 kV GLAND KA EXPLODED VIEW		LIFT OFF TIGHTEN
© COPYRIGHT RESERVED		ENGINEER C.TAYLOR	ISSUED DATE 11/01/2022	DATE	
CHECKED BY (Signature) CHECKED BY (Signature)	X X O L X X X O L O	SHEET 4 OF 5	DRAWN BY (Signature)	REVISION HISTORY	DATE
ALL DIMENSIONS TO UNLESS OTHERWISE SPECIFIED UNLESS OTHERWISE NOTED		PART NO. IN22GLANDKA2	REVISION 1	DESCRIPTION INITIAL	DATE 07/11/2023

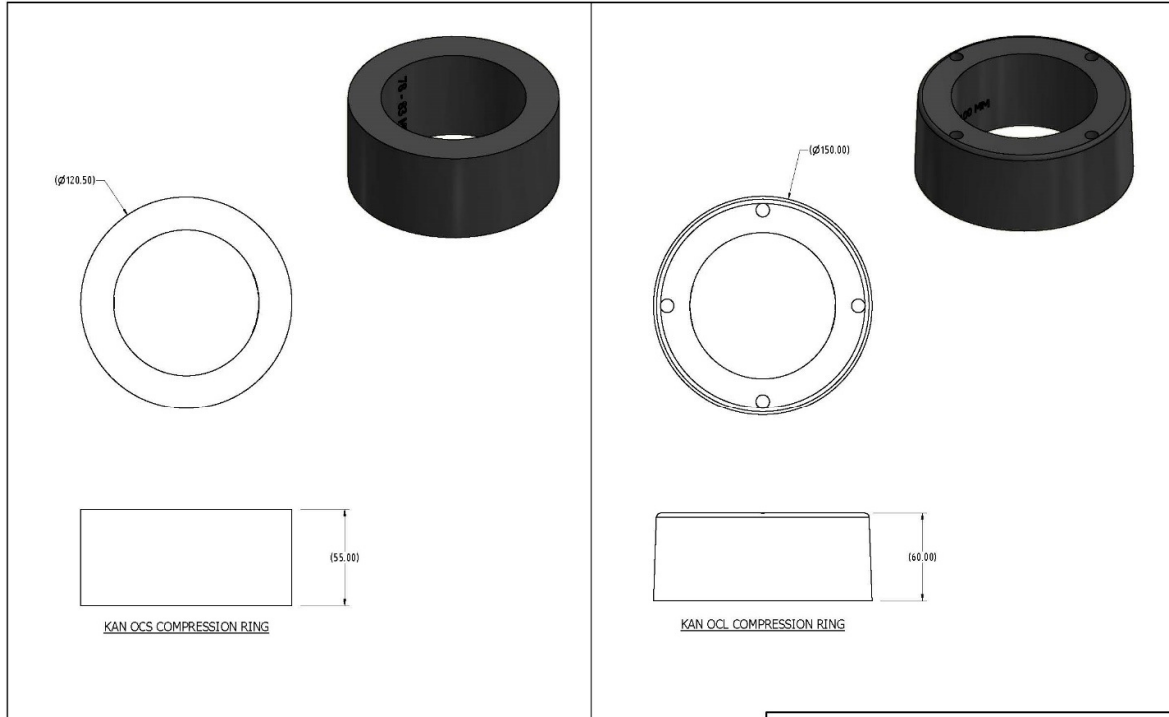


**AusProof PTY LTD**  
 © COPYRIGHT RESERVED  
 ENG DWG  
 DRAWN BY: D.MINENKO  
 CHECKED BY: C.TAYLOR  
 DATE: 11/01/2022  
 PART: 2 OF 6  
 SUB: A3  
 PART NO: IN22GLANDKAN1

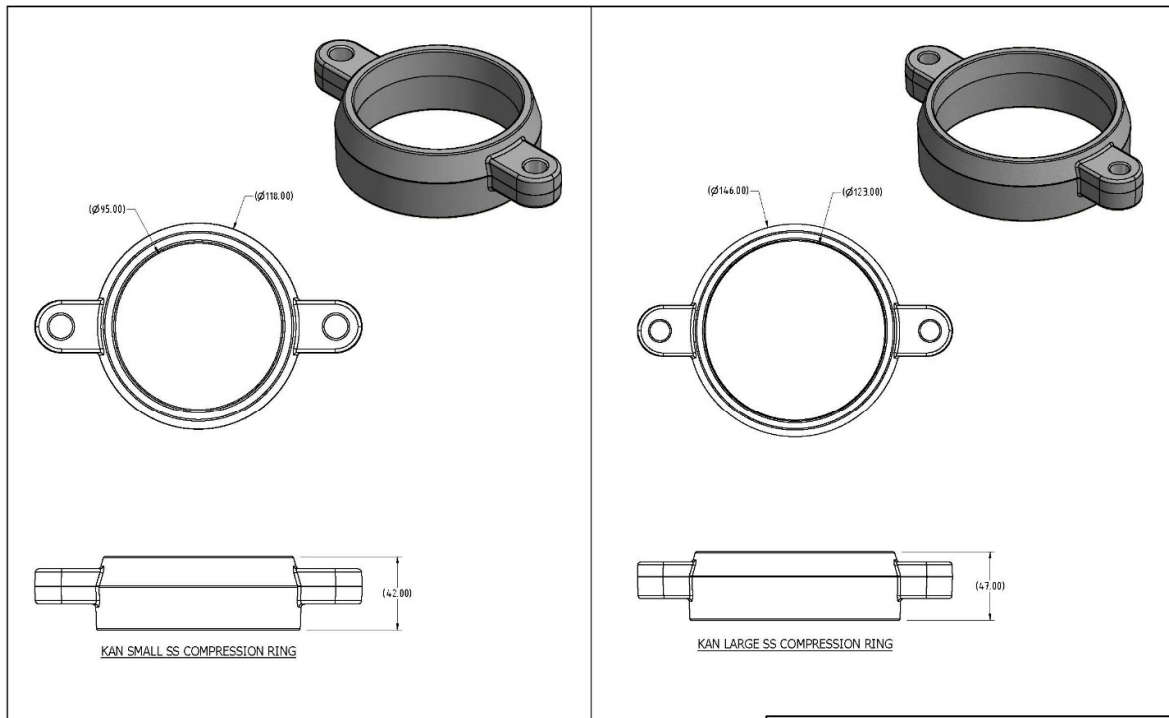
REVISION HISTORY		
REV	DESCRIPTION	DATE
1	INITIAL	07/11/2023

**AusProof PTY LTD**  
 © COPYRIGHT RESERVED  
 ENG DWG  
 DRAWN BY: D.MINENKO  
 CHECKED BY: C.TAYLOR  
 DATE: 11/01/2022  
 PART: 3 OF 6  
 SUB: A3  
 PART NO: IN22GLANDKAN2

REVISION HISTORY		
REV	DESCRIPTION	DATE
1	INITIAL	07/11/2023



AusProof PTY LTD		DESIGNED BY D.MHENKO	PART NAME 22 kV GLAND KAN EXPLODED VIEW		SURFACE FINISH				
© COPYRIGHT RESERVED		ENGINEERED BY C.TAYLOR	DRAWN DATE 11/01/2022						
CONFIDENTIAL: PARTS AND/OR DRAWINGS MUST BE KEPT SECURE ALL DIMENSIONS TO UNLESS OTHERWISE NOTED	X.X 0.1 X.XX 0.05		PART 4 OF 6	DRAWING NOT TO SCALE UNLESS OTHERWISE STATED	REVISION HISTORY				
			PART NO. IN22GLANDKAN3	REV 1	<table border="1"> <thead> <tr> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>INITIAL</td> <td>07/11/2023</td> </tr> </tbody> </table>	DESCRIPTION	DATE	INITIAL	07/11/2023
DESCRIPTION	DATE								
INITIAL	07/11/2023								



AusProof PTY LTD		DESIGNED BY D.MHENKO	PART NAME 22 kV GLAND KAN EXPLODED VIEW		SURFACE FINISH				
© COPYRIGHT RESERVED		ENGINEERED BY C.TAYLOR	DRAWN DATE 11/01/2022						
CONFIDENTIAL: PARTS AND/OR DRAWINGS MUST BE KEPT SECURE ALL DIMENSIONS TO UNLESS OTHERWISE NOTED	X.X 0.1 X.XX 0.05		PART 5 OF 6	DRAWING NOT TO SCALE UNLESS OTHERWISE STATED	REVISION HISTORY				
			PART NO. IN22GLANDKAN4	REV 1	<table border="1"> <thead> <tr> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>INITIAL</td> <td>07/11/2023</td> </tr> </tbody> </table>	DESCRIPTION	DATE	INITIAL	07/11/2023
DESCRIPTION	DATE								
INITIAL	07/11/2023								



