

# Assembly Instructions for cable gland type

## 710 32R4

Assembly Instructions  
AI 316 (Os - F) / AI 337 (H)  
Issue E - 04/03

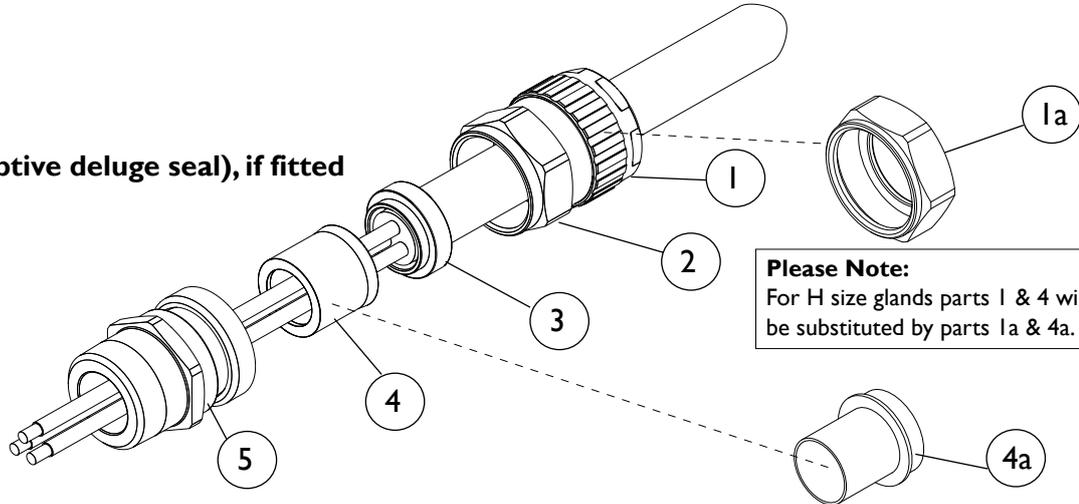
**Class I Zone 2 AExe IIC & AExe II**  
See Schedule of Limitations :AExe

# HAWKE

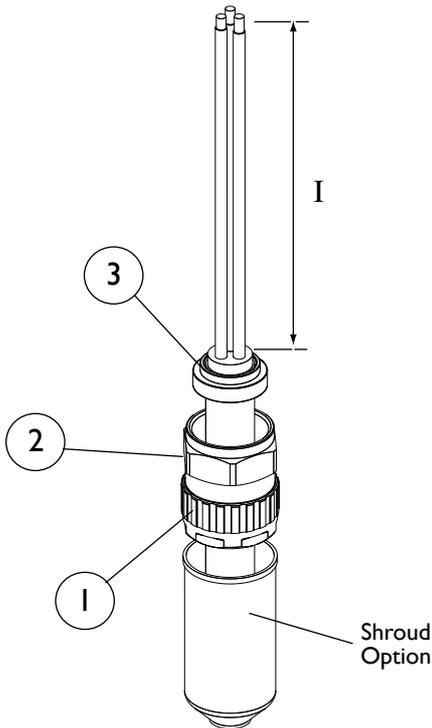
International

Operating temperature range -50°C +60°C Listing No. E84940

- 1.  Backnut
- 2.  Middle Nut
- 3.  Pot Cap
- 4.  Brass Pot
- 5.  Entry (with captive deluge seal), if fitted

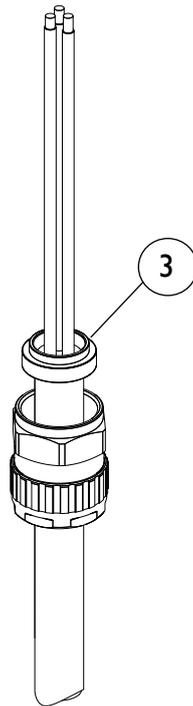


### Cable Preparation

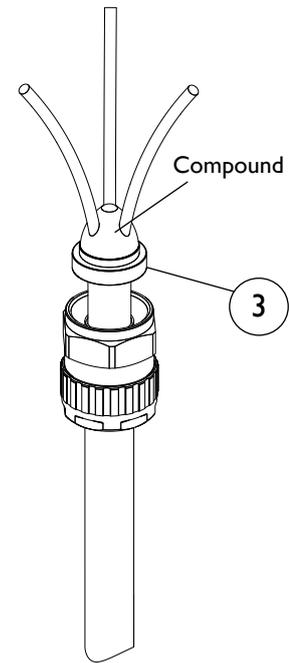


**A**  
Strip Cable to suit equipment as shown above, removing all cable fillers. Length I to suit equipment. If required, fit shroud.

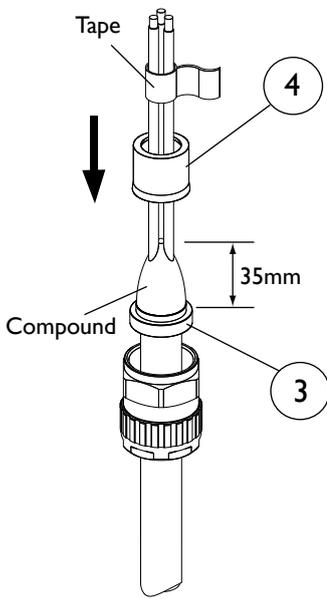
### Cable Gland Preparation



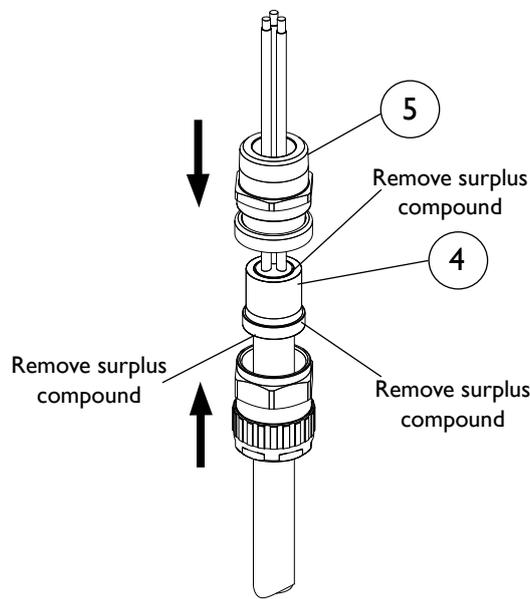
**B**  
Position rear of pot cap ③ level with prepared face of cable insulation, ensuring that the cap remains concentric to cable at all times.



**C**  
Spread the out the cable cores and the individual strands of uninsulated conductors for the compound packing. Pack the compound between the cores and strands as shown. See notes overleaf and Fig. 7 for compound preparation.

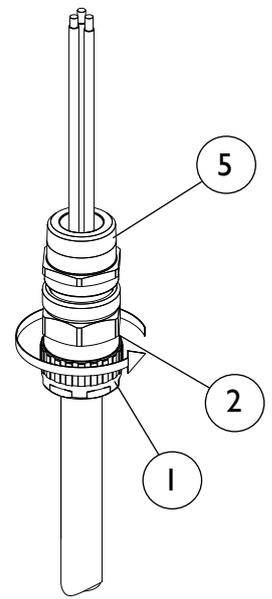


**D**  
With all gaps and voids filled, bring the conductors back together and pack more compound around the outside of the conductors. Tape the conductors together to prevent disturbance of the compound seal. Pass the brass pot ④ over pot cap ③ and remove any surplus compound from the top of brass pot ④ and joint faces as indicated.

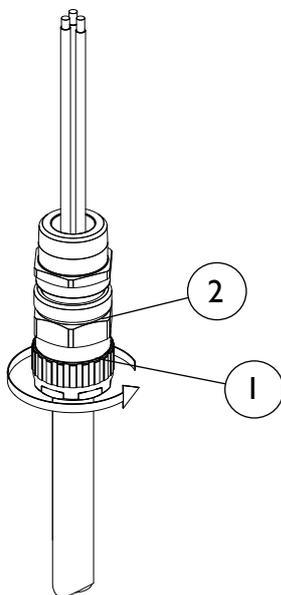


**E**  
Replace the entry ⑤ over the brass pot ④ ensuring that compound does not cover end of brass pot ④

Note:  If the equipment has a threaded  entry it may be advisable to screw  the entry component into the  equipment to prevent twisting of  the cable after step F

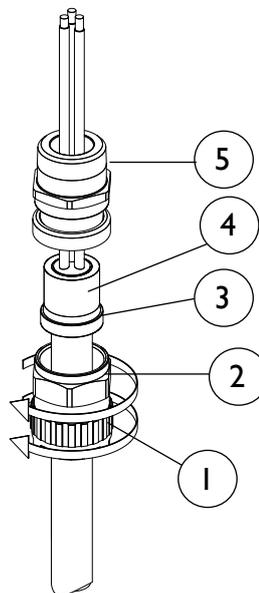


**F**  
Locate and hand tighten the sub-assembly ① and ② to the entry ⑤. While holding the entry ⑤ with a spanner / wrench add half a turn to the middle nut ②. Unscrew the sub-assembly ① and ② from the entry ⑤ then remove any surplus compound from the gland components. Again locate and hand tighten the sub-assembly ① and ② onto the entry ⑤.

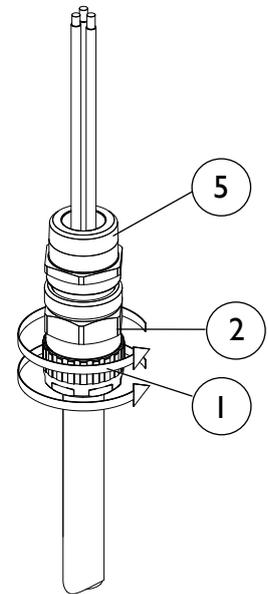


**G**  
To further locate and support the compound and brass pot assembly, while holding the middle nut ② with a spanner / wrench, tighten the backnut ① until the seal grips the cable to prevent movement of the cable gland.

**IMPORTANT NOTE:**  
**THE CONDUCTORS MUST NOT BE MOVED FOR A MINIMUM OF FOUR HOURS**



**H**  
Allow the compound to cure. (See Fig. 7 for Curing Times). Untighten firstly the backnut ① from ② and secondly the middle nut ② from the entry ⑤. Check that compound has cured.



**I**  
Hand tighten the sub-assembly ① and ② to the entry ⑤ and add half a turn to ② with a spanner / wrench. Tighten the backnut ① to form a seal around the cable, then tighten a further half to full turn using a spanner / wrench. Ensure that the middle nut ② does not rotate when tightening the backnut ①. Ensure that the deluge seal is pulled into position if fitted. Locate the shroud over the cable gland if applicable.

## EPOXY COMPOUND PREPARATION

When handling this material, the gloves supplied must be worn. The epoxy compound is supplied in the form of a two part package. These should be mixed into the ratio of 1:1 until both colours have blended into one, without any streaks. Rolling and folding is the most effective method of obtaining an even blend. Once mixed, the compound must be used within 30 minutes. After this time it will begin to stiffen. The compound should be kept at an ambient temperature of no less than 20°C prior to using. At lower temperatures it becomes difficult to mix. Should any compound come into contact with the skin it should be cleaned off with skin cleaner and not allowed to dry on the skin. Only compound for immediate terminations should be mixed.

The mixing and installation of the compound at an ambient temperature below 5°C is not recommended due to extended curing periods.

**The following instructions are the approved methods of passing drain wires etc. through the compound barrier and should be followed if permitted by cable installation specifications.**

### UNINSULATED EARTH OR DRAIN WIRE PREPARATION

#### 1.0 INSULATING EARTH OR DRAIN WIRES WITH HEAT SHRINK OR COLD SHRINK TUBING

- 1.1 Remove foils and tape level with the metal armour, exposing the uninsulated earth or drain wires and insulated conductors.
- 1.2 Pass 100mm length of heat shrink or cold shrink tubing over the uninsulated earth or drain wire until it comes into contact with the foils, then shrink the tubing evenly down onto the drain wire so that no air pockets occur.
- 1.3 To insulate the joint between the foils and the tubing a suitable piece of 10mm long shrink tubing or neoprene stretch tubing or a 10mm wide lap of PVC tape may be used.
- 1.4 After completing 1.1 to 1.4 on each uninsulated earth or drain wire, then carry out instruction B.

### INDIVIDUAL SHIELDING OR SCREEN PREPARATION

#### 2.0 INSULATING SHIELDING OR SCREENS WITH HEAT SHRINK OR COLD SHRINK TUBING

- 2.1 Unravel one or two groups of wires from the shielding or screen wires, then remove the remainder of the screen wires (See Fig. 2) and twist along their full length.
- 2.2 Pass 100mm length of heat shrink or cold shrink tubing over the shielding or screen wires until it comes into contact with the foils, then shrink the tubing evenly down onto the drain wire so that no air pockets occur.
- 2.3 To insulate the joint between the shielding or screen wires and the tubing, place one lap of PVC insulating tape over the exposed metallic joint.
- 2.4 After completing 2.1 to 2.3 on each shielding or screen. Then carry out instruction B.

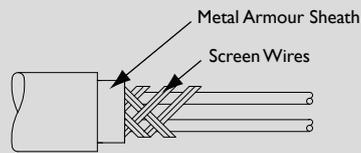


Fig. 1

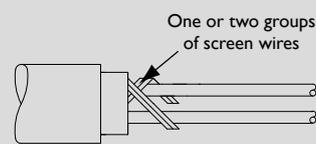


Fig. 2

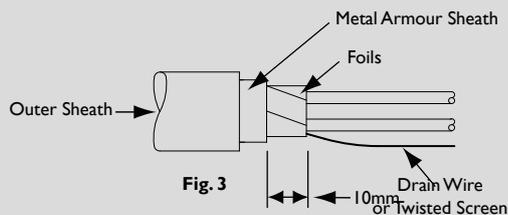


Fig. 3

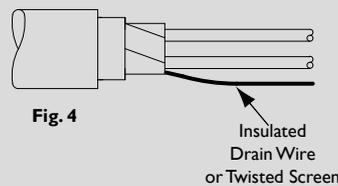


Fig. 4

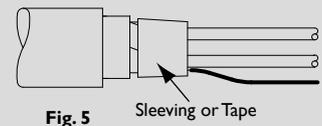


Fig. 5

### Epoxy Compound Cure Time Vs. Temperature

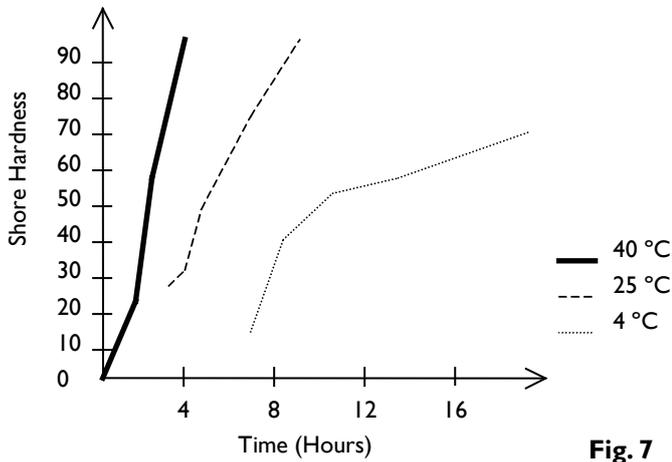


Fig. 7

- The compound may be adversely affected by some
  - solvent vapours. If such vapours are likely to be present in the vicinity of the cable gland in service, suitable precautions may be necessary.
  - (Contact Hawke's Technical Dept).

- The compound cures at a Shore D hardness of 85, when it can be handled. The compound when fully cured is suitable for use at a temperature range of -50°C to +60°C.

| CABLE GLAND SELECTION TABLE |                   |                 |                          |                   |                   |              |       |            |                    |                |
|-----------------------------|-------------------|-----------------|--------------------------|-------------------|-------------------|--------------|-------|------------|--------------------|----------------|
| Size Ref.                   | Entry Thread Size |                 | Cable Acceptance Details |                   |                   |              |       | Max Length | Hexagon Dimensions |                |
|                             |                   |                 | Inner Sheath/ Cores      |                   |                   | Outer Sheath |       |            | Across Flats       | Across Corners |
|                             | Metric            | NPT             | Max. Over Cores          | Max. Inner Sheath | Max. No. Of Cores | Min.         | Max.  |            |                    |                |
| Os                          | M20               | 1/2"            | 0.35"                    | 0.39"             | 6                 | 0.22"        | 0.47" | 2.96"      | 0.94"              | 1.09"          |
| O                           | M20               | 1/2"            | 0.35"                    | 0.39"             | 6                 | 0.37"        | 0.62" | 2.96"      | 0.94"              | 1.09"          |
| A                           | M20               | 1/2" - 3/4"     | 0.43"                    | 0.49"             | 10                | 0.49"        | 0.80" | 3.08"      | 1.18"              | 1.36"          |
| B                           | M25               | 3/4" - 1"       | 0.64"                    | 0.72"             | 21                | 0.66"        | 1.02" | 3.17"      | 1.42"              | 1.64"          |
| C                           | M32               | 1" - 1 1/4"     | 0.86"                    | 0.97"             | 42                | 0.87"        | 1.29" | 3.39"      | 1.81"              | 2.09"          |
| C2                          | M40               | 1 1/4" - 1 1/2" | 1.04"                    | 1.16"             | 60                | 1.10"        | 1.61" | 3.59"      | 2.17"              | 2.50"          |
| D                           | M50               | 1 1/2" - 2"     | 1.46"                    | 1.64"             | 80                | 1.42"        | 2.07" | 3.96"      | 2.56"              | 2.96"          |
| E                           | M63               | 2" - 2 1/2"     | 1.88"                    | 2.10"             | 100               | 1.81"        | 2.57" | 4.11"      | 3.15"              | 3.64"          |
| F                           | M75               | 2 1/2" - 3"     | 2.32"                    | 2.57"/2.60"       | 120               | 2.24"        | 3.07" | 4.25"      | 3.74"              | 4.31"          |
| H                           | M90               | 3 1/2"          | 3.12"                    | 3.12"             | 120               | 3.07"        | 3.52" | 4.25"      | 4.18"              | 4.84"          |

\* Sizes Os and O are available with an M16 thread size.

#### SCHEDULE OF LIMITATIONS: AEExe

1.  This cable gland has an operating temperature range of -50°C to +60°C.
2.  When the glands are used in increased safety applications a UL Listed sealing washer may be required between the external face of the enclosure and the gland sealing face in order to maintain the integrity of the increased safety enclosure.
3.  A grounding / earth tag has been provided for use as a grounding point when the cable gland is used with plastic enclosures. This must be fitted to the wall of the enclosure using the threads of the gland and the locknut supplied.
  - Note:  Grounding must be carried out in accordance with National Electrical Code Article 250 and 505.25. A correctly sized grounding conductor must be connected from the tag to the nearest internal connection point of the grounding circuit.
4.  When the gland is used with enclosures having plain (strickethrough/drilled) entry holes, the gland must be secured to the enclosure using the locknut provided.

#### ACCESSORIES:

Before carrying out the cable gland assembly or stripping of the cable gland assembly, consideration should be given to any cable gland accessories that may be required, such as: -

- Shroud, to offer additional corrosion protection.
- Locknut, to secure cable glands into position.
- Sealing washer or suitable thread sealant, to offer additional ingress protection of the enclosure at the cable gland entry.
- Serrated washer, to dampen any vibrations that may loosen the locknut or cable gland assembly.

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## Smarter products

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