

**Klippon® KUB Compound - Filled Cable Gland**



**Brief Description**

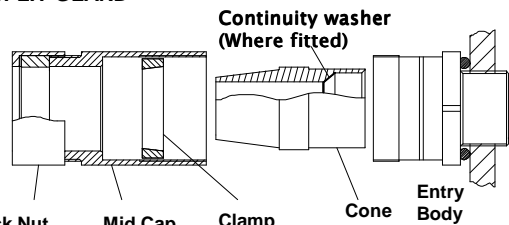
The KUB type Compound-filled cable gland is for outdoor use in the appropriate Hazardous Areas with pliable wire/ steel wire/ steel tape armoured, braided, screened and un-armoured cable. A variant giving electrical continuity to a lead sheath is available. It gives environmental protection to IP68, IP68 and Deluge. A termination suitable for EMC protection can be made using armoured cables with this gland.

**Warning**

PLEASE STUDY CAREFULLY BOTH PAGES OF THESE INSTRUCTIONS BEFORE INSTALLATION. These glands should not be used in any application other than those mentioned here or in our Data Sheets, unless Weidmüller states in writing that the product is suitable for such application. Weidmüller can take no responsibility for any damage, injury or other consequential loss caused where the glands are not installed or used according to these instructions. This leaflet is not intended to offer advice on the selection of cable glands. Further guidance can be found in the standards listed overleaf.

### STEP-BY-STEP FITTING INSTRUCTIONS

**SPLIT GLAND**



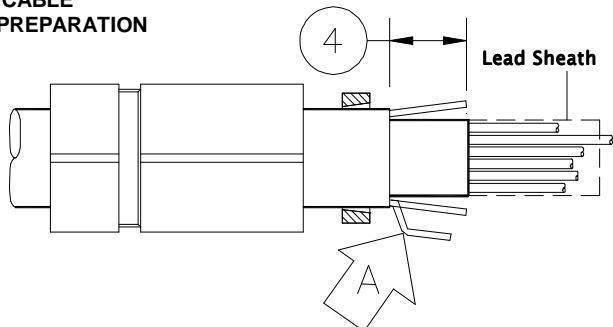
Continuity washer (Where fitted)

Back Nut    Mid Cap    Clamp    Cone    Entry Body

**TABLE 1**

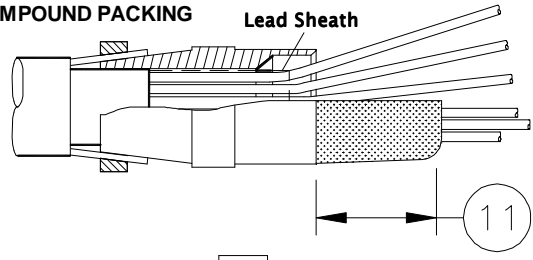
Gland Size	4	11
	Armour Length	Compound Length
16 – 25	20–22mm	40mm
32 – 40	30mm	45mm
50S – 75	32mm	50mm
80 – 100	50mm	60mm

**CABLE PREPARATION**



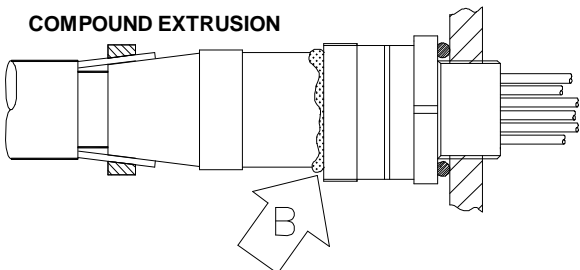
Lead Sheath

**COMPOUND PACKING**

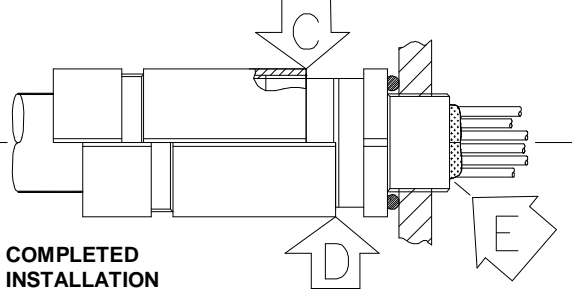


Lead Sheath

**COMPOUND EXTRUSION**



**COMPLETED INSTALLATION**



**STEP-BY-STEP FITTING INSTRUCTIONS**

- 1 Split gland as shown. **Warning.** The entry body of this cable gland is coated with a releasing agent to ensure the compound form can be inspected after curing. The entry body should not be treated with any lubricant or be exposed to any solvents. The internal bore of the entry body must not be damaged. Any handling during the course of normal installation will not effect the operation of the releasing agent.
- 2 Fit Entry Body. Hand-tighten, then suitably secure with a wrench.
- 3 Slide Back Nut, Mid Cap and Clamp onto cable as shown
- 4 **CABLE PREPARATION** Strip off outer jacket, length to suit installation  
*For armoured cable:-*    **A** Cut armour. For approximate exposed lengths see Table 1 column 4  
    **B** Where sheath sizes are near minimum, form armour to facilitate clamping (arrow A)  
*For all cables:-*                **C** Remove inner sheath, length to suit installation. Lead sheath must be cut to push through the continuity washer. Remove protective foils, and any cords/fillers from around and between the cores. Take care not to cut the insulating sleeves of the cores. Pigtail and sleeve screens to be passed through compound
- 5 Slide Cone onto inner sheath and under armour. For lead sheath push through the continuity washer ensuring contact is made. Slide Clamp onto exposed armour.
- 6 Insert cable through Entry Body and engage Cone in Entry Body
- 7 To clamp armour onto Cone, hand-tighten Mid Cap to Entry Body, then using wrench tighten a further 1 turn. Cable with maximum diameter wire armour may require an additional ½ to 1 turn
- 8 Unscrew Mid Cap to visually check armour is securely clamped. Pull out cable and Cone. If armour has not clamped repeat the clamping process.

**HEALTH AND SAFETY WARNING** The resin used in the compound can cause eye and skin irritation. For your personal protection, wear the gloves supplied while mixing and applying. The uncured compound should not be allowed to come into contact with foodstuffs.  
**A COMPREHENSIVE SAFETY DATA SHEET PROVIDED BY THE COMPOUND MANUFACTURER IS AVAILABLE ON REQUEST**

- 9 Check compound has not passed its "Use By" date. Installation at temperatures below 10° C should be avoided. Trim any hardened pieces from ends of stick
- 10 Mix the compound by rolling, folding and breaking. Ease mixing by cutting large sticks in half. Fully mixed compound has a uniform yellow colour with no streaks See Figure 1 for correctly mixed compound.
- 11 Support the cable and rear gland assembly. With unarmoured cable, hold Cone and cable roughly concentric. Splay out the cores. Starting at the middle, pack small amounts of rolled-out compound between the cores. Re-straighten each core and work outwards until all gaps are filled. Bundle the cores with cord or tape (see Figure 2) so they are not disturbed. Pack around the outside of the outer cores to fill the Cone cup. Build up compound around the outside of the cores with a slight taper and to approximate compound length shown in diagram and Table 1 column 11.
- 12 Pass cores through & push compound into Entry Body until Cone engages. Remove squeezed out compound at arrow B. *For thickest armour:* Screw Mid Cap 7 full

- turns onto Entry Body (arrow C). **For tape armours/braids:** screw no further than groove (sizes 16 & 20S: screw no further than 6mm [1/4 inch] from Entry Body hexagon) (arrow D). Ensure that compound emerges at entry thread (arrow E).
- 13 Clean off excess compound from Entry Body to allow withdrawal when cured (arrow E). Cores may be disturbed after 1 hour. Leave to cure for 4 hours when working at 21° C.
  - 14 To release the joint for inspection unscrew the Mid Cap. Using a wrench on the Cone, rotate the cone no more than 1/16 of a turn. This will release the compound from the entry body. Do not over rotate as this may damage cable braid. Pull the cone and compound out for inspection. The compound should appear as in Figure 3 with no gaps, holes or cracks.
  - 15 Hand-tighten Mid Cap to remake joint. Then refer to table below and tighten using wrench to the given amount.
  - 16 Hold Mid Cap with wrench and tighten Back Nut onto cable. Ensure seal makes full contact with cable sheath, and then tighten Back Nut 1 extra turn.
  - 17 The equipment should not be energised until the compound has been left to cure for at least 4 hours when working at 21° C. See chart 'Energising Time vs. Temperature' for further guidance

Figure 1



Figure 2

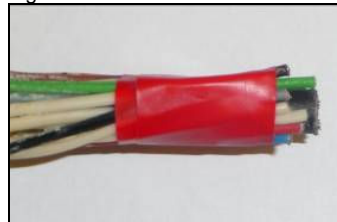
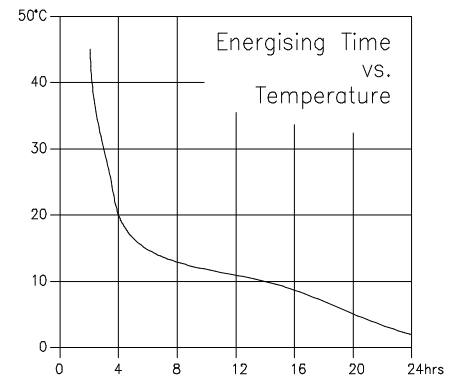


Figure 3



**Tightening information (Point 15), cable sizes (mm), construction and armour acceptance (mm)**

Gland Size	Tighten Mid Cap using wrench up to	Max Ø over cores	Max No of Cores	Inner Sheath	Outer Sheath		Reduced Bore		Armour size Universal
				Max	Min	Max	Min	Max	
16	½-turn	9.0	15	11.7	8.4	13.5	6.7	10.3	0.1 -1.25
20S	½-turn	10.4	35	11.7	11.5	16.0	9.4	12.5	0.1 -1.25
20	½-turn	12.5	40	14.0	15.5	21.1	12.0	17.6	0.1 -1.25
25	½-turn	17.8	60	20.0	20.3	27.4	16.8	23.9	0.1 -1.6
32	½-turn	23.5	80	26.3	26.7	34.0	23.2	30.5	0.1 -2.0
40	½-turn	28.8	130	32.2	33.0	40.6	28.6	36.2	0.1 -2.0
50S	½-turn	34.2	200	38.2	39.4	46.7	34.8	42.4	0.1 -2.5
50	½-turn	39.4	400	44.1	45.7	53.2	41.1	48.5	0.1 -2.5
63S	½-turn	44.8	400	50.1	52.1	59.5	47.5	54.8	0.1 -2.5
63	½-turn	50.0	425	56.0	58.4	65.8	53.8	61.2	0.1 -2.5
75S	½-turn	55.4	425	62.0	64.8	72.2	60.2	68.0	0.1 -2.5
75	½-turn	60.8	425	68.0	71.1	78.0	66.5	73.4	0.1 -2.5
80	¾-turn	64.4	425	72.0	77.0	84.0	71.9	79.4	0.1 -3.15
85	¾-turn	69.8	425	78.0	79.6	90.0	75.0	85.4	0.1 -3.15
90	¾-turn	75.1	425	84.0	88.0	96.0	82.0	91.4	0.1 -3.15
100	¾-turn	80.5	425	90.0	92.0	102.0	87.4	97.4	0.1 -3.15



**Installation Guidance**

Point	Advice
1	<ul style="list-style-type: none"> <li>◆ EN/IEC 60079-10 Classification of Hazardous Areas</li> <li>◆ EN/IEC 60079-14 Electrical Installations in Hazardous Areas</li> <li>◆ EN/IEC 60079-31 Ignitable dust – Protection by enclosure</li> <li>◆ BS 6121, Part 5 Selection, Installation &amp; Maintenance of Cable Glands</li> </ul>
2	Installation should only be carried out by a competent electrician, skilled in cable gland installation.
3	<b>NO INSTALLATION SHOULD BE CARRIED OUT UNDER LIVE CONDITIONS.</b>
4	Threaded entries: the product can be installed directly into threaded entries. Threaded entries should comply with clause 5.3 of IEC/EN 60079-1 and have a lead-in chamfer to allow for full engagement of the threads. For Ex d applications a minimum of 5 fully engaged parallel threads is required. Metric threads are supplied with an o-ring and will maintain IP66 and IP68. Parallel entry threads will maintain an IP rating of IP64. A sealing washer should be used to maintain all IP ratings greater than IP64.
5	To maintain the Ingress Protection rating of the product, the entry hole must be perpendicular to the surface of the enclosure. The surface should be sufficiently flat and rigid to make the IP joint. The surface must be clean and dry. It is the users/installers responsibility to ensure that the interface between the enclosure and cable gland is suitably sealed for the required application.
6	Whilst Weidmüller products with tapered threads, when installed into a threaded entry, have been tested to maintain IP66 without any additional sealant, due to the differing gauging tolerances associated with the use of tapered threads it is recommended to use a non-hardening thread sealant if an IP rating higher than IP64 is required.
7	Once installed do not dismantle except for routine inspection. An inspection should be conducted as per IEC/EN 60079-17. After inspection the gland should be re-assembled as detailed in points 15 and 16, ensuring the Mid Cap and back nut are correctly tightened to ensure the installation is secure.

**Interpretation of Markings.** Markings on the outside of this gland carry the following meanings:

KUB [a] [b] [c] [d] [e] [f] [ggg]

- Where:
- [a] = Entry thread
  - [b] = Main component material (B = brass, S = stainless steel)
  - [c] = Seal material (S = silicone, N = Neoprene)
  - [d] = Continuity for lead sheath (L = yes, O = no)
  - [e] = Plating (Sc = self coloured, Ni = Nickel, Zi = zinc)
  - [f] = Reduced bore outer seal (1 = yes, 2 = no)
  - [ggg] = Gland size (Gsss) (e.g. G20S)

**Certificate Numbers** (ATEX) **SIRA 05ATEX1288X** (IECEX) **IECEX SIR 05.0067X**

**Protection Concept, EPL's and Gas Groups:** Ex d I&IIC Exe I&IIC Mb Gb / Ex ta IIIC Da

**Environmental Protection:** IP66 / IP68 (100 metres for 7 Days)

**ATEX (EU Directive 94/9/EC) Markings:**  I M2 II 1D II 2G

**Special Conditions for Safe Use**

1. The cable glands shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -60°C to +135°C.
2. The entry component threads will be suitably sealed using a method that is applicable to the associated equipment to which the gland will be attached. This will be in accordance with the relevant installation code of practice and will ensure that any ingress protection and restricted breathing sealing requirements are maintained.
3. When glands without sealing rings are installed in an explosive dust atmosphere, they shall only be fitted into enclosures that have entries that will ensure that a minimum of 5 full threads of contact will be maintained, this is in accordance with clause 5.1.1 of EN 60079-31:2009.