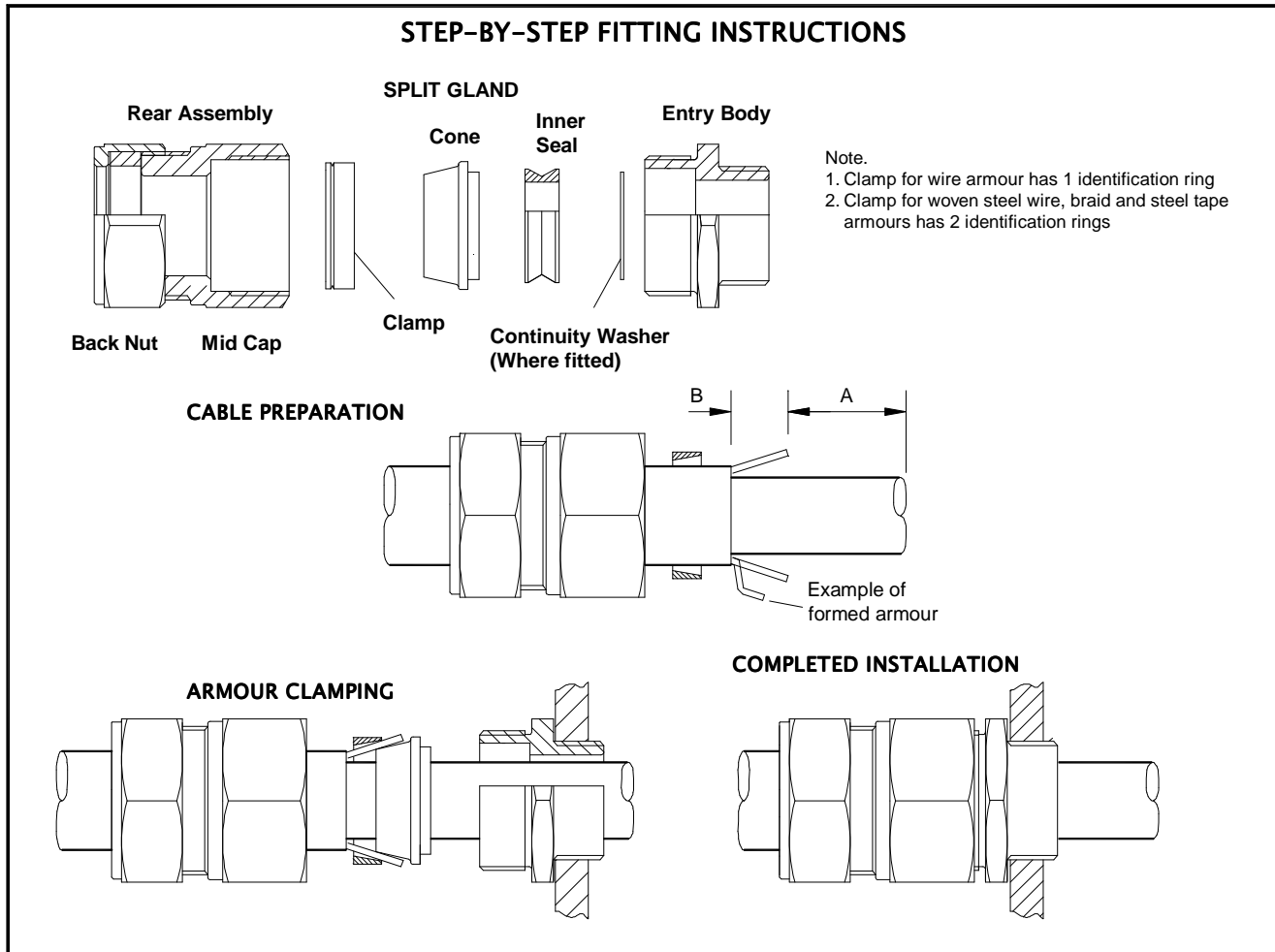


The KDSW & KDSX type cable gland is for outdoor use in the appropriate Hazardous Areas with armoured cable. It gives environmental protection to IP66 and IP68. A termination suitable for EMC protection can be made using armoured cables with these glands. KDSW type clamp steel wire armour and KDSX types clamp woven steel wire and steel tape armours.

**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**

- 1 Split gland as shown.
- 2 Remove the Inner Seal. This must be removed to effectively clamp armour. Remove Continuity Washer if fitted.
- 3 Fit Entry Body to enclosure including sealing washer if required. Hand-tighten, then suitably secure with a wrench.
- 4 Slide Rear Assembly (and shroud if required) onto cable as shown.
- 5 Prepare cable as shown in diagram.
  - A Strip the outer sheath and armour to suit the installation. For lead sheathed cable the lead sheath must pass through the Continuity Washer when installation is complete.
  - B Expose armour approx. 20mm long and slide the Clamp over the exposed armour. Slide cone on to inner sheath and spread armour over the cone. Where sheath sizes are near minimum, form armour to facilitate clamping as shown. Ensure the Clamp is in the correct orientation. The clamp should be positioned so that the identification ring(s) are away from the cone.
- 6 Insert cable through Entry Body. Do not re-fit seal or continuity washer. Push cable forward to maintain armour contact.
- 7 Support the cable to prevent it from twisting. Hand tighten Mid Cap to Entry Body to lock onto armour. When tight, further tighten Mid Cap 1 full turn with wrench. Cable with maximum diameter wire armour may require an additional ½ to 1 turn.
- 8 Loosen off Mid Cap to visually check armour is securely locked. If armour has not clamped repeat the clamping process.
- 9 Pull out cable from Entry Body. Re-fit the inner seal (and continuity washer on lead sheath options). Re-insert cable through the seal, (and continuity washer if fitted) and Entry Body. For lead sheath cable the Continuity Washer must be in contact with the lead sheath & must be in front of the seal.
- 10 Re-tighten Mid Cap to the entry body. Ensure the seal makes full contact with cable inner sheath and then tighten the Mid Cap by the additional turns detailed in Table 1
- 11 Hold Mid Cap with wrench and tighten Back Nut onto cable. Ensure the seal makes full contact with cable outer sheath and then tighten the back nut by the additional turns detailed in Table 1. If fitted, pull shroud over gland assembly.

**Table 1 - Cable Sizes and Armour Acceptance (mm)**

Cable Sizes (mm), Armour Acceptance (mm) & Assembly Data										
Gland Size	Mid Cap Turns – Step 10	Back Nut Turns – Step 11	Inner Sheath		Outer Sheath		Reduced Bore		Armour Acceptance Ranges	
			Min	Max	Min	Max	Min	Max	Wire	Tape/ Woven Wire/Braid
16	1	1	3.5	8.4	8.4	13.5	4.9	10.3	0.9	0.15 – 0.35
20S	1	1	8.0	11.7	11.5	16.0	9.4	12.5	0.9 – 1.25	0.15 – 0.35
20	1	1	6.7*	14.0	15.5	21.1	12.0	17.6	0.9 – 1.25	0.15 – 0.50
25	1	1	13.0	20.0	20.3	27.4	16.8	23.9	1.25 – 1.6	0.15 – 0.50
32	1	2	19.0	26.3	26.7	34.0	23.2	30.5	1.6 – 2.0	0.15 – 0.55
40	1	1	25.0	32.2	33.0	40.6	28.6	36.2	1.6 – 2.0	0.2 – 0.6
50S	1	1	31.5	38.2	39.4	46.7	34.8	42.4	2.0 – 2.5	0.2 – 0.6
50H	1	2	31.5	38.2	39.4	46.7	34.8	42.4	2.0 – 2.5	0.2 – 0.6
50	1	2	36.5	44.1	45.7	53.2	41.1	48.5	2.0 – 2.5	0.5 – 0.8
63S	1	1	42.5	50.1	52.1	59.5	47.5	54.8	2.5	0.5 – 0.8
63H	1	1	42.5	50.1	52.1	59.5	47.5	54.8	2.5	0.5 – 0.8
63	1	1	49.5	56.0	58.4	65.8	53.8	61.2	2.5	0.5 – 0.8
75S	1 ¼	1	54.5	62.0	64.8	72.2	60.2	68.0	2.5	0.5 – 1.0
75H	1 ¼	1	54.5	62.0	71.1	78.0	66.5	73.4	2.5	0.5 – 1.0
75	1 ¼	1	60.5	68.0	71.1	78.0	66.5	73.4	2.5	0.5 – 1.0
80	1 ¼	1	62.2	72.0	77.0	84.0	71.9	79.4	3.15	0.5 – 1.0
80H	1 ¼	1	62.2	72.0	79.6	90.0	75.0	85.4	3.15	0.5 – 1.0
85	1 ¼	1	69.0	78.0	79.6	90.0	75.0	85.4	3.15	0.5 – 1.0
90	1	3	74.0	84.0	88.0	96.0	82.0	91.4	3.15	0.5 – 1.0
90H	1	1	74.0	84.0	92.0	102.0	87.4	97.4	3.15	0.5 – 1.0
100	1	1	82.0	90.0	92.0	102.0	87.4	97.4	3.15	0.5 – 1.0

**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. 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	Clearance holes: these may be 0.1 to 0.7mm larger than the major diameter of the male thread. The product should be secured with a lock nut and the threads tightened to ensure the cable gland is secure. A sealing washer should be used to maintain IP ratings. A serrated washer should be used for additional installation protection.
6	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.
7	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.
8	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 instructed, ensuring the mid cap and back nut are correctly tightened to ensure the cable is secure.
9	For Ex d applications, these glands should only be used with substantially round and compact cables with extruded bedding (i.e. effectively filled cables) that are compliant with EN/IEC 60079-14.
10	If used in a non-metallic increased safety enclosure, the gland must be included within in the earth circuit of the system.

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

KDSW [a] [b] [c] [d] [e] [f] [ggg] or alternatively KDSX [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 05ATEX1286X** (IECEX) **IECEX SIR 05.0067X**

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

**Environmental Protection:** IP66 / IP68 (50 metres for 7 Days)

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

**Special Conditions for Safe Use**

1. These glands must not be used with enclosures where the temperature at the point of mounting exceeds -35°C to +90°C using neoprene seals, or -60° to +180°C using silicone seals.
2. These glands, when installed in accordance with the manufacturers instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66 and IP68 (50 metres 7 days)
3. If these cable glands only grip the cable sheath of the cable and do not clamp the cable armour or if they are used to terminate unarmoured, braided or screened cables, then they shall only be used for fixed installations, hence the cables shall be effectively clamped to prevent pulling or twisting.
4. Where glands without sealing rings are installed in protection by enclosure (Ex t) equipment for use in explosive dust atmospheres, they shall only be fitted into enclosures offering a minimum of 5 full threads, in accordance with EN 60079-31:2009 clause 5.1.1.