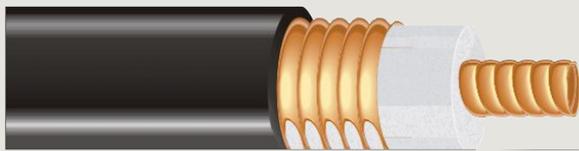


# IP DECT LEAKY CABLE

IP DECT 6000 System



## About this Document

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### Document Scope

The leaky cable solution comprises a leaky or radiating cable that is connected to a modified base station with one antenna port.

This document contains information on mounting the connectors and clamps for the leaky cable.

Product	Part Number
IP DECT Base Station with 100m Leaky Cable and Mounting Kit	2211000605

### Publication Log

Rev.	Date	Author	Status
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### Related Documentation

For further information about the IP DECT Server 6000, refer to the following documentation:

Doc. no.	Subject	Documentation
A100K10676	IP DECT Planning & Deployment	IP DECT Deployment on Ships
A100K10652	IP DECT 6000 System	IP DECT Installation & Configuration Guide
A100K10677	IP DECT Alarm Server	IP DECT Alarm Server Configuration Guide
A100K10777	IP DECT 6000 Configuration	IP DECT Quick Configuration Guide
	DECT Handset Operation	Handset User Guides

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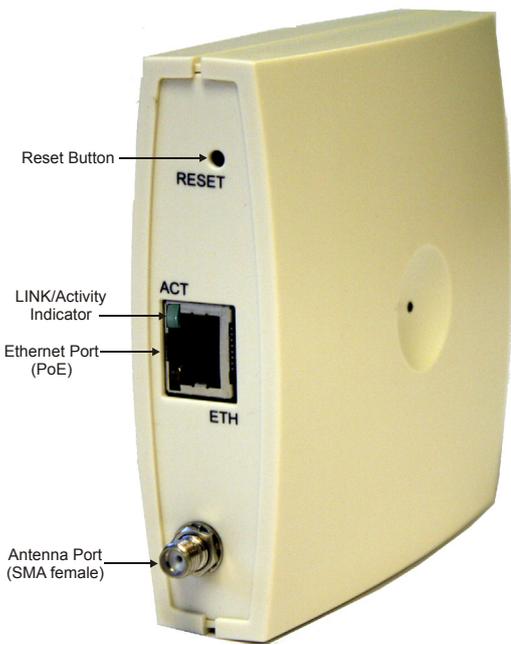
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# 1 The Leaky Cable Solution



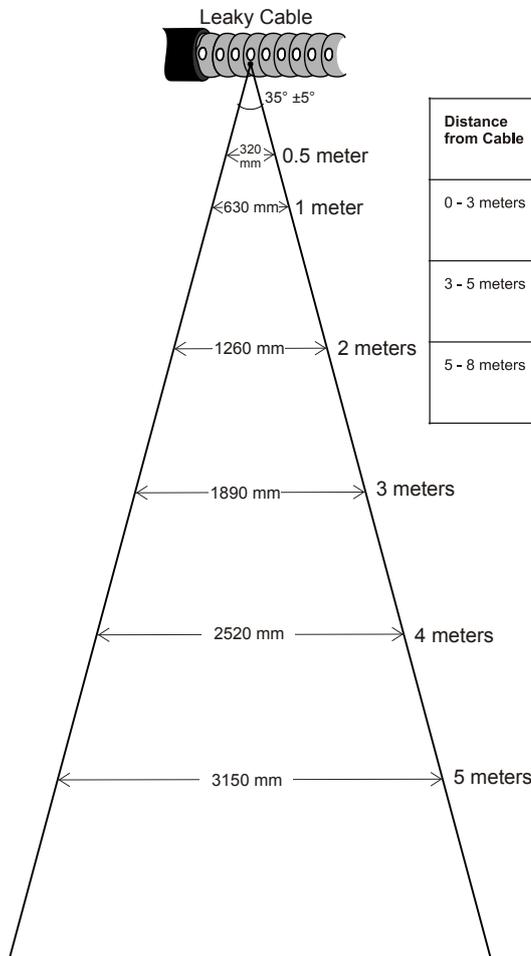
The IP DECT Base Station for Leaky Cable controls the traffic channels in the air and works as the link between the handset and the IP DECT Server 6000. A 100-meter long leaky or radiating cable is connected to the antenna port (SMA female connector) on a specially modified base station. The radio signals can then be sent through the cable which then radiates the signals. The size of the coverage area depends on site specifics such as building materials. Before installation, each site needs to be assessed to determine the number of base stations required to attain the desired coverage.

This type of leaky cable and base station solution is ideal for deployment in the Below Main Deck areas such as:

- lower pump room, storage rooms between the fore and aft engine rooms, rooms enclosing the moon pool, and steel corridors and narrow spaces
- a series of rooms with water-tight doors
- rooms having little or no equipment in them, i.e. rooms with reflective surfaces

## 1.1 Coverage Area of the Leaky Cable

As shown below, radiation from the exposed outer conductor of the leaky cable covers a fan-shaped beam area. The closer the handset is to the cable, the stronger the signal strength and the narrower the coverage area. On the other hand, the further the handset is from the cable, the weaker the signal strength and the wider the coverage area. Hence when installing and mounting the cable, one should attempt to find a practical balance between signal strength and coverage width.



Distance from Cable	Coverage Width	Signal Strength	Available Functions
0 - 3 meters	0 - 1890 mm	good	- Calls & Alarms - Good voice quality
3 - 5 meters	1890 - 3150 mm	limited	- Calls & Alarms - Voice quality may deteriorate
5 - 8 meters	> 3150 mm	intermittent	- Caller ID & Alarms - Not suitable for voice

*NB: Reflections are not taken into consideration*



## 2 Connecting the Cable to the Base Station

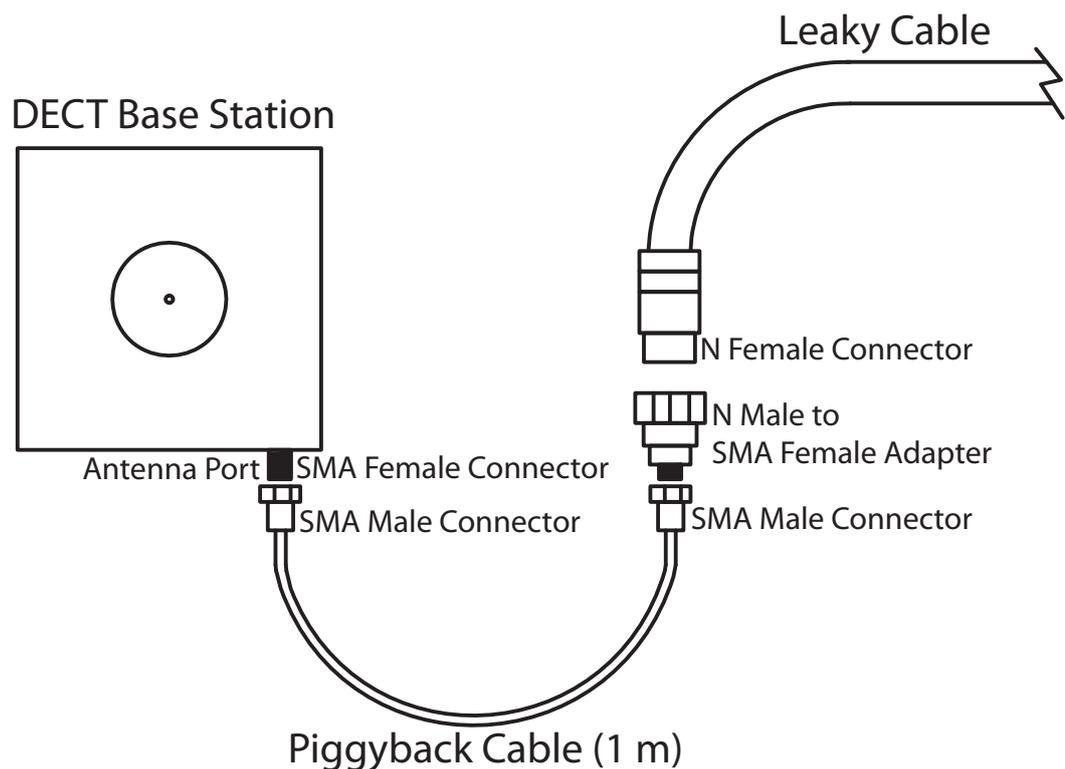
The components required for connecting up the leaky cable with the base station are:

- DECT Base Station
- 100-meter Leaky Cable
- 1-meter Piggyback Cable
- N male to SMA female adapter

Before you connect the various components, check that the resistance between the center core and the shield of the leaky cable is approximately 50 ohms.

The connection procedure is as follows:

1. Connect the SMA male connector of the piggyback cable to the antenna port (SMA female connector) on the base station.
2. Connect the other end of the piggyback cable to an adapter (N male to SMA female).
3. Connect the adapter to the N female connector of the leaky cable.

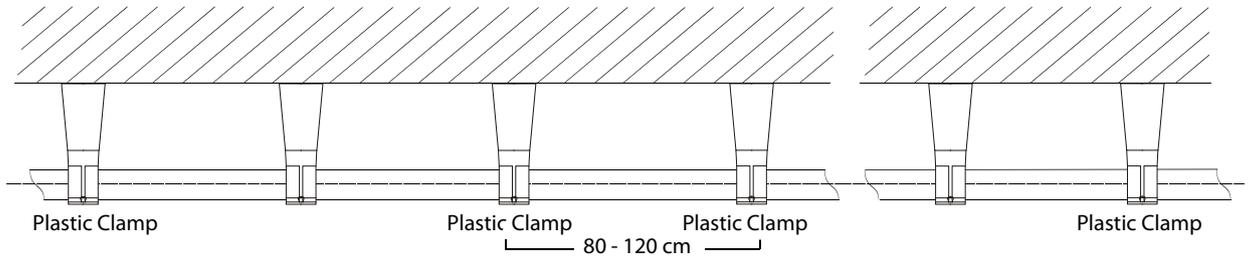


# 3 Mounting the Clamps for the Leaky Cable

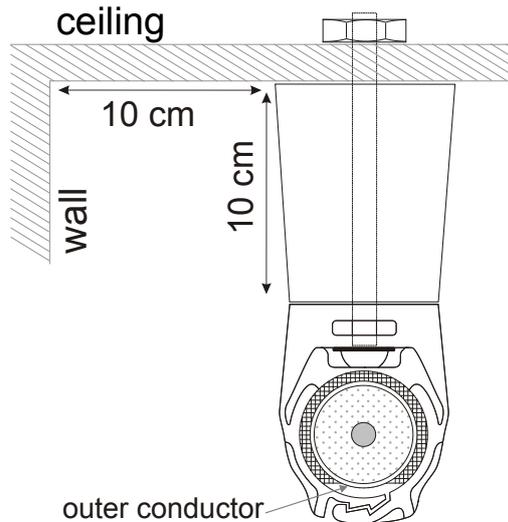
## 3.1 Mounting the Clamps

The clamps for the Leaky Cable shall be mounted as shown in the figure below.

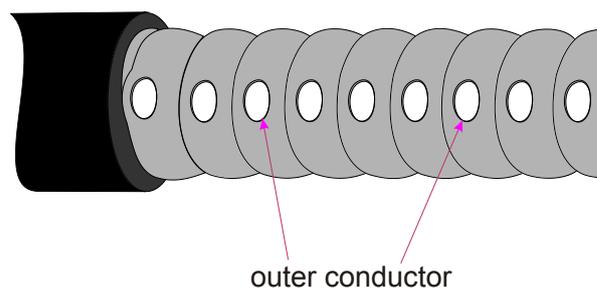
① **Only plastic clamps or brackets should be used.**



- The plastic clamps should be mounted about 80 to 120 cm apart.
- The cable should be mounted at a distance approximately 10 cm from the wall and from the ceiling.



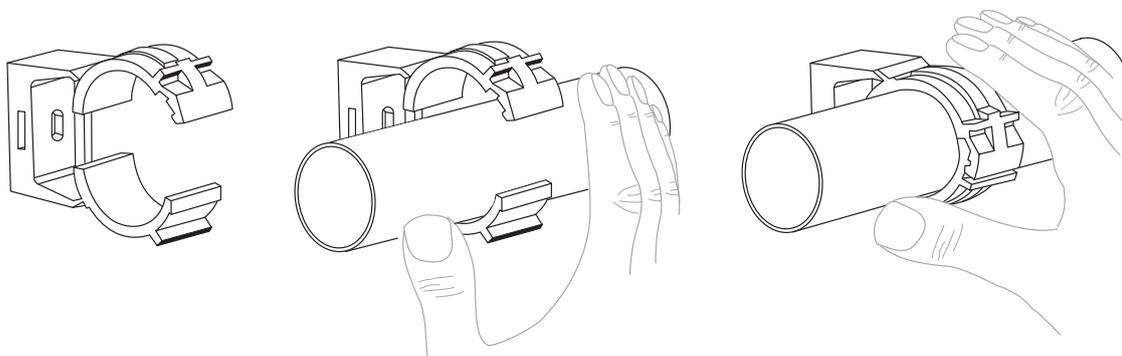
① **Make sure that the side of the cable where the corrugated outer conductor is exposed faces away from the wall or ceiling so as to radiate optimally.**



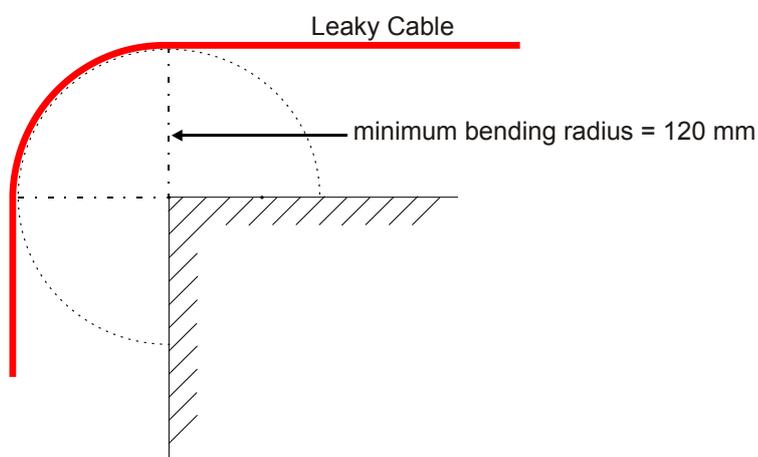
## 3.2 Mounting the Cable in the Plastic Clamp

To mount the cable in the clamp:

1. Push the cable into the open clamp
2. Grip and lock the clamp by applying slight hand pressure



- ⓘ **The cable must not be bent to a radius that is less than 120 mm (minimum radius). Not complying with this recommendation may cause breakage in the cable insulation.**



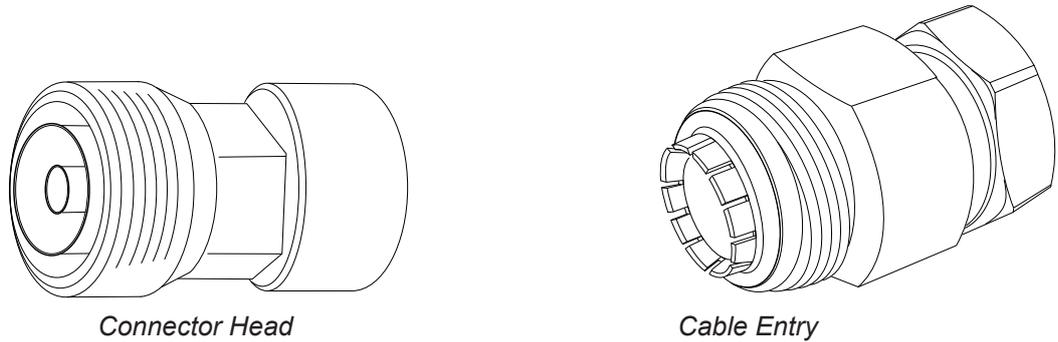
When all clamps are mounted, the cable can be placed in the clamps.

- ⓘ **Avoid stretching the cable or letting it sag between the clamps.**

# A Mounting the Cable Connector

The leaky cable is delivered with the connectors ready mounted so the information in this section is relevant only in the event where there is a need to mount them.

The cable connector comprises 2 parts: connector head and cable entry.

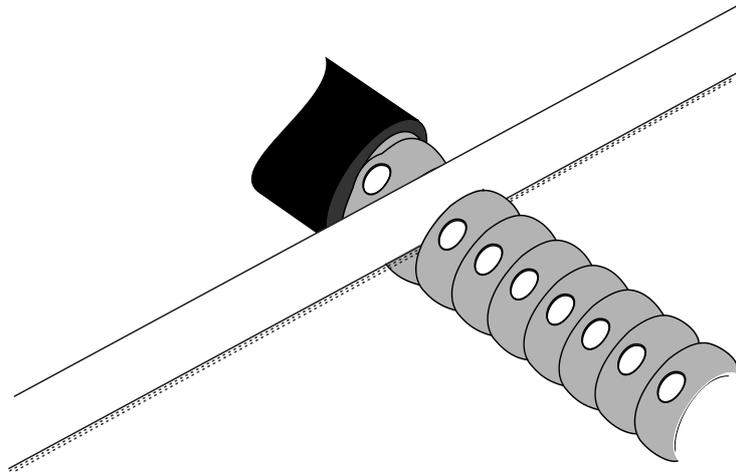


There are two ways of stripping the cable:

- using a stripping tool
- using a knife

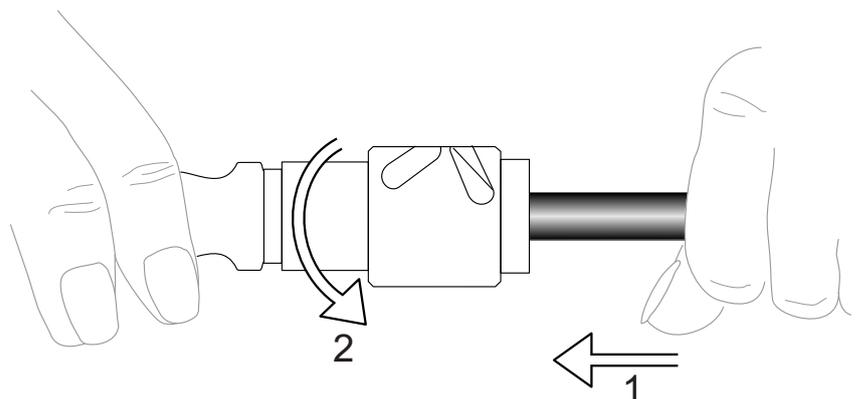
## A.1 Stripping the Cable with a Stripping Tool

3. Using a metal saw, cut the cable off square (perpendicular to the cable axis) in the trough of the corrugation.

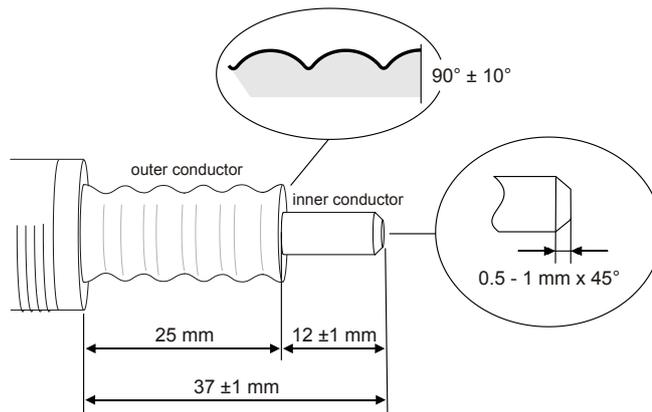


4. Strip the cable by using the stripping tool as shown.

① Use the stripping tool according to the manufacturer's instructions.



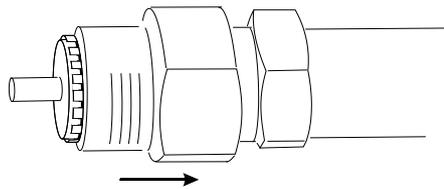
- When stripping the cable, be sure to cut the outer conductor at the crest of the corrugation as shown in the figure.



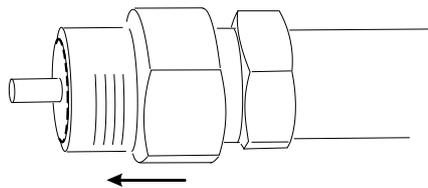
① **The inner conductor must be chamfered as shown.**

## A.2 Mounting the Connector

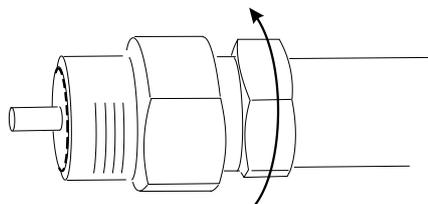
- Pull the cable entry over the cable until it locates in the first corrugation trough.



- Push the cable entry forward as far as the stop.

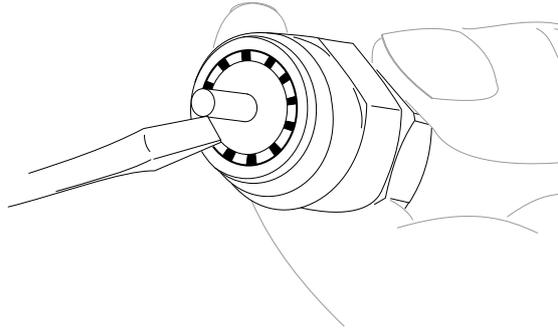


- Tighten the back nut of the cable entry by hand.

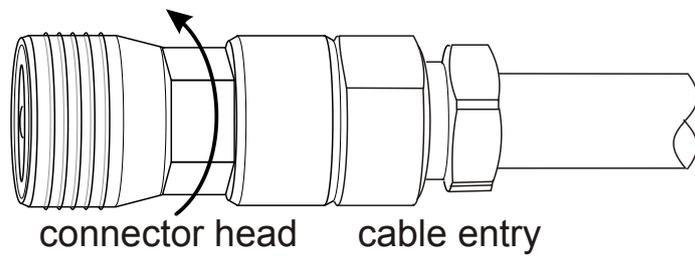


- Clean the inner conductor carefully with abrasive paper.

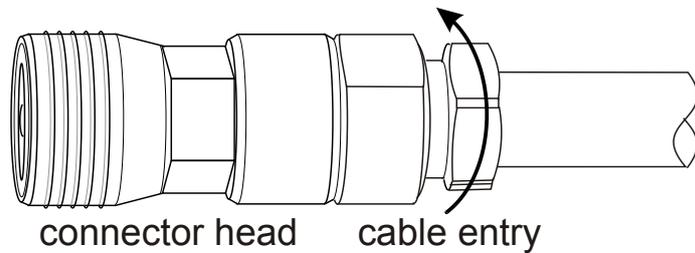
5. Use a flat screwdriver to separate the outer conductor and the dielectric. Keep the outer conductor as round and smooth as possible.



6. Attach the connector head to the cable entry and tighten by applying a torque of approximately 30Nm (22 ft-lb) with a wrench. Be careful to only rotate the connector head.

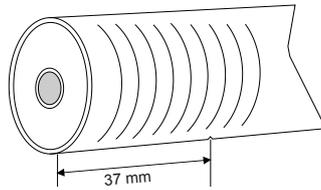


7. Use a wrench to tighten the back nut of the cable entry by applying a torque of approximately 10 Nm to 12 Nm (7 to 8.5 ft-lb).

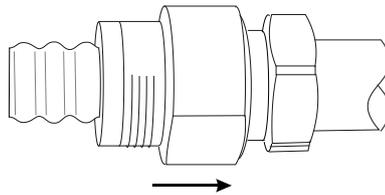


### A.3 Stripping the Cable with a Knife

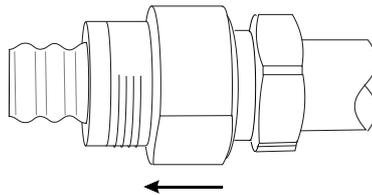
1. Cut back the cable jacket by 37 mm (1.45 inches).



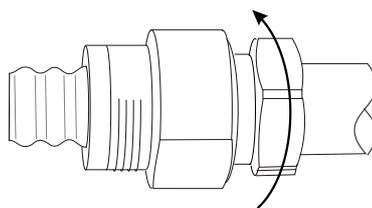
2. Pull the cable entry over the cable until it locates in the third corrugation trough.



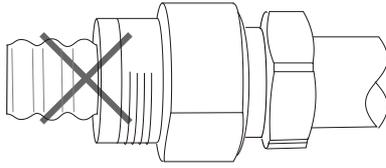
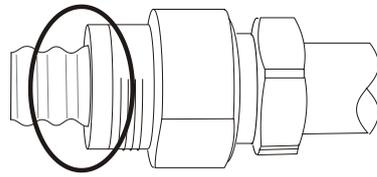
3. Push the cable entry forward as far as the stop.



4. Tighten the back nut of the cable entry by hand.

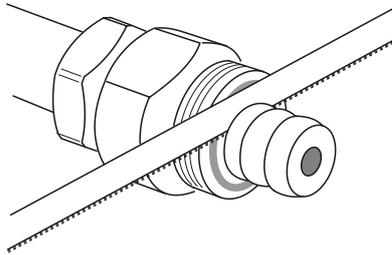


5. Verify that the cable entry is in the correct position. If necessary, pull it forward as far as the stop.

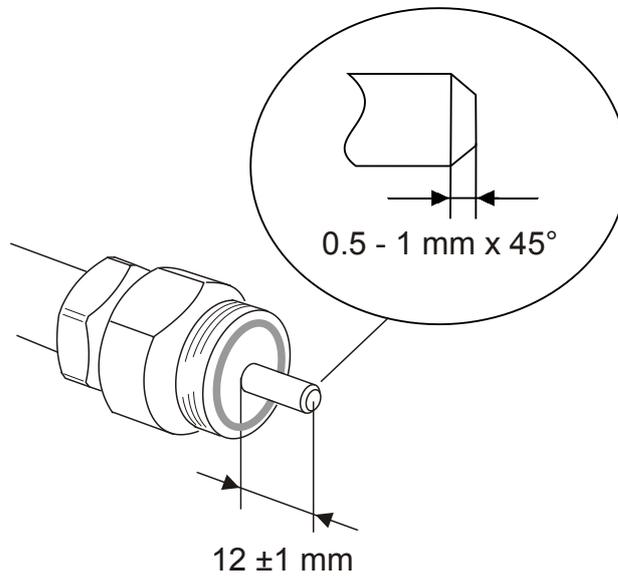


6. Saw off the outer conductor along the cable entry.

① **Be careful not to damage the inner conductor.**



7. Chamfer the inner conductor according to the figure below.



8. Check that the length of the inner conductor is 12 mm ± 1 mm.

Proceed further from step 4 in the previous section on *Mounting the Connector*.

