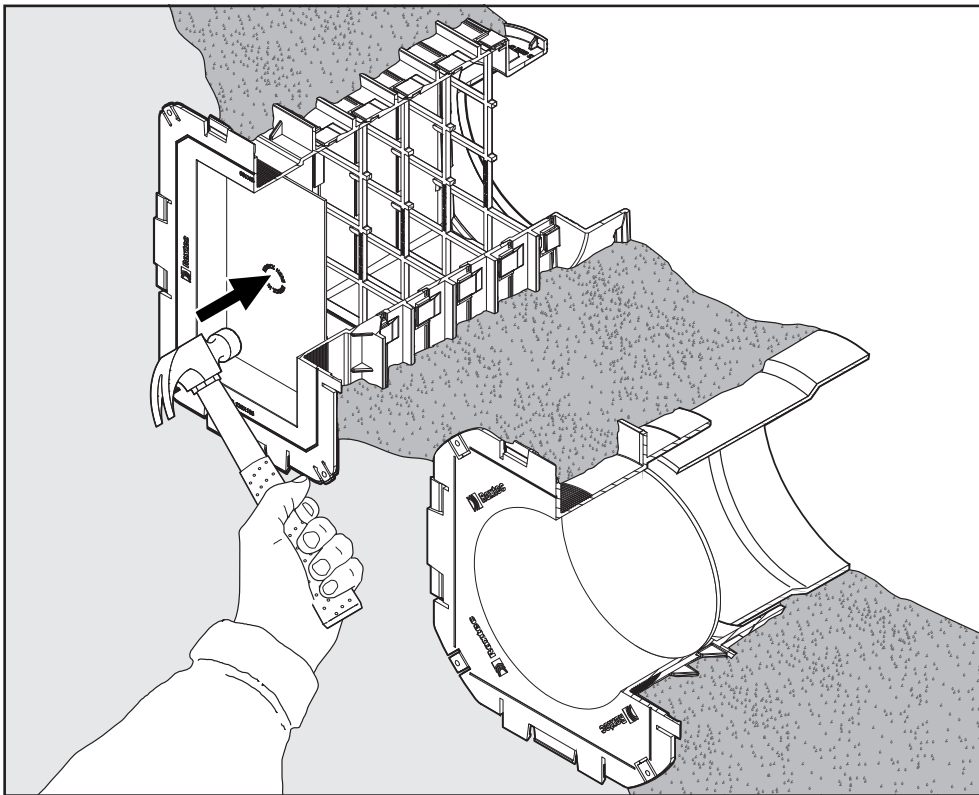


Description and application guidelines

Roxtec casting guidelines – Knock-out sleeves and frames



Prepared for: Roxtec International AB

Date: 2026-01-22

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Abstract

These guidelines are a help for the construction workers casting Roxtec frames in concrete. The contents are not in detail covering aspects like concrete mix or how rebar structures are built as national codes apply on specific markets.

The rebar structure should be constructed in accordance with national codes and laws. If the rebar needs to be placed close to the frames and sleeves it is important to allow the concrete to fill any potential voids. This often requires space for a vibrator or other compaction equipment.

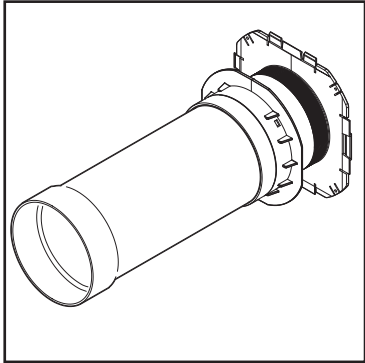
For product descriptions and auxiliary information, see roxtec.com.

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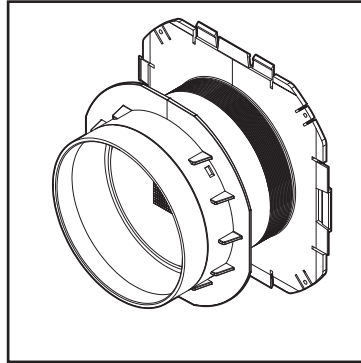
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1 Roxtec knock-out sleeves and frames

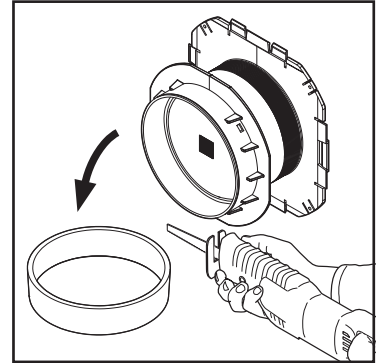
It is possible to cut or extend the sleeve or frame to make it fit any wall depth by using standard pipes or adapters for cable protection.



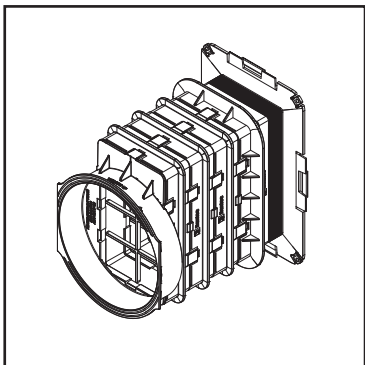
Extended distance between shutters.



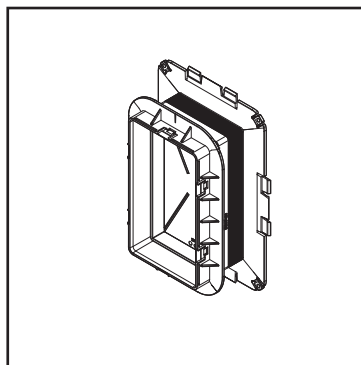
Standard distance between shutters
100 or 150 mm.



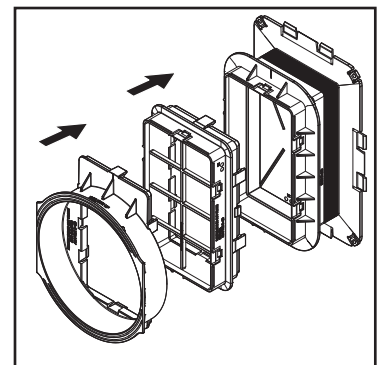
Shorter distance between shutters
than standard.



Extended distance between shutters.



Standard distance between shutters
100 mm.

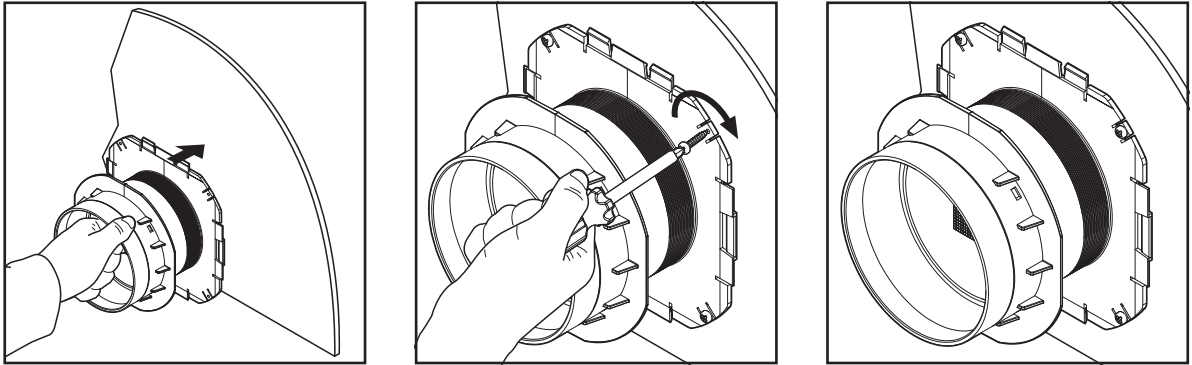


Knock-out frame with adapters.

2 Attach the sleeve/frame to the shutters

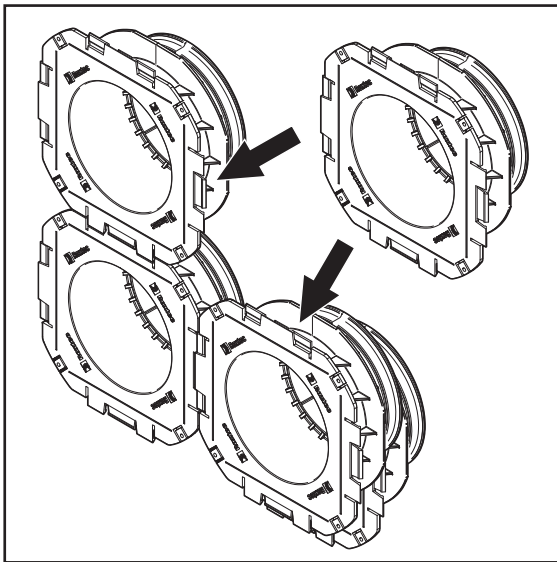
The sealing side of the sleeve or frame is attached to the shutters with suitable fasteners, such as screws, glue or magnets. This creates a pressing force towards the shutter, making the inside of the sleeve/frame sealed from concrete. The use of a lid (accessory), will prevent penetration of concrete.

Note: the knock-out sleeve/frame can be located on either the inside or outside facing wall depending on your preference.

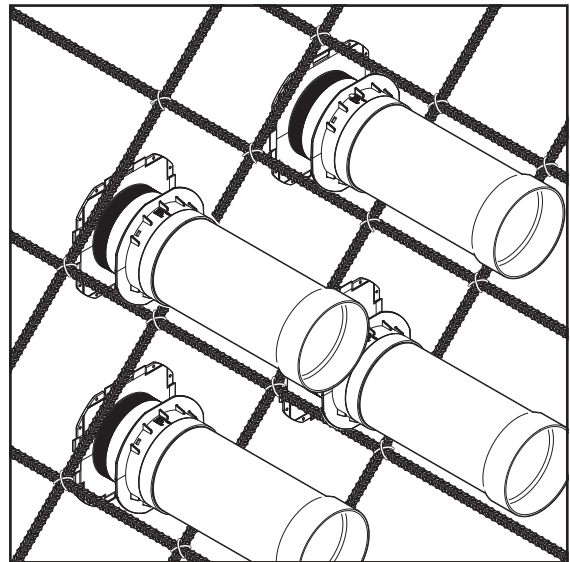


Sleeve attached by screws.

When multiple sleeves or frames are attached, it is important to create space between them to allow for mounting of rebar structures. Consider national codes and regulations for spacing.



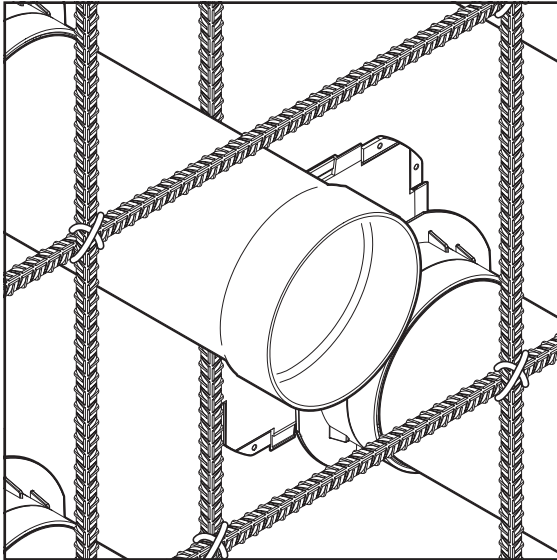
Knock-out sleeve installed in a 2x2 formation.



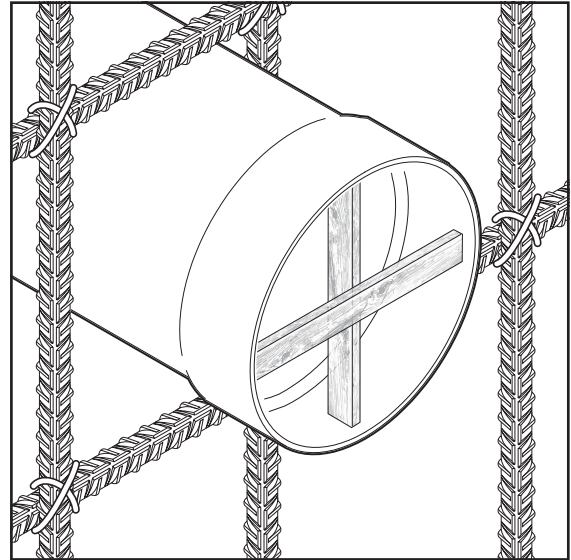
Knock-out sleeve with extensions installed in a 2x2 formation, separated by rebars.

3 Rebar and support

The rebar structure shall be designed in accordance with national codes and laws. If the rebar needs to be placed close to the sleeves, it is important to allow the concrete to fill potential voids. This often requires space for a vibrator or other compaction equipment. If there is a lot of force on the cable protection pipe during the casting process, it might need support to avoid geometrical deformation at the end.



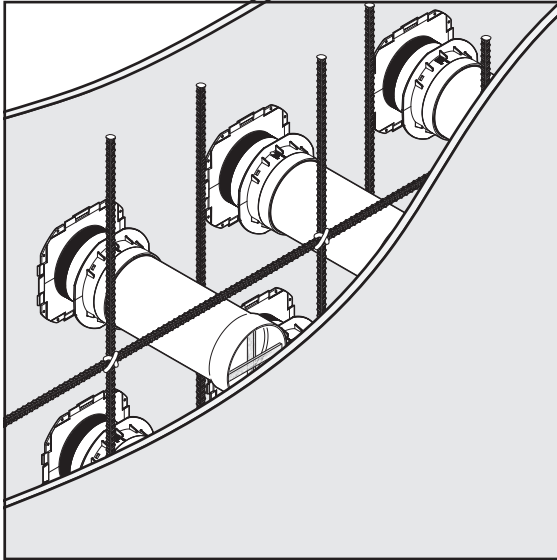
Knock-out sleeve with extension pipe.



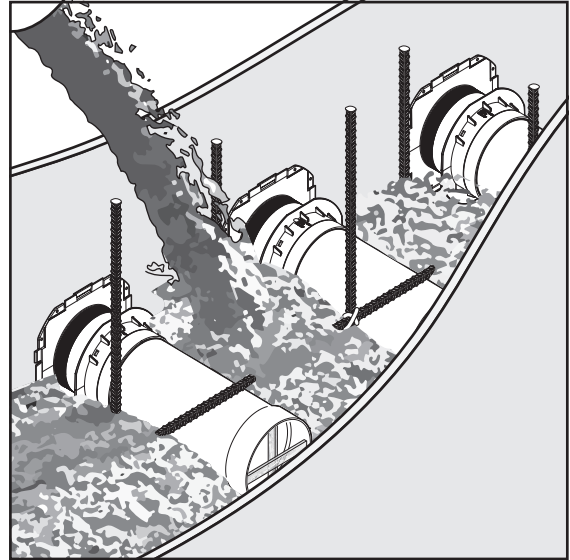
Extension pipes with supports.

4 Casting and consolidation

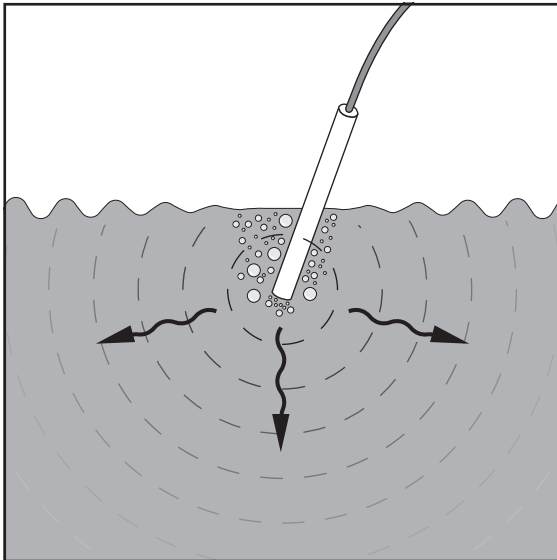
Apply the second shutter to seal the wall before pouring watertight concrete. Avoid pouring large masses of concrete directly onto the sleeves/frames, especially from heights. The w/c ratio must be well balanced to allow the concrete to fill any voids around the sleeve/frame but still remain watertight. A suitable grade of aggregate that is well consolidated also contributes to obtain watertight penetrations. During the consolidating phase it is important not to damage the sleeve or cable protection pipes.



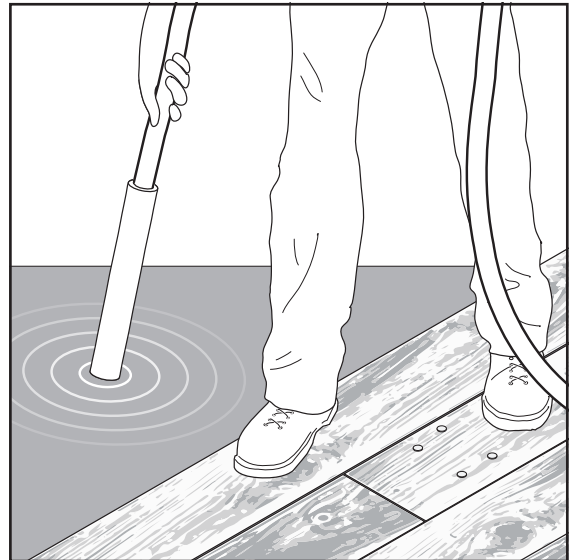
Applying second shutter.



Pouring watertight concrete.

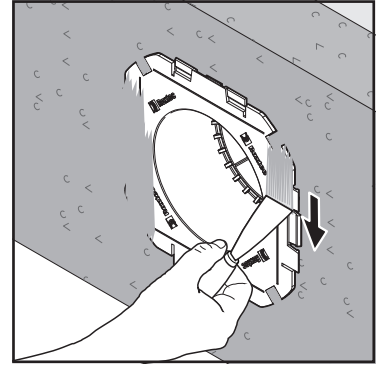
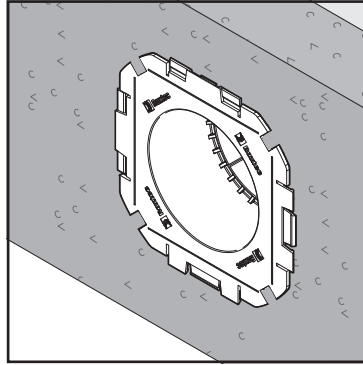
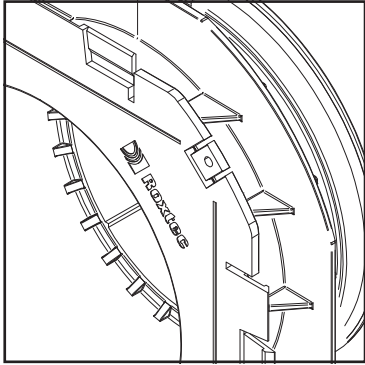


Schematic view of vibration from consolidation.

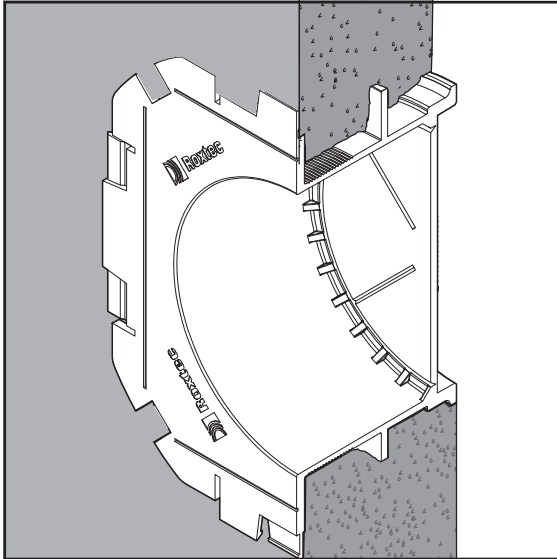


5 Finish

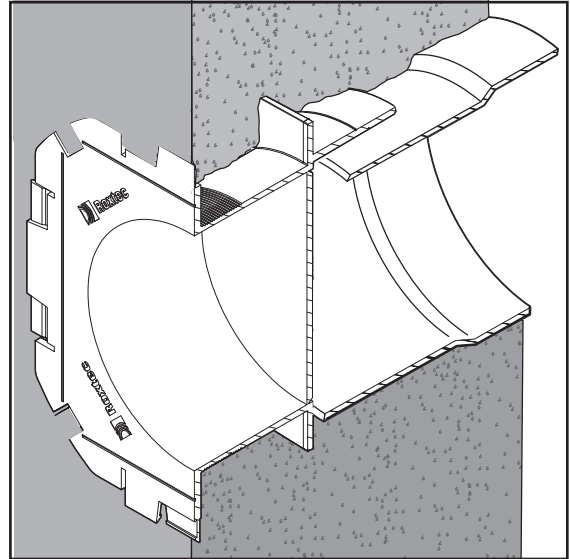
When the shutters are removed, the holder on the sleeve/frame will be broken and stay attached to the shutter. For visual finish, the feet can be covered with suitable cement screed.



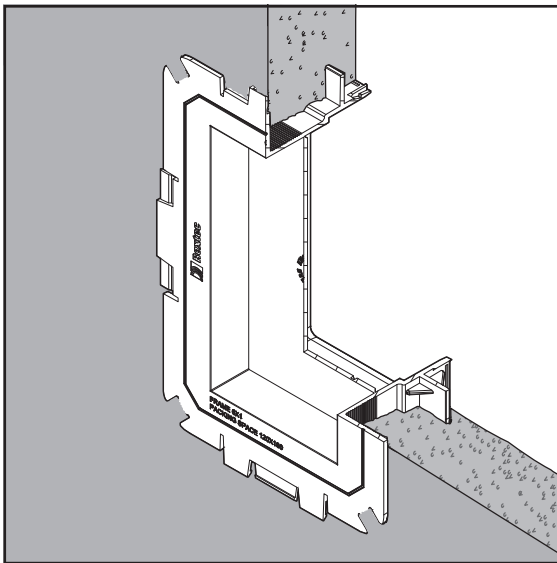
Depending on wall thickness, cable protection pipes can be attached either directly to the sleeve or to the extension pipe used for elongation through the wall.



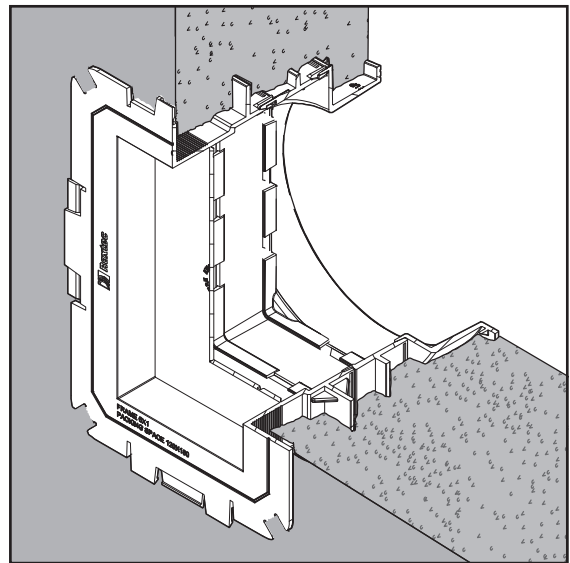
Knock-out sleeve.



Knock-out sleeve with extension.



Knock-out frame.



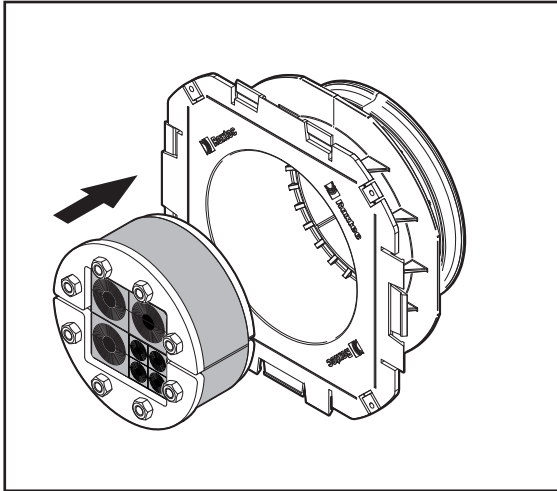
Knock-out frame with adapter.

6 Installation of sealing components

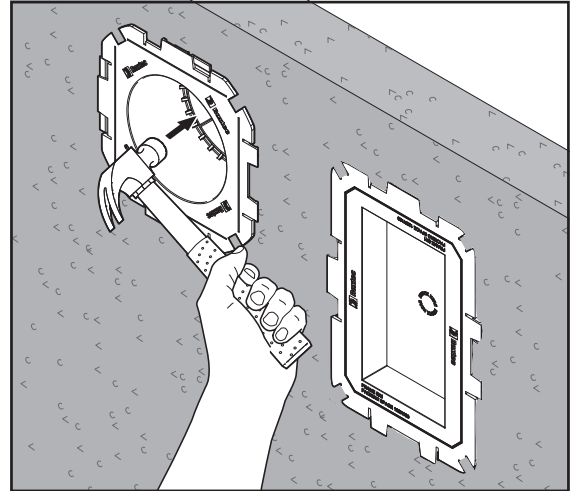
When it is time to install the seals, the knock-out plate is removed by the use of a hammer. Make sure the sealing surfaces are clean and that the installation instructions of the seal are followed.

To simplify the installation of sealing components, consider the following steps:

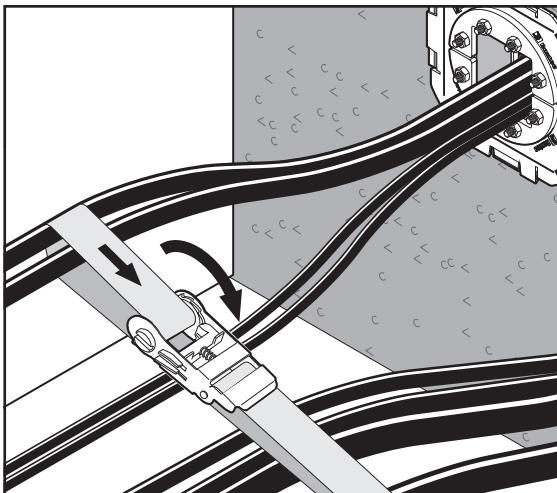
- Avoid filling the trench before installation to allow movement of cables.
- Elevate cables to the center of the sleeve to simplify insertion of the seal and modules.
- Elevate the cables considering the packing plan for the frame.



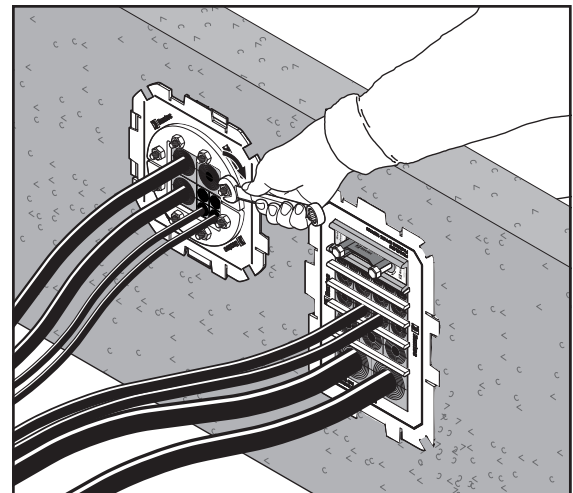
Position of seal in knock-out sleeve.



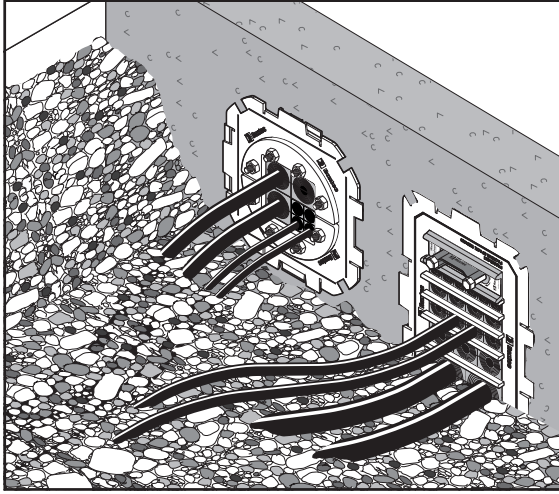
Remove the knock-out plate and any reinforcement structure according to the installation instructions for the product.



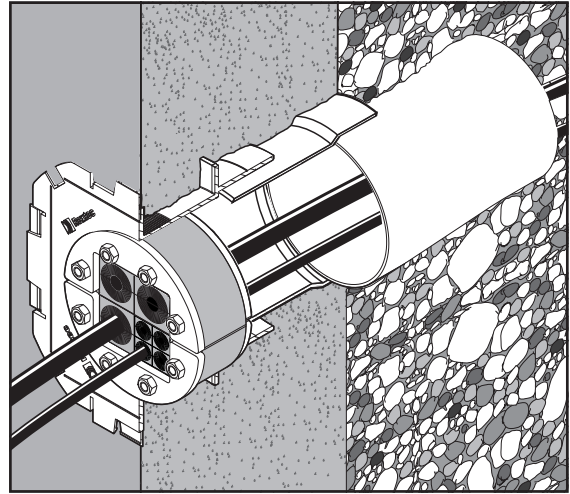
Cables moved in position.



Fully install the transits before filling the trench.



Fill the cable trench.



Knock-out sleeve and seal mounted from the inside of the structure.

Disclaimer

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