

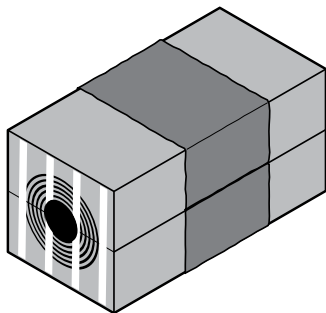
Safety information

Roxtec recommends that all installations are performed without facility operation. Follow national regulations and installation codes. Any action affecting the routed service should be performed according to manufacturer recommendations.

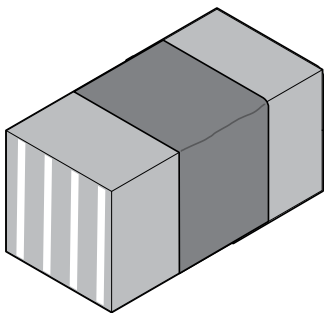


Installation instructions  
Roxtec RM ES systems

Components



Roxtec RM ES module



Roxtec RM ES solid module



Roxtec Lubricant

Roxtec RM ES modules

measures in millimeters (mm)

Module size	For cable outer diameter min-max
RM 15 ES	3-11
RM 15w40 ES	3.5-10.5
RM 20 ES	4-14.5
RM 20w40 ES	3.5-16.5
RM 30 ES	10-25
RM 30H90 ES	10-25
RM 40 10-32 ES	9.5-32.5
RM 40 ES	21.5-34.5
RM 40H80 ES	21.5-34.5
RM 60 24-54 ES	24-54
RM 60 ES	28-54
RM 80 ES	48-71
RM 90 ES	48-71
RM 120 ES	67.5-99

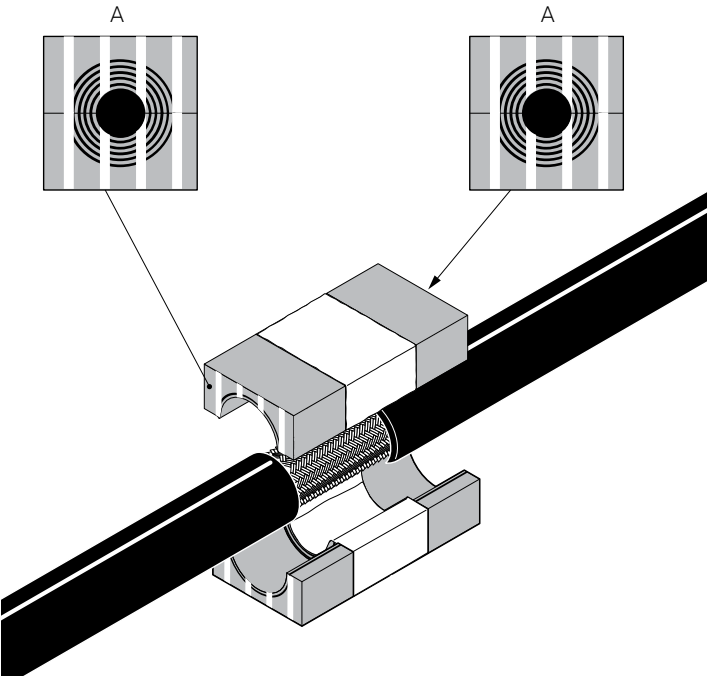
Note:

The range of the modules indicates the smallest diameter of the exposed cable shield to the largest diameter of the cable jacket. Modules with core can be used as spare parts.

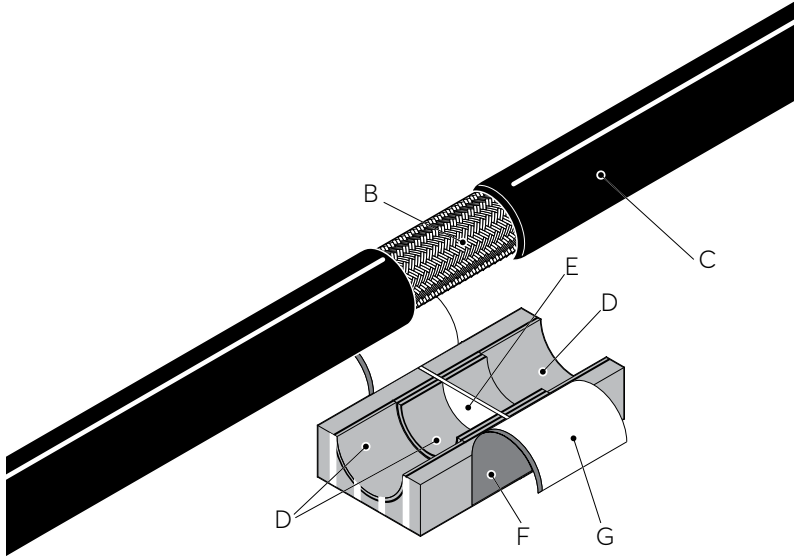
Roxtec RM ES solid modules

Module size
RM 10/0 ES
RM 15/0 ES
RM 20/0 ES
RM 30/0 ES
RM 40/0 ES
RM 60/0 ES
RM 30H90/0 ES
RM 40H80/0 ES
RM 10w120/0 ES
RM 5w120/0 ES

Roxtec RM ES module



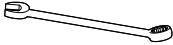
A: Environmental side  
B: Cable shield  
C: Cable jacket



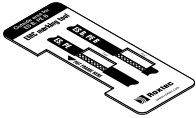
D: Removable layers  
E: ES shield  
F: Plastic film  
G: Conductive tape

Recommended tools

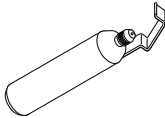
(not included)



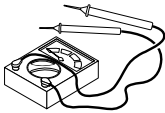
13 mm spanner



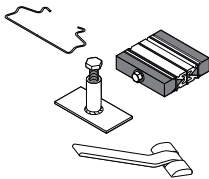
EMC marking tool



Cable stripper tool.  
Recommended by the cable  
manufacturer

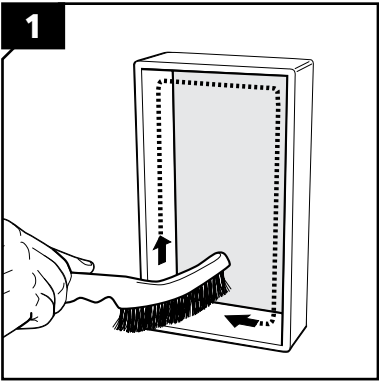


Continuity tester

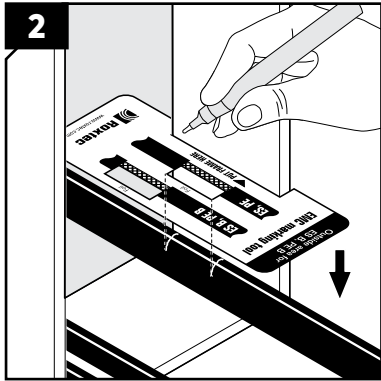


Roxtec  
installation tools

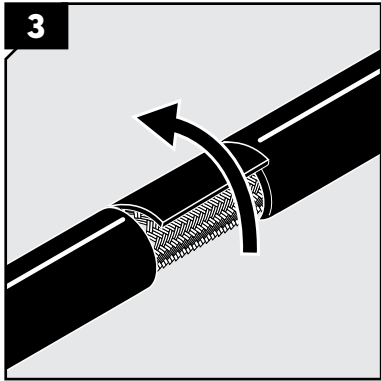
# Installation



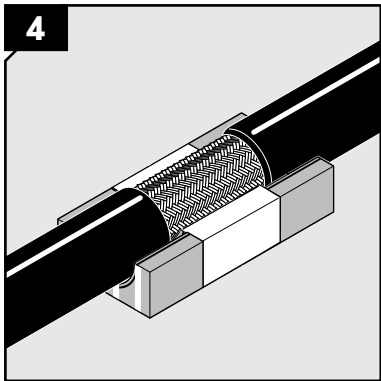
All EMC frames must be clean and have continuous electrical contact with the structure. Conductive gaskets are available.



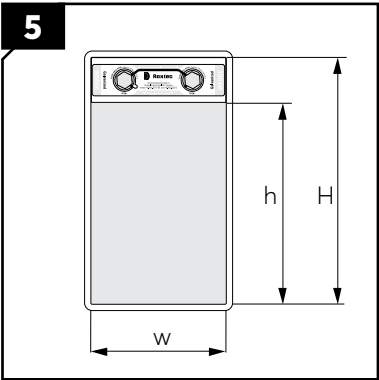
Hold the cable in its final position and mark where the cable jacket is to be removed using the guide.



Remove the outer jacket and any plastic foil. The cable shield shall be clean and conductive.



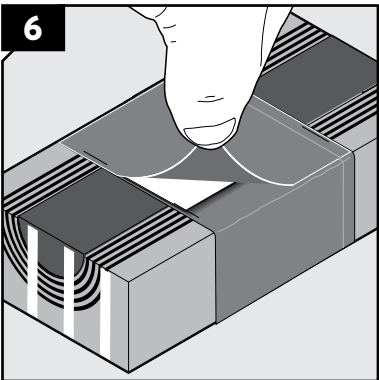
Correct placement of a cable in a RM ES module.



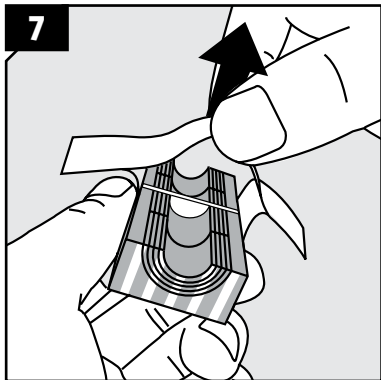
Measure your frame height (H) and check the corresponding packing height (h) in the table. Consider your packing height when inserting the modules.

## Packing space

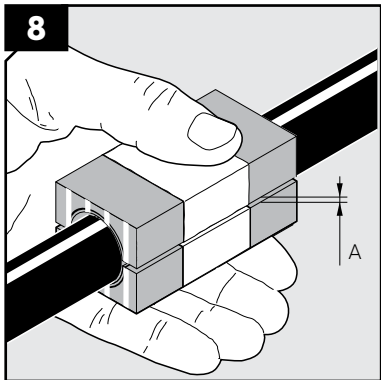
Frame size	Frame height (H)	Frame width (w)	Packing height (h)
1	101	60	60
2	101	120	60
3	160	60	120
4	160	120	120
5	218	60	180
6	218	120	180
7	278	60	240
8	278	120	240



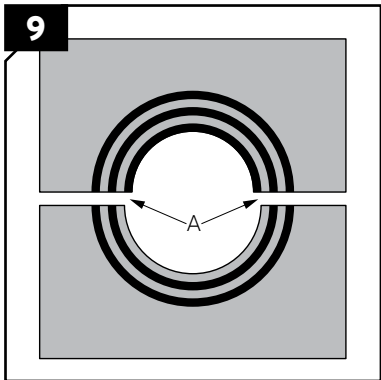
Lift the conductive tape.



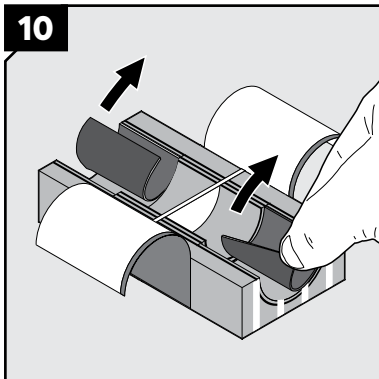
Remove the protection paper from all modules and fold out the conductive tape.



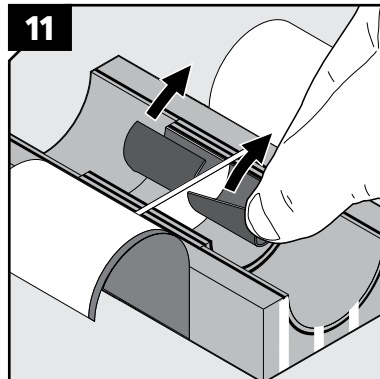
Achieve a gap of 0.1-1.0 mm (A) between the module halves by peeling off layers. The cable shield shall be in contact with the conductive tape.



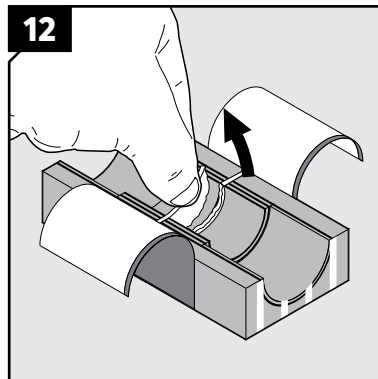
The number of layers between the corresponding module halves may not differ (A) by more than one layer.



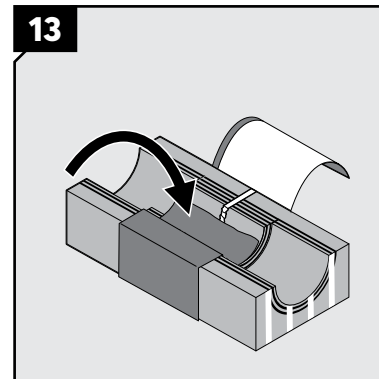
Adapt the layers that are in contact with the cable jacket.



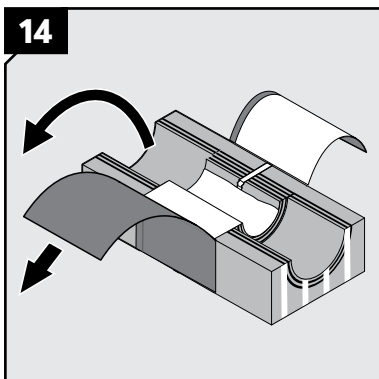
Adapt the layers that are in contact with the cable shield.



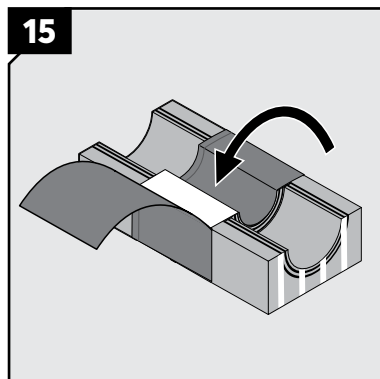
Adapt the vertical ES shield to the cable shield.



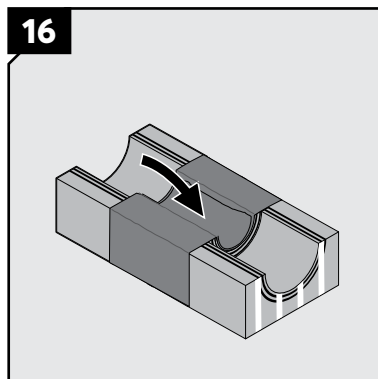
Fold the conductive tape tightly inside the module half from one side.



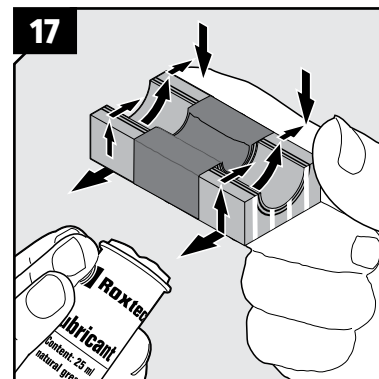
Separate the plastic film from the conductive tape and fold it to the side.



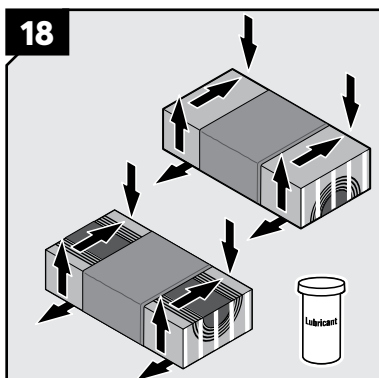
Fold the conductive tape on the other side tightly inside the module half.



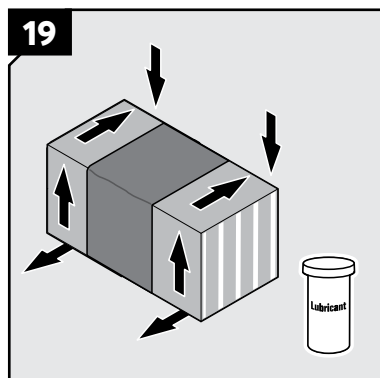
Fold the plastic film back inside the module half.



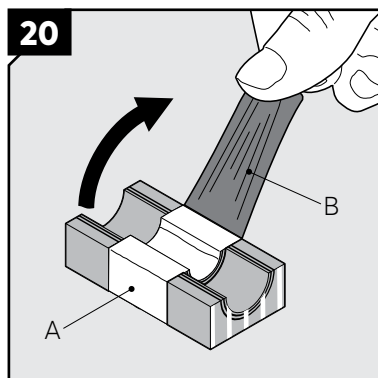
Lubricate the sealing surfaces of all modules. Do not lubricate the plastic film.



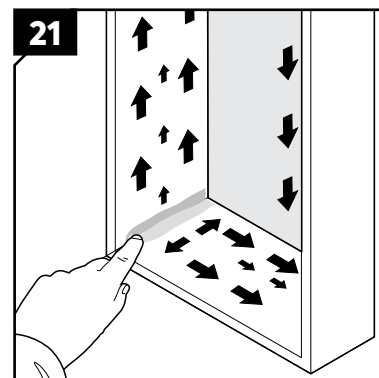
Lubricate the sealing surfaces of the spare modules. Do not remove the core.



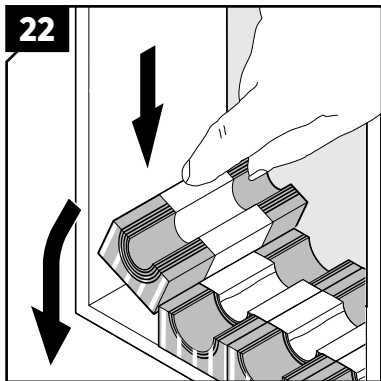
Lubricate the sealing surfaces of the solid modules.



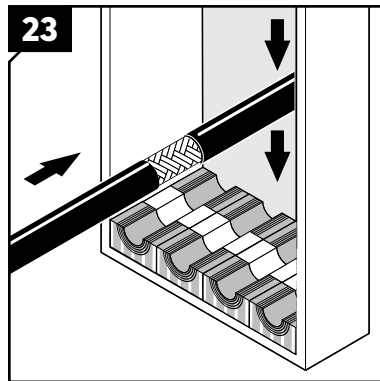
Remove the plastic film (B) on all modules. Keep the conductive tape (A) clean.



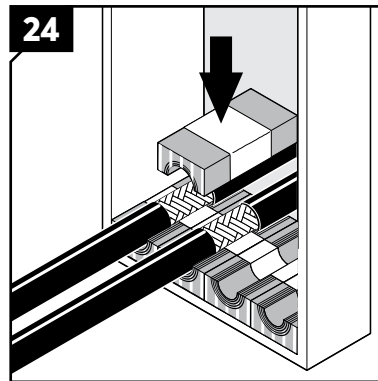
Lubricate the inside surfaces of the frame and especially its corners. Lubricate the area that will be in contact with the tape sparsely.



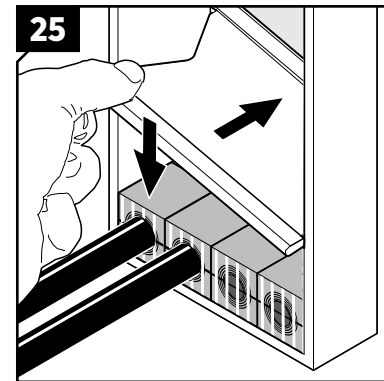
Place modules, according to your packing plan.



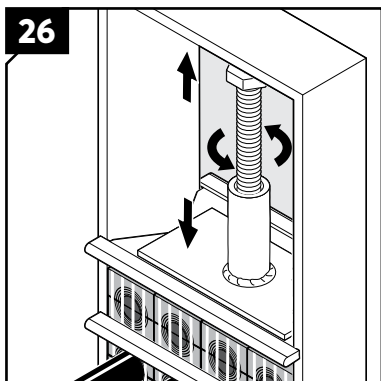
Place cables in the module halves.



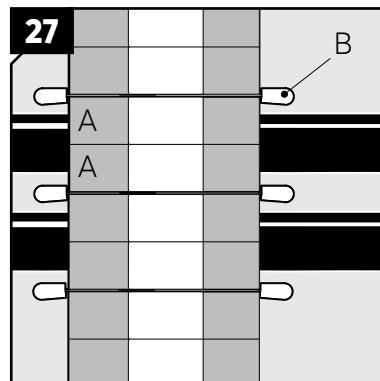
Place corresponding module half on top.



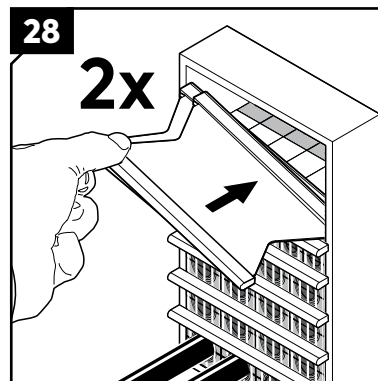
Insert a stayplate on top of every finished row of modules. The stayplate shall be clean and conductive.



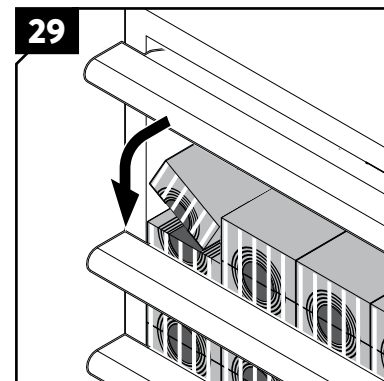
To simplify installation, the use of a pre-compression tool on every second module row is recommended.



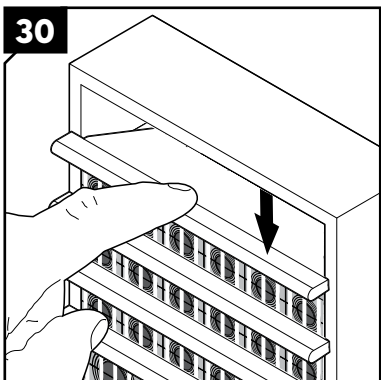
Ensure that the modules (A) are secured within the stayplate (B) edges.



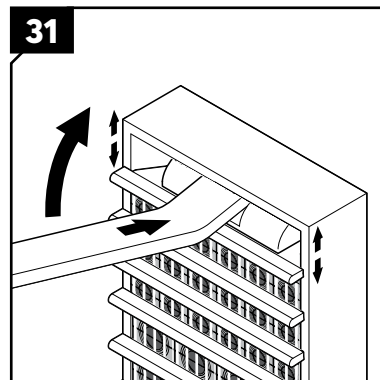
Before inserting the final row of modules, insert two stayplates.



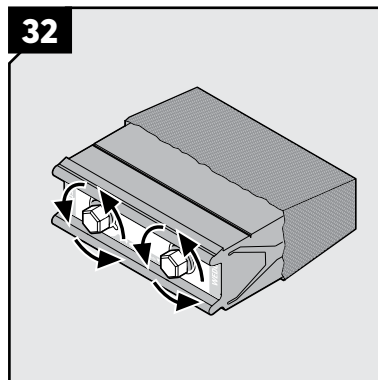
Separate the two stayplates and insert the final row of modules between the stayplates.



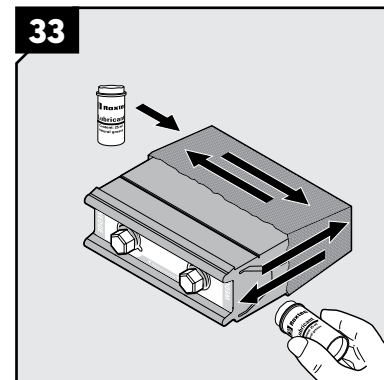
Place the upper stayplate on top of the modules.



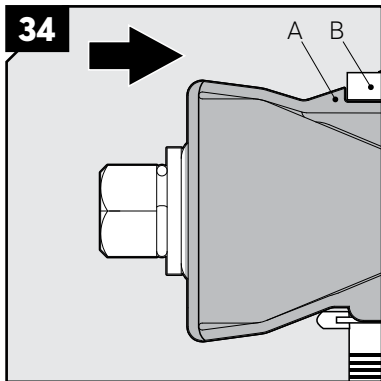
Use a Roxtec pre-compression tool to make space for the compression unit if required.



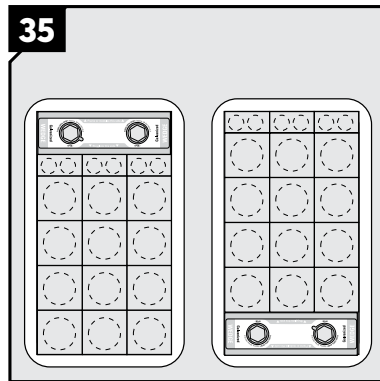
Turn the screws of the ES wedge counter-clockwise to full stop before inserting it.



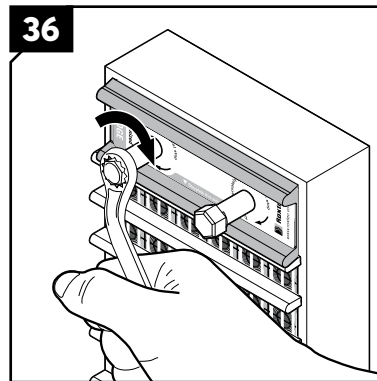
Lubricate both short sides of the ES wedge and all sides of the net.



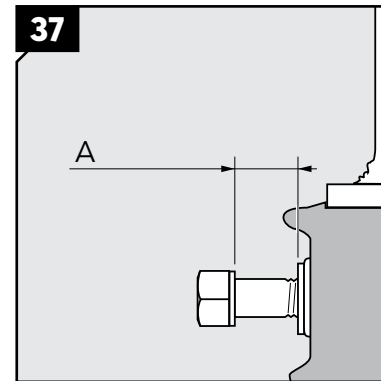
Insert the ES wedge so the stop flange (A) makes contact with the frame (B).



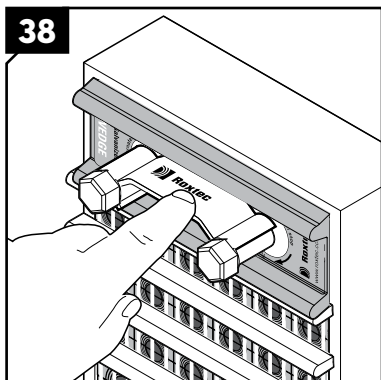
Optional wedge positions.



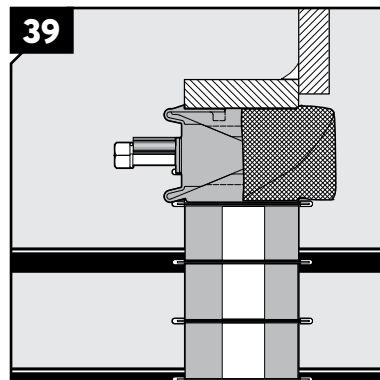
Tighten the screws alternately until full mechanical stop, approx. 20 full revolutions per screw. Do not exceed 20 Nm.



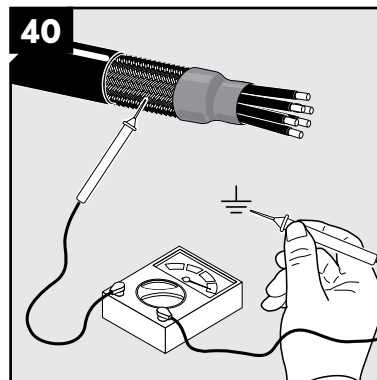
25 mm (A) of the screws shall be exposed.



Attach the wedge clip to the ES wedge screws to complete the installation.

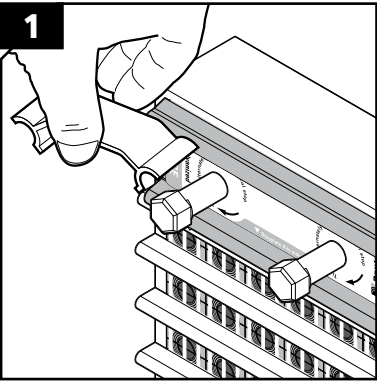


Completed installation.

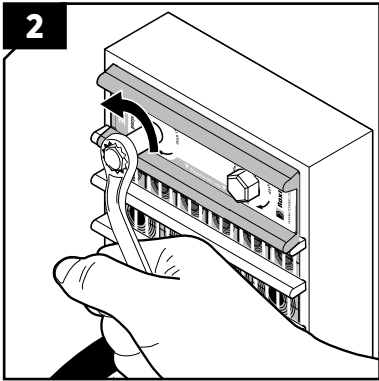


Optional: Verify earth continuity from each cable shield to earth. Use a suitable instrument.

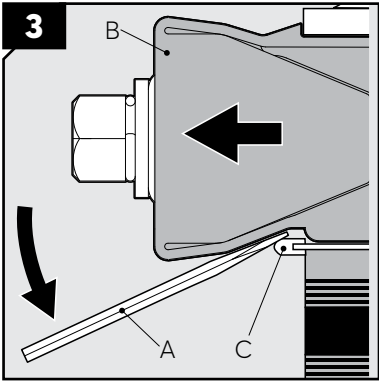
Disassembly and reinstallation



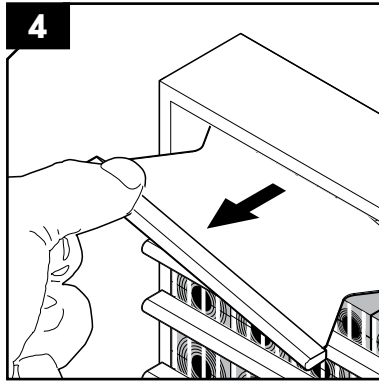
Remove the wedge clip from the ES wedge.



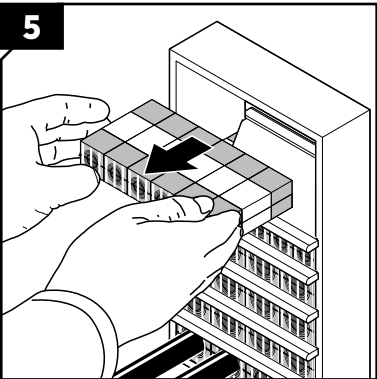
Loosen the screws alternately to full stop. Do not exceed 20 Nm.



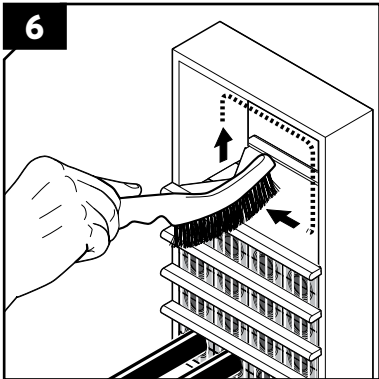
Insert a flat tool (A) between the ES wedge (B) and the stayplate (C) to simplify removal of the wedge. Rextec tools are available.



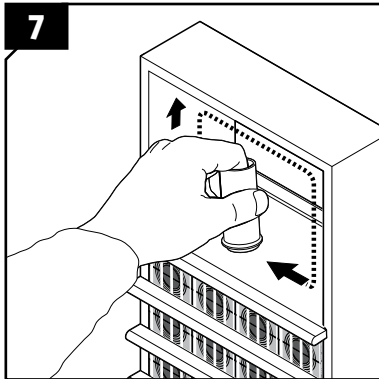
Remove modules and stayplates.



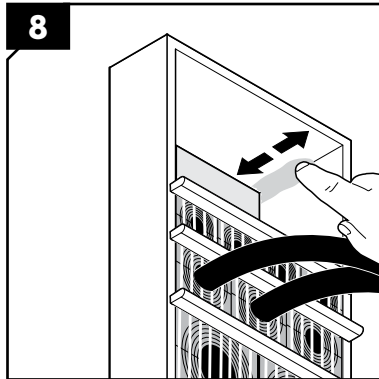
Note: Keep the rows sorted until it is time to reinstall the transit. If a module is damaged or replaced, all modules in that row must be replaced.



The inside surfaces of the exposed packing space shall be clean and conductive.



Lubricate the inside surfaces.



Lubricate all corners carefully. Continue the reinstallation.

## Note

- Integrated environmental sealing system for shielded applications. For use with shielded/armored cables.
- For optimum reliability, wait 24 hours or longer after installation before exposing the cables or pipes to strain or pressure.
- Corrosion preventing primer must be removed to achieve electrical conductivity, where applicable.
- Protection paper and plastic film must be removed on all modules.
- Cables shall go straight through the frame.
- If the conductive tape is damaged, the module must be replaced.
- Approvals or certificates may include amendments or limitations related to this application.
- The latest version of this and related documents are found at [roxtec.com](http://roxtec.com).

## Disclaimer

"The Roxtec cable entry sealing system ("the Roxtec system") is a modular-based system of sealing products consisting of different components. Each and every one of the components is necessary for the best performance of the Roxtec system. The Roxtec system has been certified to resist a number of different hazards. Any such certification, and the ability of the Roxtec system to resist such hazards, is dependent on all components that are installed as a part of the Roxtec system. Thus, the certification is not valid and does not apply unless all components installed as part of the Roxtec system are manufactured by or under license from Roxtec ("authorized manufacturer"). Roxtec gives no performance guarantee with respect to the Roxtec system, unless (I) all components installed as part of the Roxtec system are manufactured by an authorized manufacturer and (II) the purchaser is in compliance with (a), and (b), below.

(a) During storage, the Roxtec system or part thereof, shall be kept indoors in its original packaging at room temperature.  
(b) Installation shall be carried out in accordance with Roxtec installation instructions in effect from time to time.

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