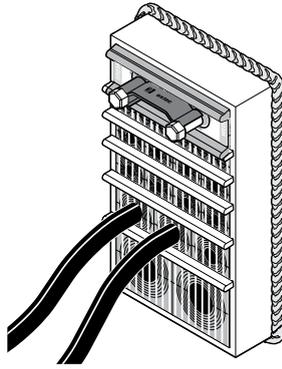


# Installation instructions

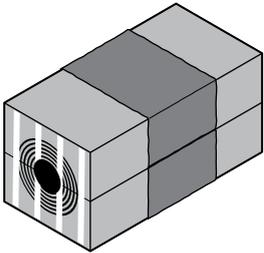
## Roxtec RM ES systems



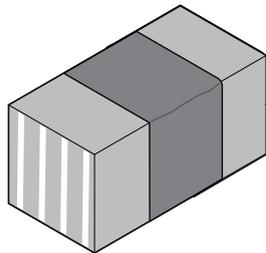
### Safety information

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.

### Components



Roxtec RM ES module

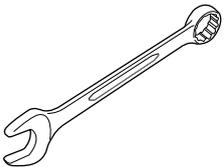


Roxtec RM ES solid module

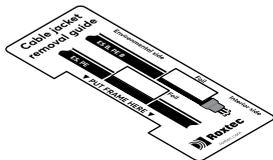


Roxtec Lubricant

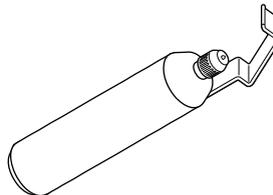
### Tools



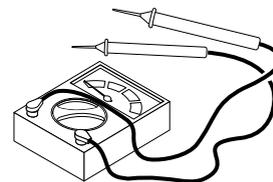
13 mm spanner  
(not included)



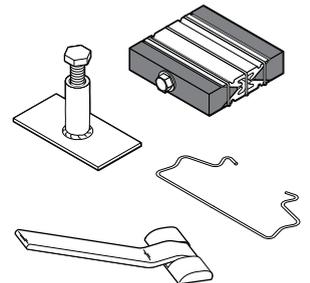
Cable jacket removal guide  
(not included)



Cable stripper tool.  
Recommended by the cable  
manufacturer  
(not included)



Continuity tester  
(not included)



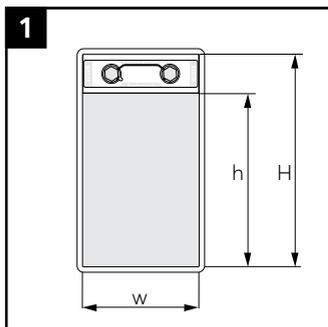
Roxtec tools  
(not included)

## Technical data

Name	For cable/pipe Ø (mm)
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
RM 5w120/0 ES	0
RM 5w40/0 ES	0
RM 10/0 ES	0
RM 10w120/0 ES	0
RM 10w40/0 ES	0
RM 10w60/0 ES	0
RM 15/0 ES	0
RM 20/0 ES	0
RM 30/0 ES	0
RM 30H90/0 ES	0
RM 40H80/0 ES	0
RM 40/0 ES	0
RM 60/0 ES	0

The diameter range of the modules indicates the smallest diameter of the exposed cable shield to the largest diameter of the cable jacket. Modules with core are spare capacity.

## Packing space



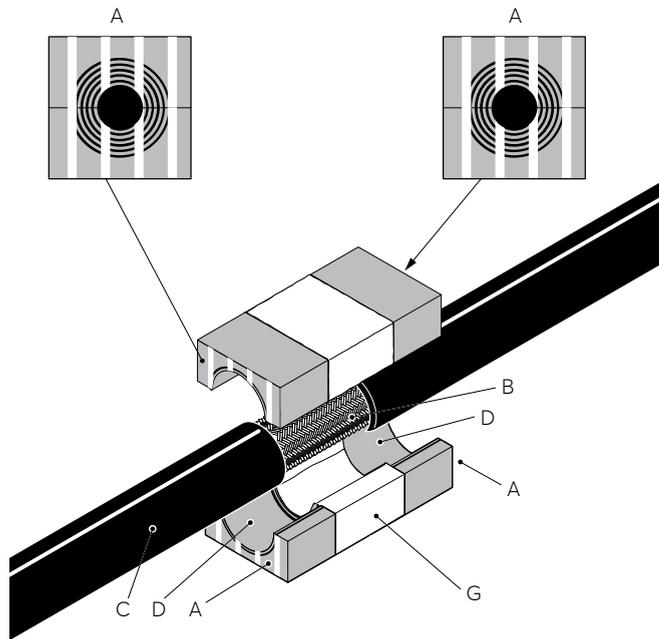
s	H	w	h
1	101	60	60
2	101	120	60
3	160	60	120
4	160	120	120
5	218	60	180
6	218	120	180
7	278	60	240
8	278	120	240

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

## Cable placement in module

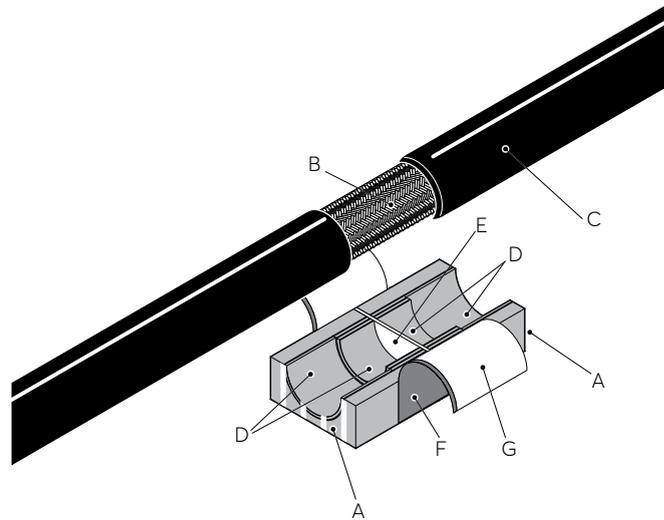
A: Environmental side  
B: Cable shield  
C: Cable jacket

D: Removable layers  
E: Conductive barrier  
F: Plastic film  
G: Conductive tape

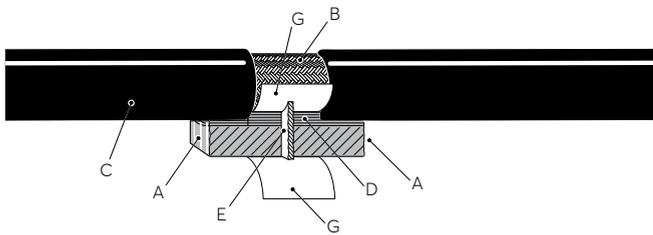


The tape is folded in.

G: Conductive tape

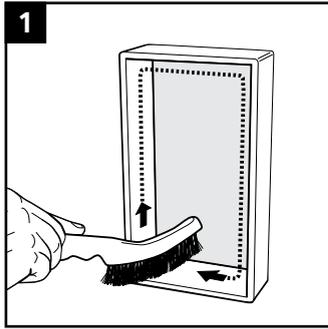


The tape is folded out.

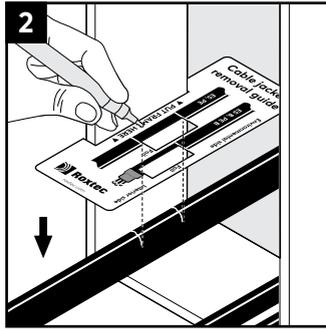


Cable placement in module half.

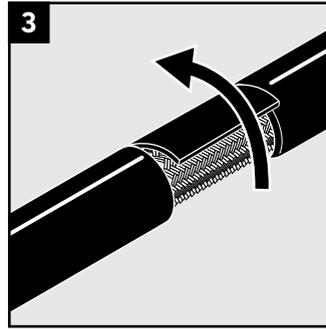
## Installation



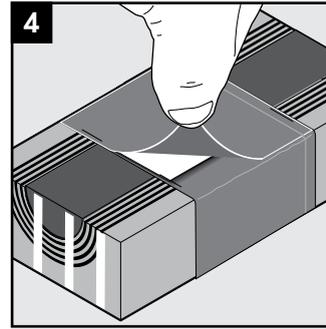
1 Clean the frame. Ensure continuous electrical contact with the structure.



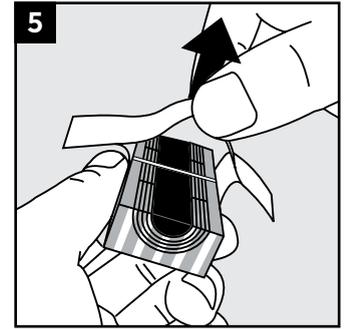
2 Hold the cable in its final position. Mark where the cable jacket is to be removed using the guide.



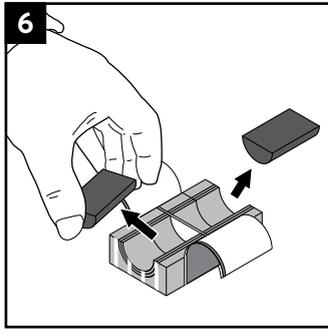
3 Remove the outer jacket and any plastic foil. The cable shield shall be clean and conductive.



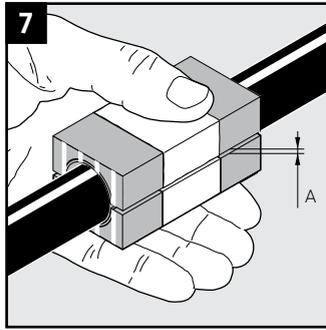
4 Lift the conductive tape and plastic film.



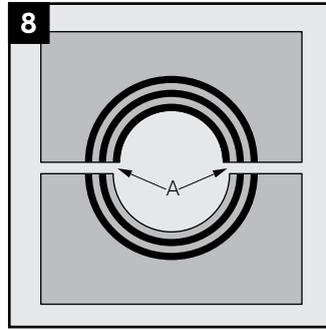
5 Remove the protection paper from all modules and fold out the conductive tape.



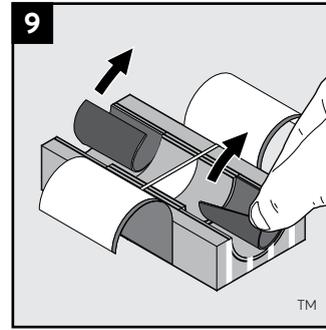
6 Remove the cores on all modules except spares.



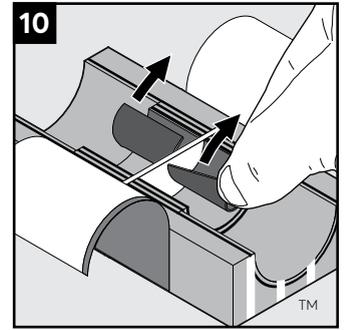
7 Achieve a gap of 0.1-1.0 mm (A) between the module halves by peeling off layers.



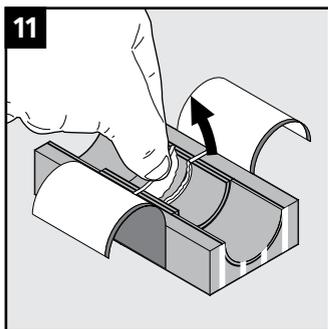
8 The number of layers between the corresponding module halves may not differ (A) by more than one layer.



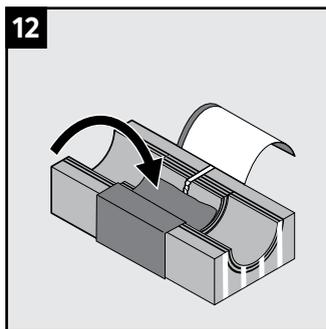
9 Adapt the layers that are in contact with the cable jacket.



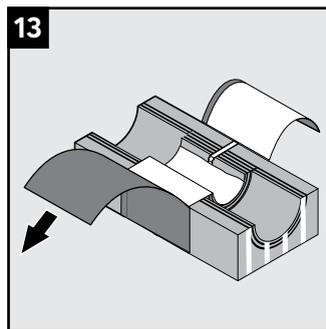
10 Adapt the layers that are in contact with the cable shield.



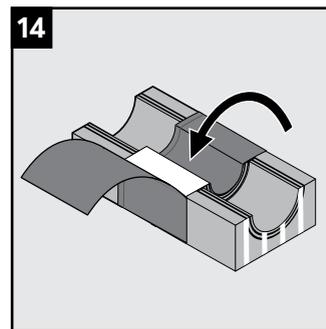
11 Adapt the conductive barrier to the cable shield.



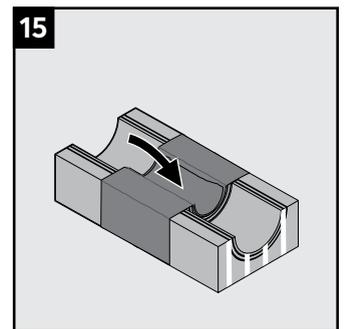
12 Fold the conductive tape tightly inside the module half from one side.



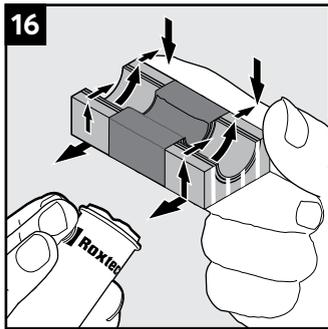
13 Separate the plastic film from the conductive tape and fold it to the side.



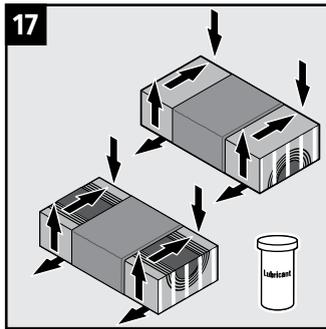
14 Fold the conductive tape on the other side tightly inside the module half.



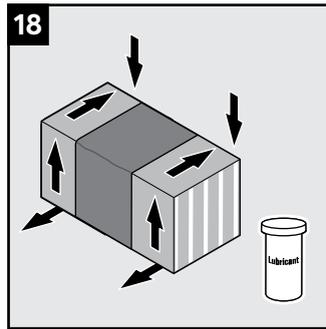
15 Fold the plastic film back inside the module half.



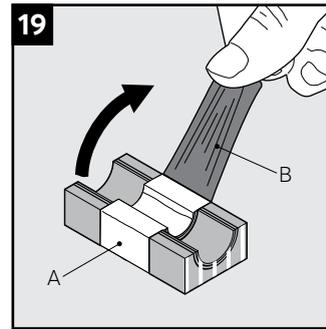
Lubricate the sealing surfaces of all modules. Do not lubricate the plastic film.



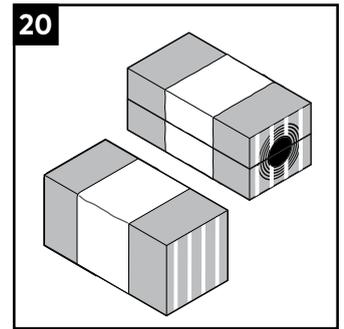
Lubricate the sealing surfaces of the spare modules. Do not remove the cores.



Lubricate the sealing surfaces of the solid modules.



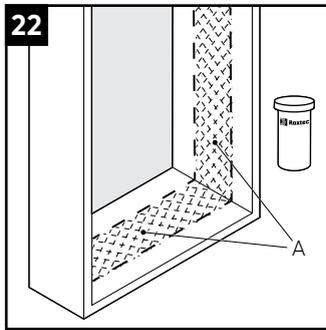
Remove the plastic film (B) on all modules. Keep the conductive tape (A) clean.



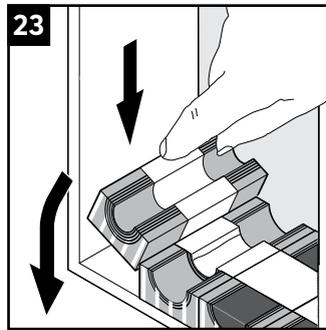
Plastic must be removed also on solid and spare modules.



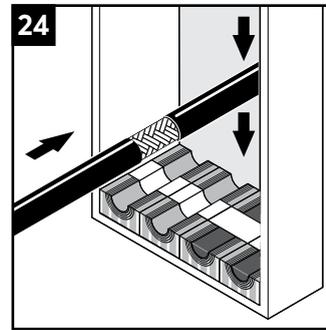
Lubricate the inside surfaces of the frame and especially its corners.



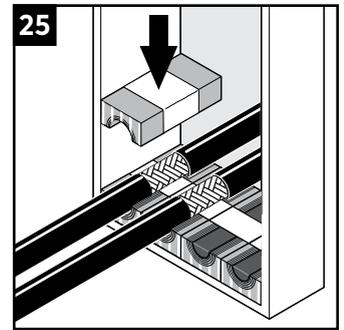
Lubricate the area (A) that will be in contact with the tape sparsely.



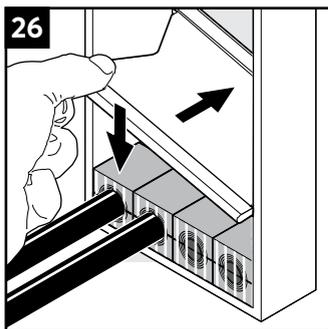
Place modules, according to your packing plan.



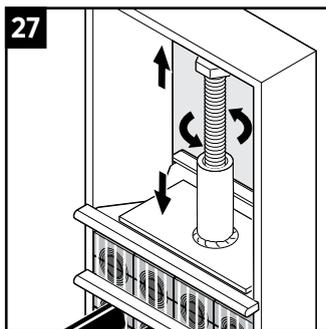
Place cables in the module halves.



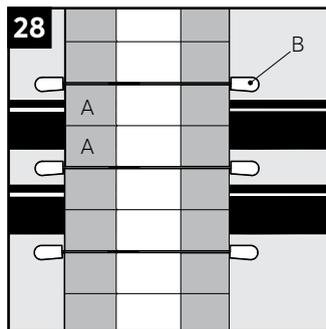
Place corresponding module half on top.



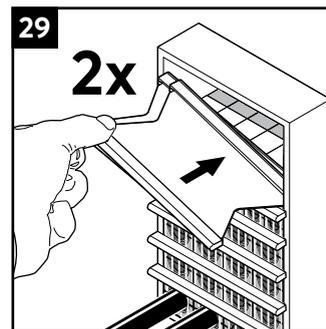
Insert a stayplate on top of every finished row of modules.



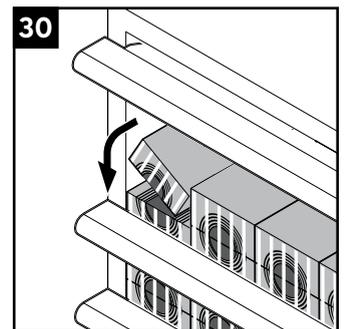
To simplify installation, the use of a pre-compression tool is recommended.



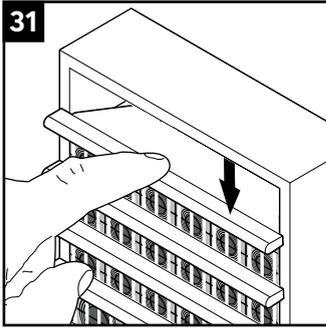
Ensure that the modules (A) are secured within the stayplate (B) edges.



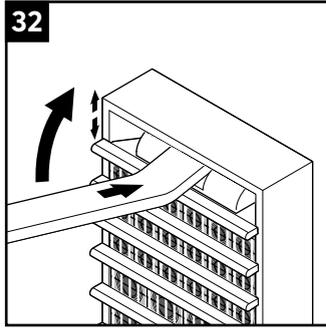
Before inserting the final row of modules, insert two stayplates.



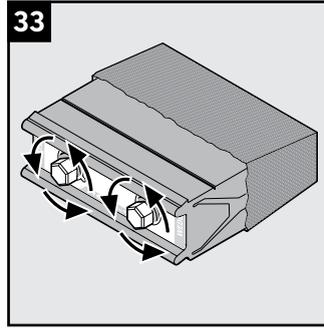
Separate the two stayplates and insert the final row of modules between the stayplates.



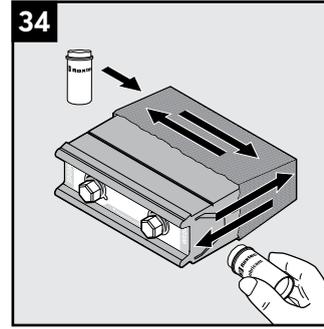
31 Place the upper stayplate on top of the modules.



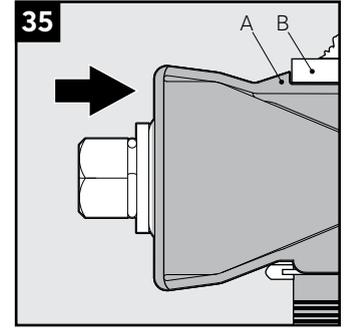
32 The use of a pre-compression tool is recommended.



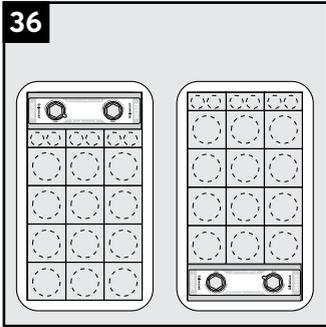
33 Turn the screws of the wedge counter clock-wise to full stop before inserting it.



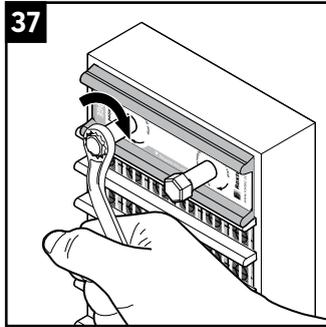
34 Lubricate the marked areas of the wedge.



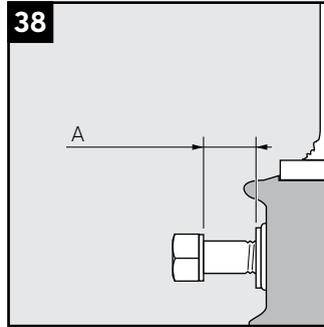
35 Insert the wedge so the stop flange (A) makes contact with the frame (B).



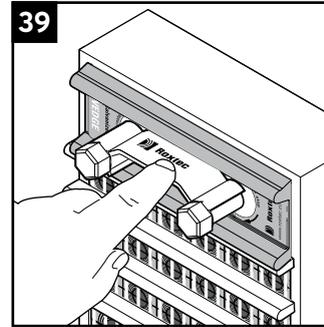
36 Optional wedge positions.



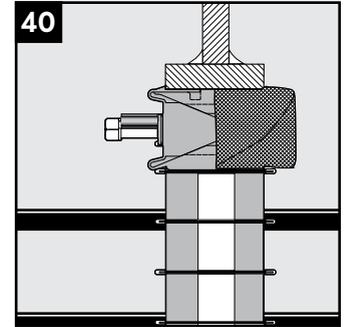
37 Tighten the screws alternately until full mechanical stop, max 20 Nm.



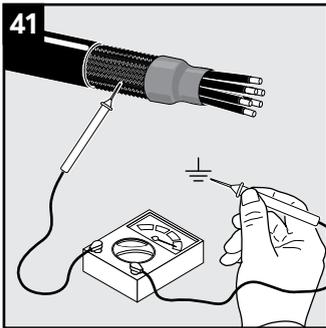
38 25 mm (A) of the screws shall be exposed.



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



40 Completed installation.

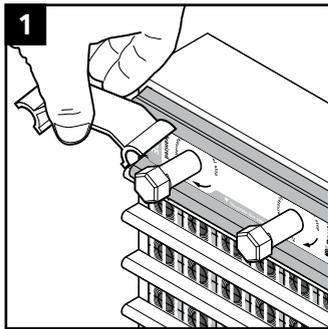


41 Electrical continuity testing is recommended.

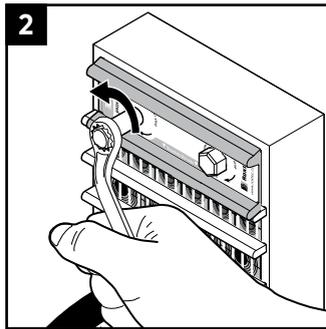


42 Check additional documentation, if applicable.

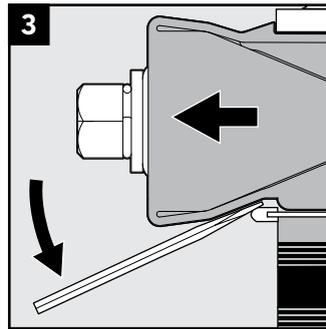
## Disassembly



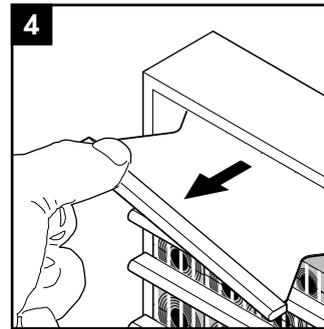
1 Remove the wedge clip from the wedge.



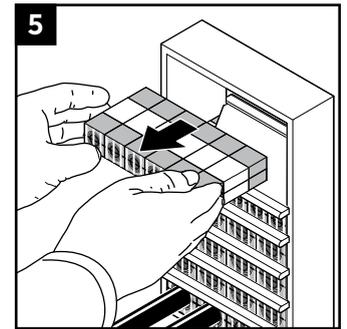
2 Loosen the screws alternately to full stop. Do not exceed 20 Nm.



3 Lift the wedge over the stop flange. Rextec tools are available.

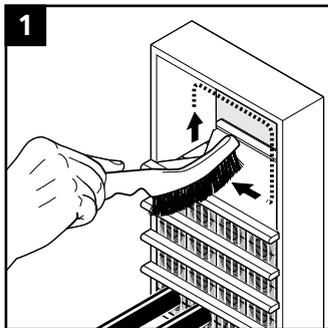


4 Remove modules and stayplates.

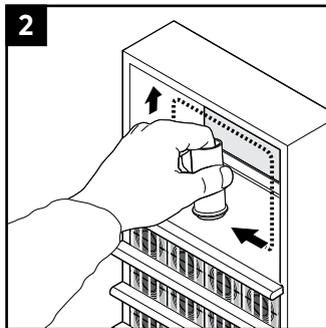


5 Keep the rows sorted. If a module is damaged or replaced, all modules in that row must be replaced.

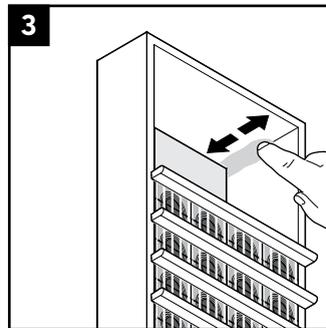
## Reinstallation



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



2 Lubricate the inside surfaces. Lubricate the area that will be in contact with the tape sparsely.



3 Lubricate all corners carefully. Continue the reinstallation.

## Note

- Integrated environmental sealing system for shielded applications. For use with shielded/armored cables.
- To be used with Roxtec RM ES modules.
- An incorrectly adapted module shall be replaced (layers shall not be reused).
- 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.
- Conductive gaskets are available.
- Cables shall go straight through the frame.
- Cable/pipe with a considerable weight needs to be supported.
- Partially installed openings shall be compressed if left unattended.
- 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 and pipe 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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determine the suitability of the products for the intended process, installation and/or use.

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