General information

Installation and maintenance:
For European member countries of GENELEC, shall standard EN 60079-14 and EN 60079-17 be considered.
For countries members of IECEx shall standard IEC 60079-14 and IEC 60079-17 be considered.
For other countries shall applicable national

regulation be considered.

The products fulfill the following standards:
EN 60079-0:2012, EN 60079-31:2009
IEC 60079-0:2011, IEC 60079-31:2008

Roxtec

Installation instructions Cable transit device Roxtec CF 8 EMC Ex/ CF 32 EMC Ex for Roxtec CM BG™ Ex and CM BG™ B Ex modules

The cable transit devices are intended for use with permanently installed circular cross-section cables, with or without armoring or braided screen. The cable entry may also be used with permanently installed cables of types TECK90 according to standard C22.2 No. 131-07, ACWU according to standard UL4, MC according to standard UL1569 and ACIC cables according to CSA C22.1-06 CEC UL444, UL1685, UL13, UL2250, IEC61158-2.

Parts

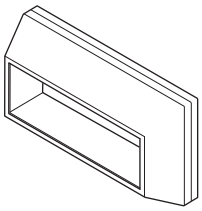


Fig. 1:
Roxtec CF 8 EMC

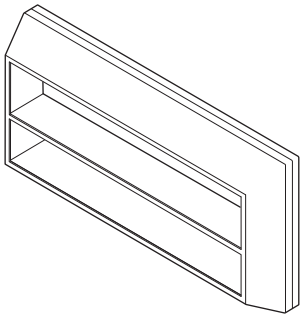


Fig. 2:
Roxtec CF 32 EMC

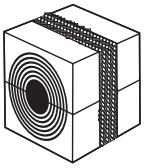


Fig. 4:
Roxtec CM BG™ Ex module

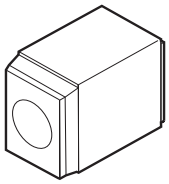


Fig. 3:
C Compression unit PE

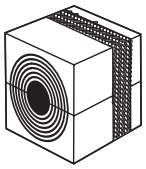


Fig. 5:
Roxtec CM BG™ B Ex module

Aperture dimensions, conductive area and max wall thickness

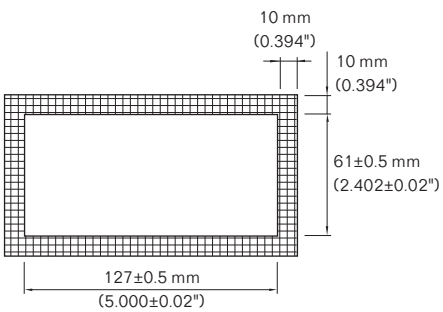


Fig. 6: CF 8 EMC aperture dimensions

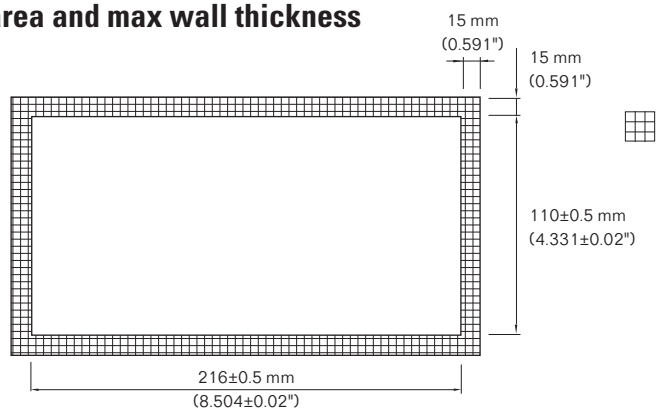


Fig. 7: CF 32 EMC aperture dimensions

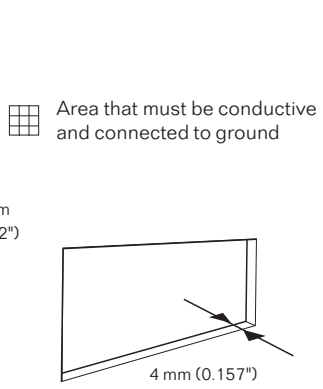
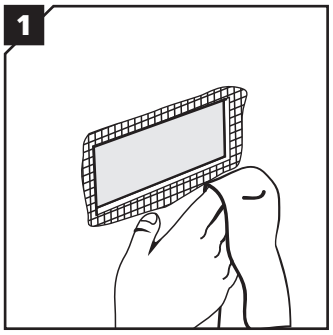
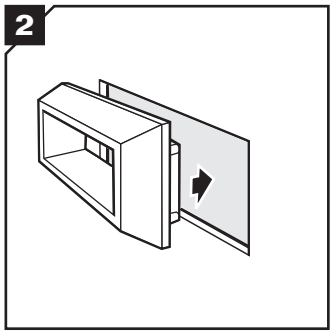


Fig. 8: Max wall thickness

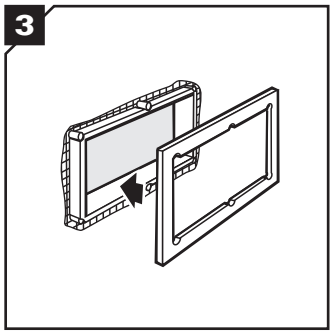
Installation



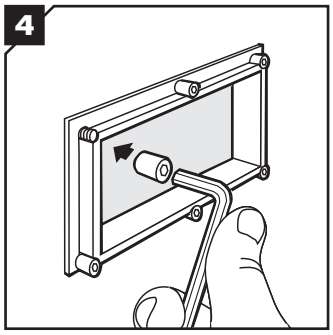
Ensure good electric conductivity between the counter frame and the structure. Clean the surface around the opening from inside the opening. Remove any paint if necessary.



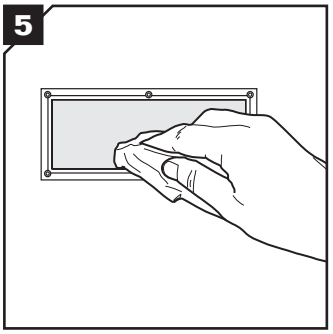
Insert the frame from the outside of the opening.



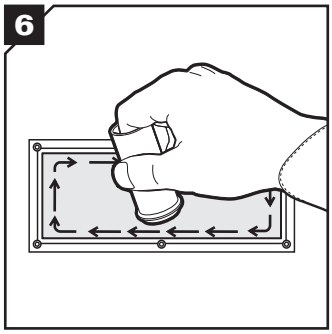
Insert the counter frame from the inside of the opening.



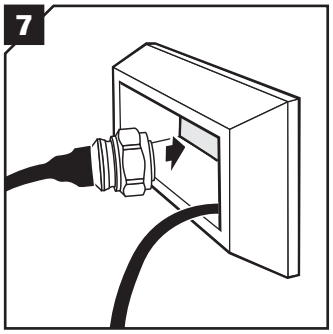
Fasten the frame by tightening the special nuts with an allen key.



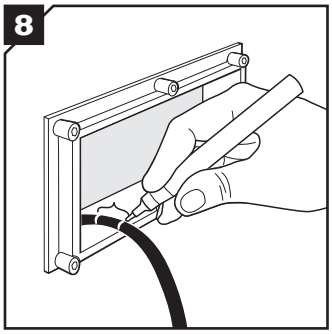
Clean the inside of the frame to ensure good conductivity.



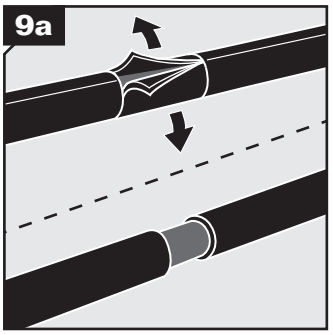
Lubricate the inside faces of the frame. Make sure to get lubricant into the corners. Avoid excess lubricant on areas in contact with the braid.



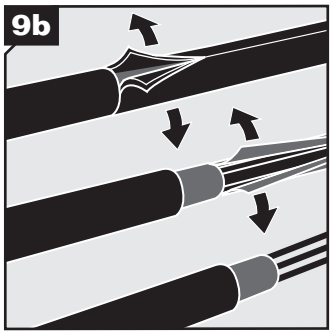
Insert all the cables.



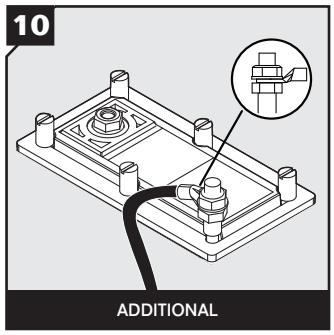
Mark where the outer jacket is to be removed to fit the braid position.



For BG™ Ex applications alternative 1.
Remove enough outer jacket to ensure good conductivity with the braid of the module. Remove any protection tape or plastic if applicable.



For BG™ Ex, alternative 2 and BG™ B Ex applications.
Remove enough outer jacket to ensure good conductivity with the braid of the module. Remove any protection tape or plastic if applicable.

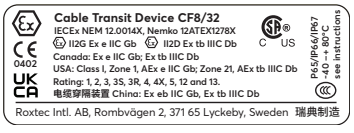


If applicable, install the ground connector and secure with the hexagonal nut. The ground connector is not included in Ex approvals for the cable transit device. Applicable requirements for the ground connector must be considered.

Frame label:

Year of manufacture

→ XXXX



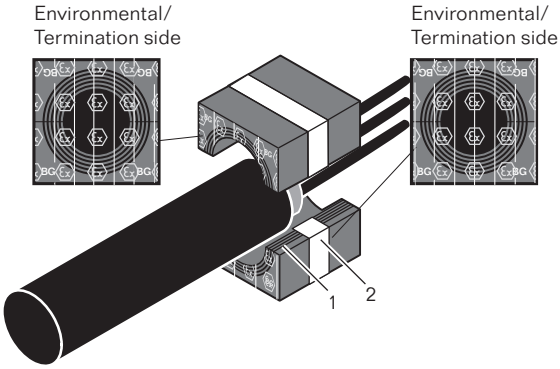
Please see page 3 on how to install the Roxtec CM BG™ Ex modules
and page 4 for installation of the Roxtec CM BG™ B Ex modules

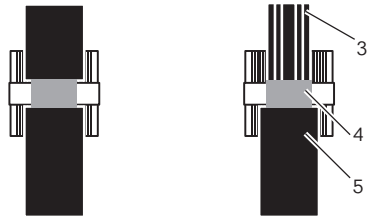
Installation of Roxtec CM BG™ Ex module

Integrated environmental sealing system for bonding and grounding applications. For use with armored/shielded jacketed cables including smooth and corrugated cables such as interlocked and continuous welded metal clad cables or wired and braided cables.

In hazardous areas where the ATEX directive or IECEx scheme are applied, sealing modules of type Roxtec CM BG™ Ex are approved for use within cable transit devices of CF 8/32 EMC Ex.

Cable position in a Roxtec CM BG™ Ex module

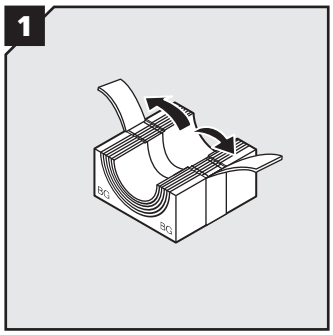




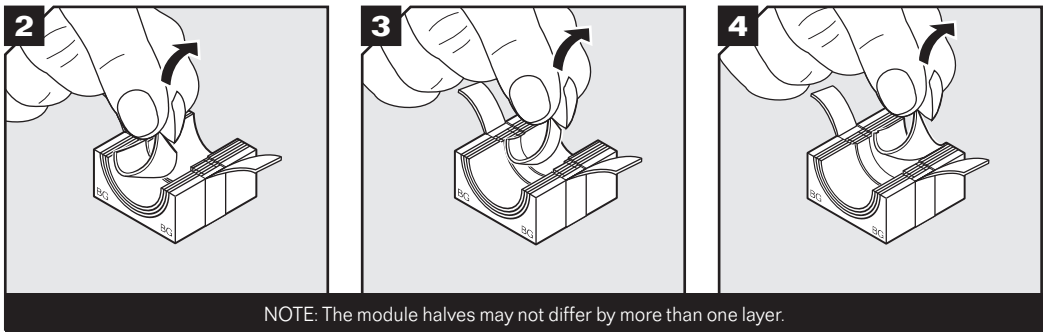
Alternative 1 Alternative 2

1. Multidiameter™ – adapts to cables and pipes of different sizes through removable layers
2. Bonding/grounding braid
3. Conductors
4. Cable armor/shield
5. Outer jacket

Installation



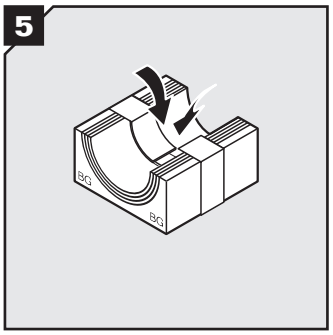
Remove the cores and gently fold back the braid on modules that are to hold cables or pipes.



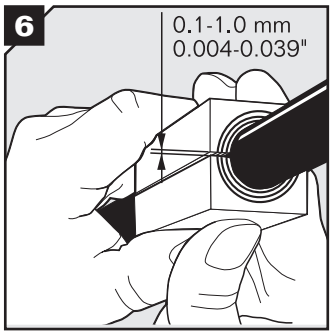
Adapt layers to fit outer jacket on both module halves.

Adapt layers to fit cable screen/ armor on both module halves.

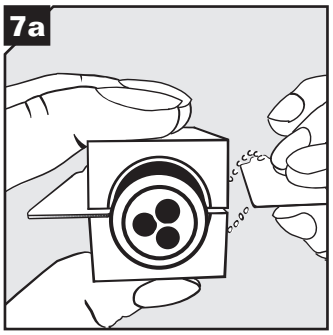
For alternative 1: Adapt inner layers to the cable/pipe outer diameter.
For alternative 2: Adapt to inner conductors.



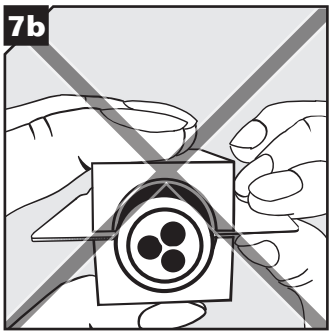
Fold the braid tightly inside the module.



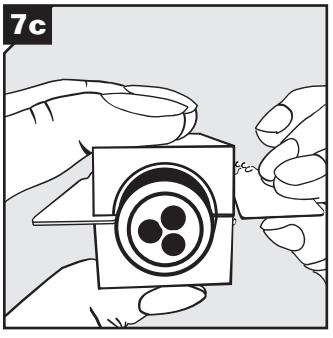
Achieve a 0.1-1.0 mm gap between the two halves when held against the cable or pipe.



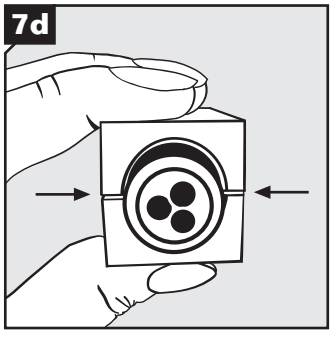
Measure the gap with the Ex Gap Gauge by holding blade one in one gap and checking the other with blade two.



If the gap is too big, the gauge will slip in easily.



If the gap is correct, there will be no room for blade two.



When checking without the gauge, there shall be a visual gap.

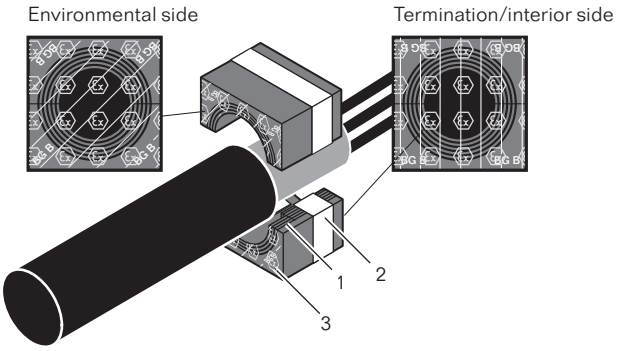
Please proceed to page 5 to complete the installation

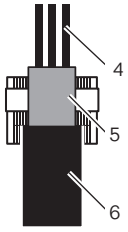
Installation of Roxtec CM BG™ B Ex module

Integrated environmental sealing system for bonding and grounding applications. For use with armored/shielded jacketed cables including smooth and corrugated cables such as interlocked and continuous welded metal clad cables or wired and braided cables.

In hazardous areas where the ATEX directive or IECEx scheme are applied, sealing modules of type Roxtec CM BG™ B Ex are approved for use within cable transit devices of CF 8/32 EMC Ex.

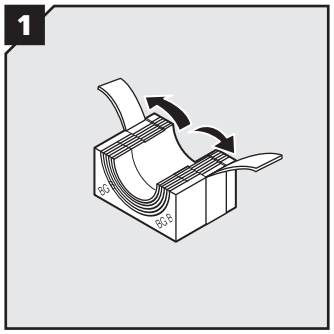
Cable position in a Roxtec CM BG™ B Ex module



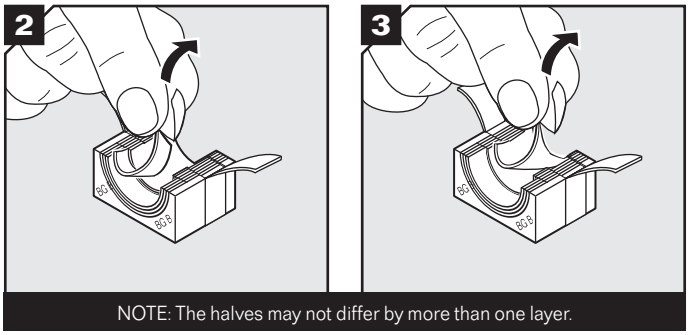


1. Multidiameter™ – adapts to cables and pipes of different sizes through removable layers
2. Bonding/grounding braid
3. Environmental side
4. Conductors
5. Cable armor/shield
6. Cable outer jacket

Installation

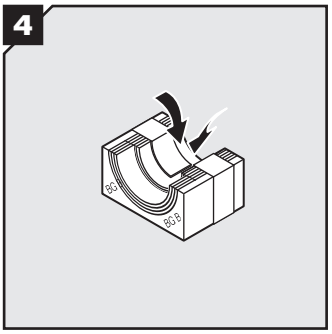


Remove the core and fold out the braid on modules that are to hold cables or pipes.

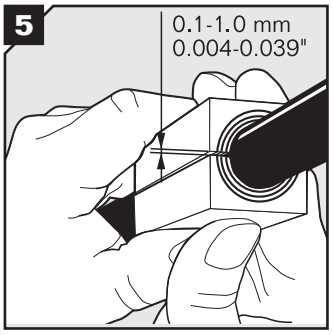


Adapt layers to fit outer jacket on both module halves.

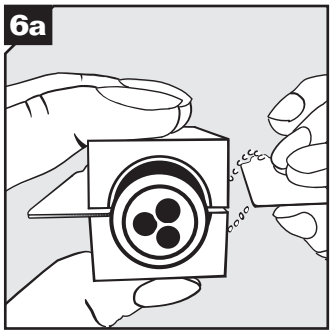
Adapt layers to fit cable screen/ armor on both module halves.



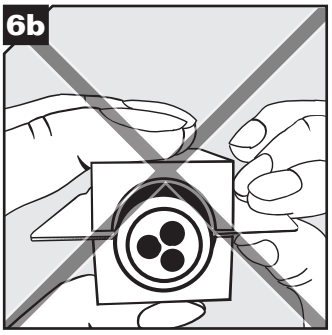
Fold the braid tightly inside the module.



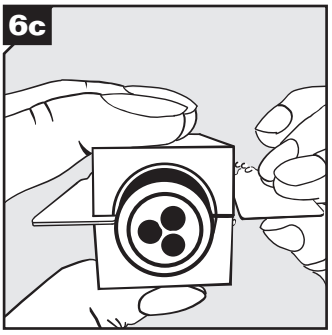
Achieve a 0.1-1.0 mm gap between the two halves when held against the cable or pipe.



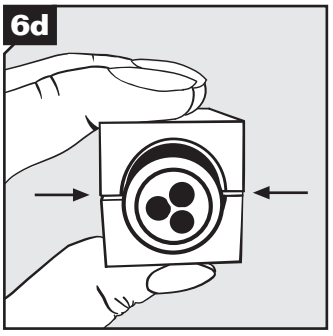
Measure the gap with the Ex Gap Gauge by holding blade one in one gap and checking the other with blade two.



If the gap is too big, the gauge will slip in easily.



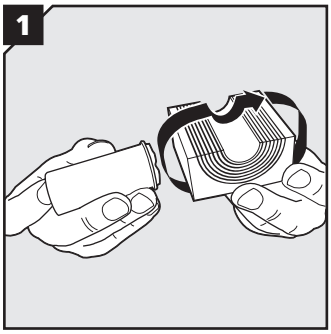
If the gap is correct, there will be no room for blade two.



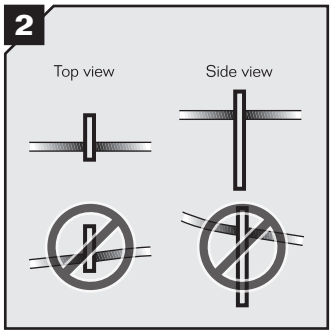
When checking without the gauge, there shall be a visual gap.

Please proceed to page 5 to complete the installation

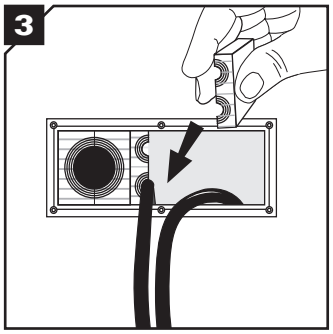
Installation continued



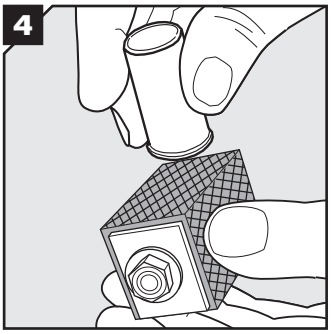
Lubricate the modules thoroughly with Roxtec Lubricant, both the inside and outside faces. Avoid lubricant on the braid.



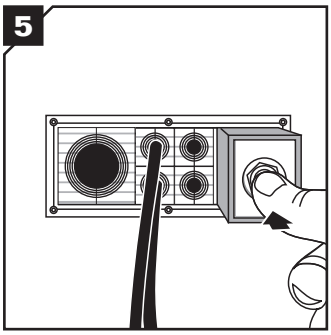
Note that cables shall go straight through the frame.



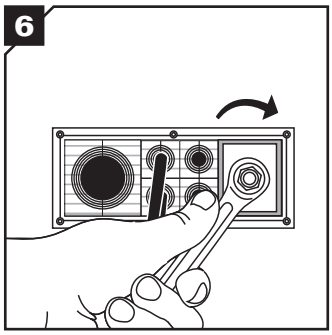
Insert the modules from the inside of the cabinet.



Lubricate the C Compression unit PE sparsely on all sides.



Gently insert the compression unit.



Tighten the compression unit to seal the frame. Recommended torque 8-12 Nm.

Disassembly

Reverse order

Adaptable Roxtec CM BG™ Ex modules/sizing chart

Module	For cable/pipe diameter a-b (mm)	a-b (in)	Total braid cross-section sq mm	Approx. eqv. AWG	Number of cables/pipes
CM 15w40 BG Ex	0+3.5-10.5	0+0.138-0.413	3*	12*	3
CM 20 BG Ex	0+4.0-14.5	0+0.157-0.571	8	8	1
CM 20w40 BG Ex	0+3.5-16.5	0+0.138-0.650	4*	11*	2
CM 30w40 BG Ex	0+10.0-25.0	0+0.394-0.984	13	6	1
CM 40 BG Ex	0+21.5-34.5	0+0.846-1.358	21	4	1
CM 40 10-32 BG Ex	0+9.5-32.5	0+0.374-1.280	21	4	1

* Per cable.

Solid compensation Roxtec CM BG™ Ex modules

Module	Total braid cross-section sq mm	Approx. eqv. AWG	Number of cables/pipes
CM 5w40/0 BG Ex	8	8	-
CM 10w40/0 BG Ex	8	8	-
CM 20/0 BG Ex	8	8	-
CM 40/0 BG Ex	21	4	-

Adaptable Roxtec CM BG™ B Ex modules/sizing chart

Module	For cable/pipe diameter a-b (mm)	a-b (in)	Approx. total braid cross-section sq mm	Approx. eqv. AWG	Number of cables/pipes
CM 15w40 BG B Ex	0+3.5-10.5	0+0.138-0.413	3*	12*	3
CM 20 BG B Ex	0+4-14.5	0+0.157-0.571	8	8	1
CM 20w40 BG B Ex	0+3.5-16.5	0+0.138-0.650	4*	11*	2
CM 30w40 BG B Ex	0+10.0-25.0	0+0.394-0.984	13	6	1
CM 40 BG B Ex	0+21.5-34.5	0+0.846-1.358	21	4	1
CM 40 10-32 BG B Ex	0+9.5-32.5	0+0.374-1.280	21	4	1

* Per cable.

Solid compensation Roxtec CM BG™ B Ex modules

Module	Approx. total braid cross-section sq mm	Approx. eqv. AWG	Number of cables/pipes
CM 5w40/0 BG B Ex	8	8	-
CM 10w40/0 BG B Ex	8	8	-
CM 20/0 BG B Ex	8	8	-
CM 40/0 BG B Ex	21	4	-

The ingress protection of the cable transit device varies depending on configuration according to the table below

Configuration	IP-class
Corrugated cable	IP 65
Circular cross-section, smooth shape	IP 66

Note

- An incorrectly adapted seal shall be replaced (layers shall not be reused).
- Temperature range -40 to +80°C.
- Permitted Roxtec modules: CM BG™ Ex and CM BG™ B Ex type.
- You find EC Type examination certificate at www.roxtec.com, or contact your local Roxtec supplier.

The following conditions for safe use shall be considered according to the ATEX EC Type Examination certificate and the IECEx Certificate of Conformity:

1 For maintaining the explosion protection, the installation instructions that accompany the products shall be considered.
2 Only cable for fixed installation is permitted for the cable entry.
3 For optimum reliability wait 24 hours or longer after installation before exposing the cables/pipes to strain or pressure.

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