

FRECAP with Evolant® MAX Fiber Routing System

An Evolant® Solutions Product
Product Description

Application

Corning's FRECAP closure is based on a gel-sealing concepts. We believe that our closure makes the installation faster, easier and more practical than all other existing systems.

The cable entry is based on a reusable gel-sealing material with independent segments. Additionally the Evolant® MAX fiber routing and management system is designed to easily handle bare fibers and provide optimum flexibility at the interconnection, branching, distribution or access levels.

The Evolant® MAX is the new Corning Cable Systems standard to efficiently manage the final section of fiber routing and is commonly used for closures, wall boxes, ODFs and cabinets.

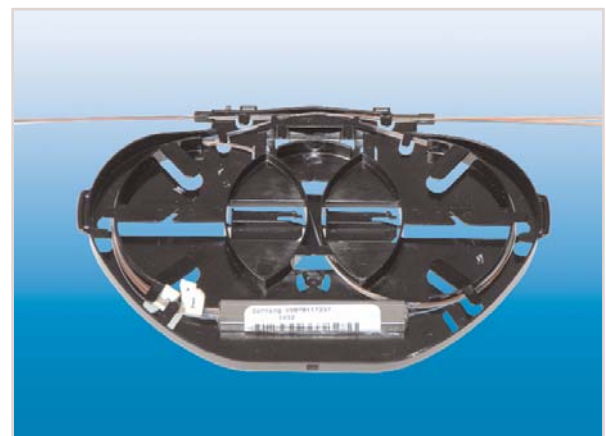
Features

The FRECAP Dome Closure is designed to give the maximum protection for the installed network against environmental influences. FRECAP closures provide the following features:

- Fast, easy and practical installation
- 6 independent segments of cable entries
- Reusable gel-sealing material
- Wide range of different cable diameters, 6-25mm
- Wide range of different cable types, incl. Minicables
- No special tools required
- Up to 720 fibers
- Single Circuit and Single Element Management
- Recommended for FTTX Networks
- Optimized for the usage of optical splitters
- IP 68
- Can be used in various environments:
 - Direct buried
 - Ducts and manholes
 - Aerial and poles



FRECAP Dome Closure with Evolant® MAX Fiber Routing System



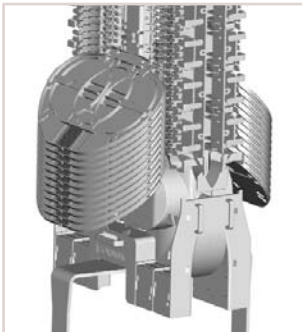
Coloured splice tray with 1:32 splitter

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Closure End Cap

With our new FRECAP closure, the installation is faster, easier and more practical than ever before. The FRECAP has 6 independent segments of cable entries with a reusable gel-sealing material. A wide range of different cable diameters and cable types can be installed, without the need for additional accessories. Also during the installation of new cables and replacement of installed cables the working times are dramatically reduced - hence providing a significant CAPEX/OPEX cost savings. Additionally the FRECAP provides the MAX System with increased security. By successfully combining both systems with modern materials, you will get a product with the highest security standards available today. This provides the unique possibility to open single cable-entries without any impact on the cables that are already installed. This combination is unique. No special tools or heating are required for installation; dramatically reducing costs and improving safety.



MAX Management System



Each tray can be marked individually for identification and registration

Splice Trays

The Evolant® MAX system can be used with either single circuit (SC) or single element (SE) trays or a mixture of both, in accordance with the network requirements. Corning recommends the usage of SC trays. In a Single Element (SE) Network, the fibers from one buffer tube are always stored in one single splice tray. Most network operators are still using 12 fibers per tube. In addition the fibers from up to 6 individual customer drop cables are also guided to one single splice tray. In this case, if maintenance is later required then all the fibers must be taken out of the splice tray. Also, even though the maintenance work may only involve one customer, the maintenance work may

often affect the other 5 customers' connections too. With SC Systems this entire risk is eliminated by only using 1 customer per splice tray.

One raster unit is required for the SC tray and two are required for the SE tray. Two SC trays can be replaced by one SE tray or vice versa.

Additional trays for optical splitters, water sensors or mechanical splices are available. Especially for optical splitter Corning recommends the usage of coloured splice trays.

The splice trays provide a complete fiber management system with overlength storage, bending control and the possibility of changing the fiber direction. Splice trays can be equipped with numbered and coloured rings; thus providing fast and secure access.

Evolant® MAX Fiber Routing and Management System

The Evolant® MAX Fiber routing and management system is built with an aluminium frame and pre-assembled with six-fold guiding units for the splice trays. These guiding units are on both sides of the frame or individually stacked with extensive buffer tube storage. When the buffer storage is removed, it is easy to snap in the guiding units to enlarge the splice tray capacity. The fiber itself is guided from the fixed cable end through distribution channels and threaded into the trays directly through the rotation point of the splice tray hinge. Therefore it is not necessary to guide the fibers behind the splice trays in order to avoid any crossings outside the splice trays. This patented method guarantees no stress on the fibers and will prevent any attenuation increases in case of future tray access. Splice trays adjust by themselves in the upper position eliminating the need to use additional fixing devices. A minimum bending radius of 30 mm is guaranteed.

Closure Strain Relief System

Strain relief is provided for the outer sheath and for the central strength member to combat mechanical forces. It is compatible with most common cables.



FRECAP

FRECAP

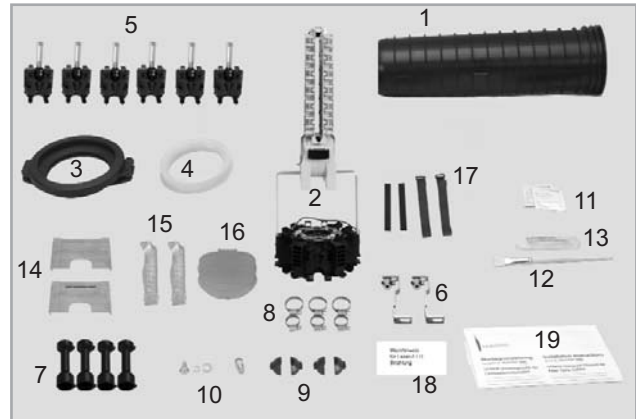
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Content Closure Kit

FRECAP

1. Closure canister
2. End cap incl. fiber management frame
3. Clamping ring
4. Sealing ring
5. Sealing segments
6. Cable strain relief
7. Dummy plug
8. Cable clamps
9. Adapter for cable diameter $\leq 12.5\text{mm}$
10. Grounding screw
11. Cleaning tissue
12. Brush
13. Lubricant
14. Cover for distribution element with 1 fiber tool
15. Cover for fiber guides
16. Cover for splice trays
17. Felt strip
18. Warning label for laser/LED radiation
19. Installation instructions



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Specifications

Closure Type	FRECAP MAX 48	FRECAP MAX 72	FRECAP MAX 120
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Dimension (mm)

Length	525	600	730
Diameter max.	306	306	306
Diameter Dome	225	225	225

Capacity (pcs) without extra buffer storage

SC trays	48	72	120
SE trays	24	36	60
SC trays 2Fiber/tray (Heat shrink or Crimp)	96	144	240
SC trays 6Fiber/tray (Heat shrink or Crimp)	288	432	720
SC trays 12Fiber/tray (Crimp only)	576	864	1440
SE trays 12Fiber/tray (Heat shrink or Crimp)	288	432	720
No. of raster units (sixfold)	2 x 4	2 x 6	2 x 10

Cable Sheath Opening, typical (m)

Uncut cables	3.6	3.8	4.1
Branching cables	1.8	1.9	2.05

Uncut Buffer Storage (no. of cables x m)

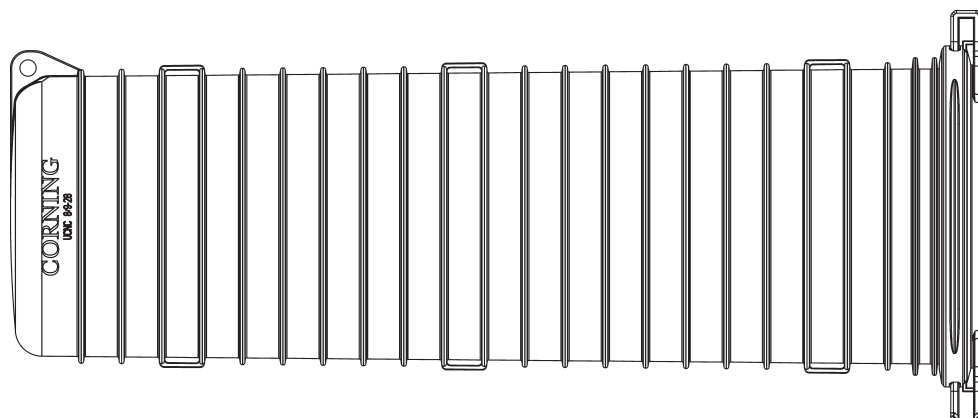
Between double stack	5 x 3.6	6 x 3.8	8 x 4.1
In extra buffer storage	12 x 3.6	18 x 3.8	25 x 4.1

Number and Diameter of Cable Entries (mm)

6 cable entries for cut and uncut cable	6 - 25	6 - 25	6 - 25
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Each of this 6 cable entries can be used with

Multi Cable Entry 4-fold	4x 3.5-8.5
Multi Cable Entry 3-fold	3x 6.5-10.0



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Ordering Information

Order No.	Pos. Type	Description	Max No. of Trays		
			SC	SE	
FRECAP Dome Closure with:					
Closures incl. necessary material to install 2 cables, 4 dummy plugs to close empty ports Splice trays, splice protection and fixing device must be ordered separately					
S46998-A19-A10	1	FRECAP MAX 48	Dome closure with Gel End Cap	48	24
S46998-A19-A11	2	FRECAP MAX 72	Dome closure with Gel End Cap	72	36
S46998-A19-A12	3	FRECAP MAX 120	Dome closure with Gel End Cap	120	60
S46998-A19-A13	4	FRECAP MAX 48	Dome closure with large buffer storage and Gel End Cap	24	12
S46998-A19-A14	5	FRECAP MAX 72	Dome closure with large buffer storage and Gel End Cap	36	18
S46998-A19-A15	6	FRECAP MAX 120	Dome closure with large buffer storage and Gel End Cap	60	30
Accessories					
Order No.	Pos.Type	Description		Pieces	
Splice trays					
S46998-A2-R93	7	SC splice tray set	SC for crimp splice protector	6	
S46998-A2-R94	8	SC splice tray set	SC for heat-shrink splice protector	6	
S46998-A2-R95	9	SE splice tray set	SE for crimp splice protector	3	
S46998-A2-R96	10	SE splice tray set	SE for heat-shrink splice protector	3	
S46998-A2-R97	11	SE splice tray splitter	SE for optical splitter or water sensor	1	
on request	12	SE splice tray, black 1x4, 1x8, 1x16 or 1x32	For Planar optical splitter,	1	
on request	13	SE splice tray, black, 1x2	For 3 FBT optical splitter,	1	
Branching sets					
S46998-A19-R21	14	FRECAP branching set	For cable with dia. 6-25mm	1	
S46998-A19-R20	15	FRECAP grounding set	Cable grounding	1	
Fixing devices					
S46998-A19-R23	16	Wall / Pole mounting device		1	
S46998-A19-R22	17	Table mounting set		1	
Splice protection					
S46998-A4-A29	18	Heat-shrink splice protector	Length 45mm	100	
CSP-1	19	Crimp splice protector	Length 30mm	150	
Spare parts					
S46998-A19-R27	20	Dummy plug	To close empty ports	1	
S46998-A19-R28	21	Cable adapter	For cable up to 12.5mm, 2pcs per port needed	12	
Test accessories					
C45402-Z3-C31	22	Valve for tightness testing		1	
Parts to replace the buffer storage by fiber routing guides					
S46998-A2-R98	23	SC splice tray set with fiber routing and tray holder set	SC for crimp splice protector	6	
S46998-A2-R99	24	SC splice tray set with fiber routing and tray holder set	SC for heat-shrink splice protector	6	
S46998-A2-R100	25	SE splice tray set with fiber routing and tray holder set	SE for crimp splice protector	3	
S46998-A2-R101	26	SE splice tray set with fiber routing and tray holder set	SE for heat-shrink splice protector	3	
S46998-A2-R90	27	Fiber routing and tray holder set	For 6 SC or 3 SE splice trays	1	

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Minicables

Especially for the usage of Minicables as well as cables with small diameters, Corning has developed a multi cable entry kit with various functions.

Multi cable entry

The multi cable entry is available at two sizes:

4-fold for cable diameter from 3.5-8.5mm

3-fold for cable diameter from 6.5-10.0mm

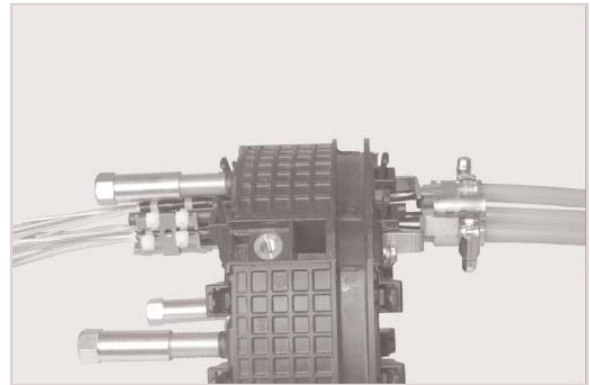
It will be delivered with multi-sealing, cable strain relief inside and dummy plugs to close empty ports. Additional cables can be installed later one. It is only necessary to take the dummy plug out. At this step, we recommend to replace the 4-fold or 3-fold gel-sealing.

Micro Duct strain relief, outside

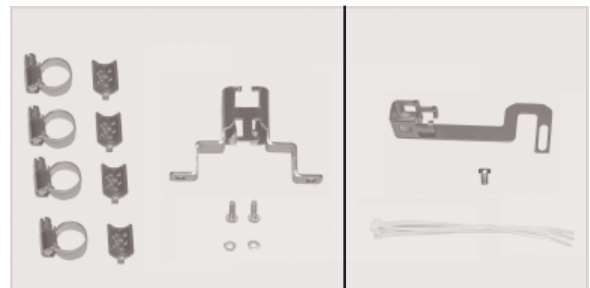
For higher protection it is recommended to fix the micro ducts outside the closure. These reduce the risk to damage the thin cables if cable or closure will be stored within the manhole.

Central member strain relief, multiple

If minicables with central member are in use and this elements needs to be fixed, it is necessary to order the optional central member strain relief, multiple.



Multicable entry,
with optional strain relief outside



left side: Micro duct strain relief,
outside

right side: central member
strain relief, multiple

Ordering Information

Accessories

Order No.	Pos.	Type	Description	Pieces
Branching sets				
S46998-A19-R40	1	FRECAP Multi Cable Entry 4-fold	For 4 cable with dia. 3.5-8.5mm	1
S46998-A19-R41	2	FRECAP Multi Cable Entry 3-fold	For 3 cable with dia. 6.5-10.0mm	1
Strain relief				
S46998-A19-R42	3	Micro duct strain relief, outside	For Multi Cable Entry 4-fold	1
S46998-A19-R49	4	Micro duct strain relief, outside	For Multi Cable Entry 3-fold	1
S46998-A19-R43	5	Central member strain relief, multiple		1
Spare parts				
S46998-A19-R47	6	Gel Seal 4-fold		10
S46998-A19-R48	7	Gel Seal 3-fold		10

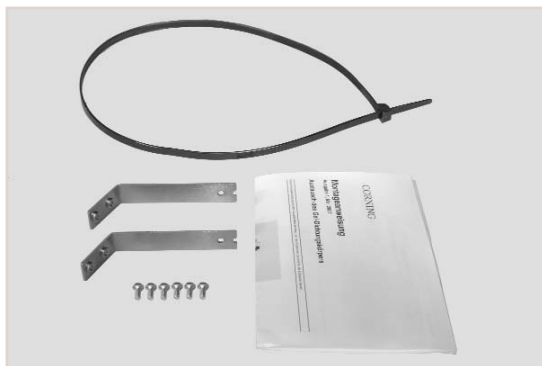
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Civil work damages

Within city networks it is typical to encounter a lot of civil engineering activity. A by-product of this work is that cables and occasionally closures are damaged and must be replaced. Additionally, some planned works (e.g. pipe laying) make it necessary to re-route existing cables. Corning has developed and field tested some toolkits that will assist in these circumstances.

- End cap repair kit: If the end cap of the closure is damaged, this kit will enable a fast and secure replacement of the end cap without disturbing the existing cables in the closure.
- Cable replacement tool: This kit enables the safe removal of an existing cable and ensures the subsequent integrity of the closure.



End cap repair set



Cable replacement tool

Order No.	Pos.	Type	Description	Pieces
Repair sets				
S46998-A19-R29	1	Cable replacement tool	Support to take used cable out of the system	1
S46998-A19-R24	2	End cap replacement set	To replace the complete end cap in case of damage	1
S46998-A19-R25	3	End cap repair set	Support tool to replace damaged end cap	1
S46998-A19-R26	4	Sealing segment repair set	Set to replace damages to the sealing elements	1

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