SAFETY SEALING SYSTEMS

BEELE WE CARE

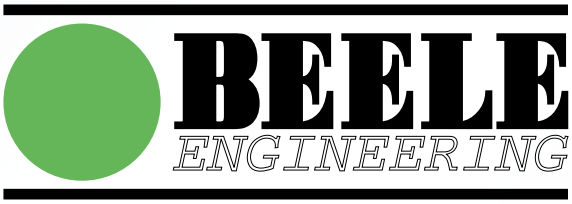
ASSEMBLY INSTRUCTIONS CONTROFIL®/NOFIRNO® (MULTI-) CABLE TRANSITS

CONTROFIL

MULTI-CABLE TRANSITS

NOFIRNO

TECHNOLOGY DEVELOPED BY BEELE ENGINEERING BV
COMPOUNDING AND PRODUCTION IN THE ULTRA-MODERN MANUFACTURING FACILITIES IN AALTEN/THE NETHERLANDS
UNDER A STRINGENT ISO 9001:2008 QUALITY SYSTEM
MORE THAN 40 YEARS R&D ON QUALITY, DURABILITY & FUNCTIONALITY



Edition : NWS 2018

Research & Development : BEELE Engineering BV, Aalten, the Netherlands.

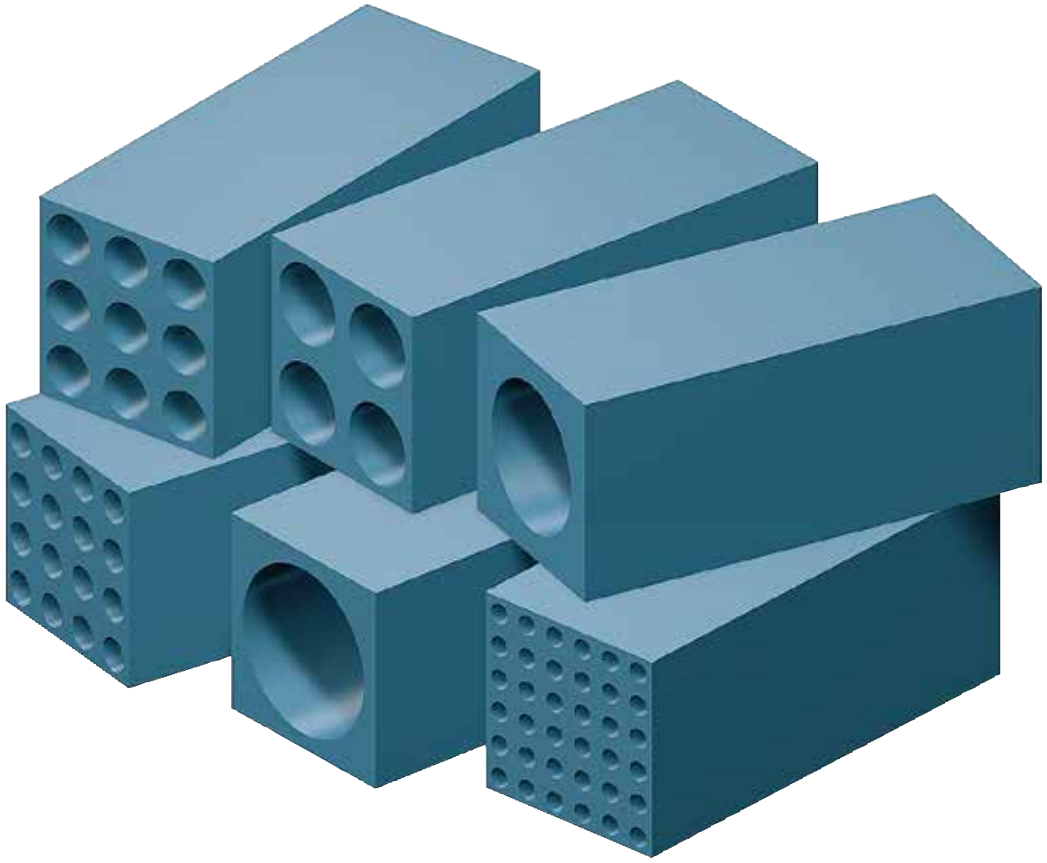
Note : The manufacturer reserves the right to make dimensional and design modifications without prior notification.

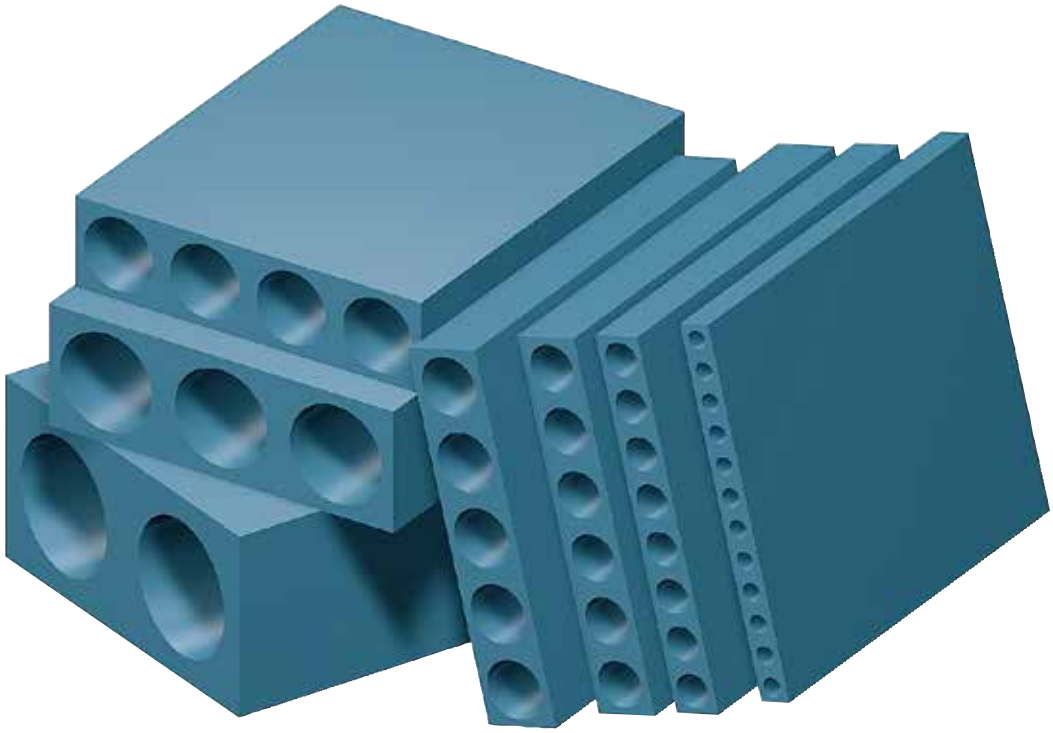
brochure code : installation CONTROFIL/NOFIRNO (blue)

CONTROFIL
MULTI-CABLE TRANSITS

SAFETY SEALING SYSTEMS
BEELE WE CARE

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR





BEELE WE CARE SAFETY SEALING SYSTEMS

CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

PRODUCT INFORMATION SEALANT

01)	colour	blue grey
02)	specific gravity	1.40 ± 0.03 g/cm³
03)	curing of top layer	0.5 - 1 hour depending on temperature and air humidity
04)	service temperature	-50 °C up to +180 °C
05)	tensile strength	1.5 MPa
06)	elongation at break	200%
07)	hardness	45 Shore A
08)	elastic deformation	approx. 50%
09)	resistance	UV, Ozone, arctic conditions
10)	ageing	more than 20 years
11)	supplied in	310 ml cartridges
12)	storage	to be stored cool and dry min/max temperature = +5/+30° C
13)	storage life	guaranteed 6 months; when applied later than 6 months after date of manufacturing, curing and adhesive properties have to be checked before application

NOFIRNO® blue grey is also absolutely HALOGEN FREE with zero VOC (volatiles organic compounds) according to TÜV report 89207423-01. The composition of the compound is similar as the red brown version. Only the colour pigment has been changed.

Shelf life of the sealants is 12 months when stored properly. Since we have no control on storage, we can only guarantee for 6 months.

article number 50.0106

PRODUCT INFORMATION SEALANT

01)	colour	red brown
02)	specific gravity	1.40 ± 0.03 g/cm³
03)	curing of top layer	0.5 - 1 hour depending on temperature and air humidity
04)	service temperature	-50 °C up to +180 °C
05)	tensile strength	1.5 MPa
06)	elongation at break	200%
07)	hardness	45 Shore A
08)	elastic deformation	approx. 50%
09)	resistance	UV, Ozone, arctic conditions
10)	ageing	more than 20 years
11)	supplied in	310 ml cartridges
12)	storage	to be stored cool and dry min/max temperature = +5/+30° C
13)	storage life	guaranteed 6 months; when applied later than 6 months after date of manufacturing, curing and adhesive properties have to be checked before application

NOFIRNO® is absolutely HALOGEN FREE with zero VOC (volatiles organic compounds) according to TÜV report 89206405-01. Furthermore NOFIRNO® has a low smoke index and a high oxygen index (ISO 4589-2: 1996), and low flame spread characteristics according to IMO Resolution A.653(16).
NOFIRNO® is a paste-like compound which is simple to use. NOFIRNO® has a balanced viscosity and can be applied overhead.

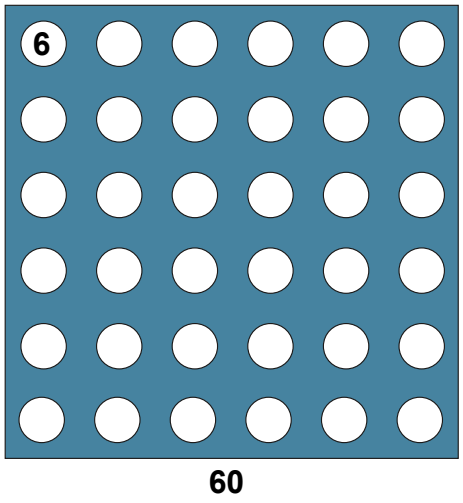
article number 50.0102

CONTROFIL
MULTI-CABLE TRANSITS

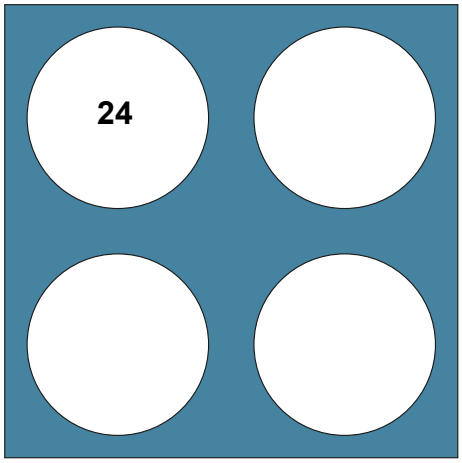
SAFETY SEALING SYSTEMS
BEELE WE CARE

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

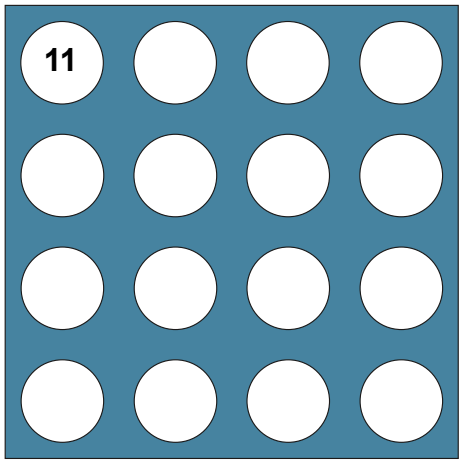
CONTROFIL® MULTI-CABLE PASSAGE BLOCKS 60 x 60 mm



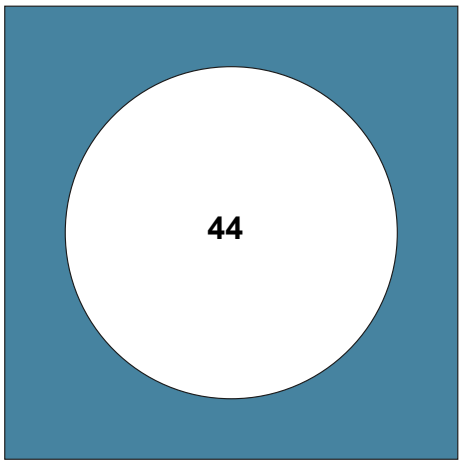
multi MB 36x10-10/6
cables 1-5 mm
art. no. 70.0001 for 60 mm
art. no. 70.0011 for 110 mm
art. no. 70.0021 for 140 mm
art. no. 70.0031 for 160 mm
art. no. 70.0041 for 210 mm



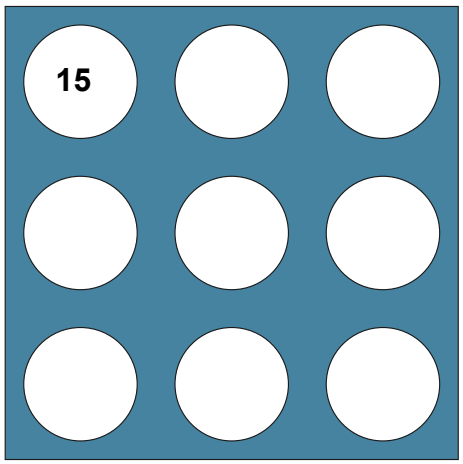
multi MB 4x30-30/24
cables 14-23 mm
art. no. 70.0004 for 60 mm
art. no. 70.0014 for 110 mm
art. no. 70.0024 for 140 mm
art. no. 70.0034 for 160 mm
art. no. 70.0044 for 210 mm



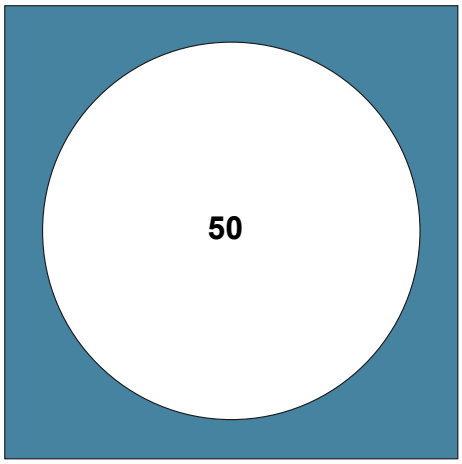
multi MB 16x15-15/11
cables 5-10 mm
art. no. 70.0002 for 60 mm
art. no. 70.0012 for 110 mm
art. no. 70.0022 for 140 mm
art. no. 70.0032 for 160 mm
art. no. 70.0042 for 210 mm



multi MB 1x60-60/44
cables 23-42 mm
art. no. 70.0005 for 60 mm
art. no. 70.0015 for 110 mm
art. no. 70.0025 for 140 mm
art. no. 70.0035 for 160 mm
art. no. 70.0045 for 210 mm



multi MB 9x20-20/15
cables 8-14 mm
art. no. 70.0003 for 60 mm
art. no. 70.0013 for 110 mm
art. no. 70.0023 for 140 mm
art. no. 70.0033 for 160 mm
art. no. 70.0043 for 210 mm



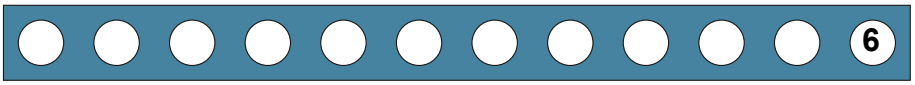
multi MB 1x60-60/50
cables 38-48 mm
art. no. 70.0006 for 60 mm
art. no. 70.0016 for 110 mm
art. no. 70.0026 for 140 mm
art. no. 70.0036 for 160 mm
art. no. 70.0046 for 210 mm

BEELE WE CARE SAFETY SEALING SYSTEMS

CONTROFIL MULTI-CABLE TRANSITS

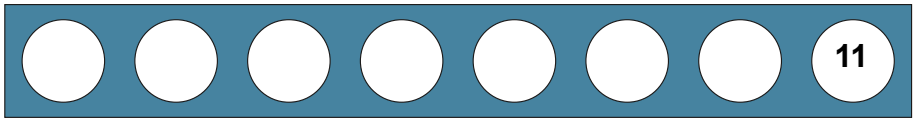
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

CONTROFIL® MULTI-CABLE PASSAGE SINGLE ROW BLOCKS 120 mm



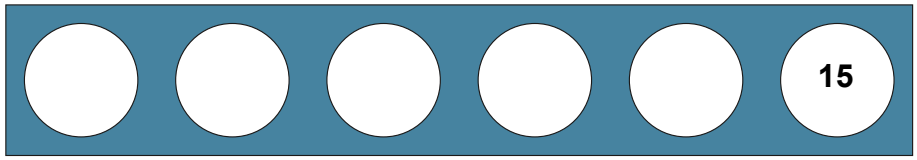
10

multi MBR 12x10-10/6
cables 1-5 mm
art. no. 70.0051 for 60 mm
art. no. 70.0061 for 110 mm
art. no. 70.0071 for 140 mm
70.0081 for 160 mm
70.0091 for 210 mm



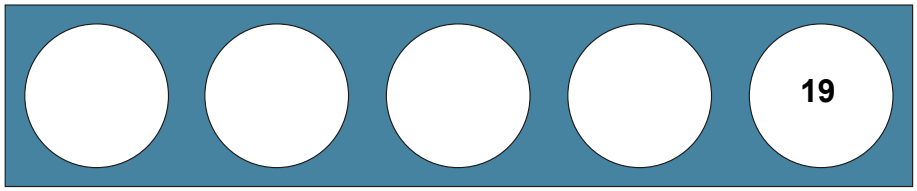
15

multi MBR 8x15-15/11
cables 5-10 mm
art. no. 70.0051 for 60 mm
art. no. 70.0061 for 110 mm
art. no. 70.0071 for 140 mm
70.0081 for 160 mm
70.0091 for 210 mm



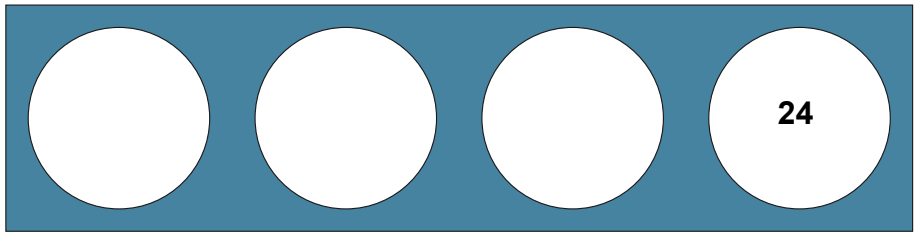
20

multi MBR 6x20-20/15
cables 8-14 mm
art. no. 70.0053 for 60 mm
art. no. 70.0063 for 110 mm
art. no. 70.0073 for 140 mm
art. no. 70.0083 for 160 mm
art. no. 70.0093 for 210 mm



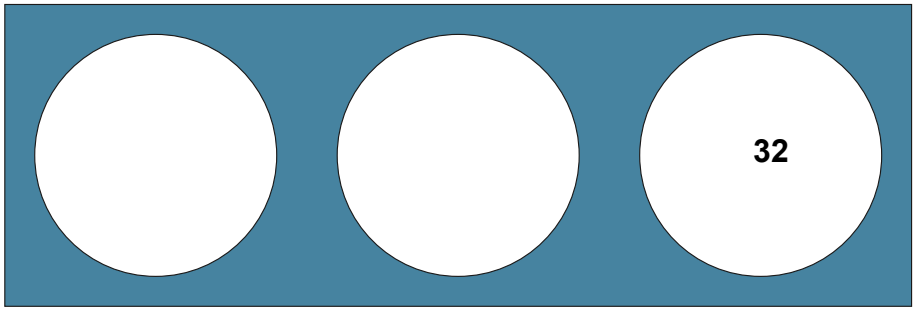
24

multi MBR 5x24-24/19
cables 12-18 mm
art. no. 70.0054 for 60 mm
art. no. 70.0064 for 110 mm
art. no. 70.0074 for 140 mm
art. no. 70.0084 for 160 mm
art. no. 70.0094 for 210 mm



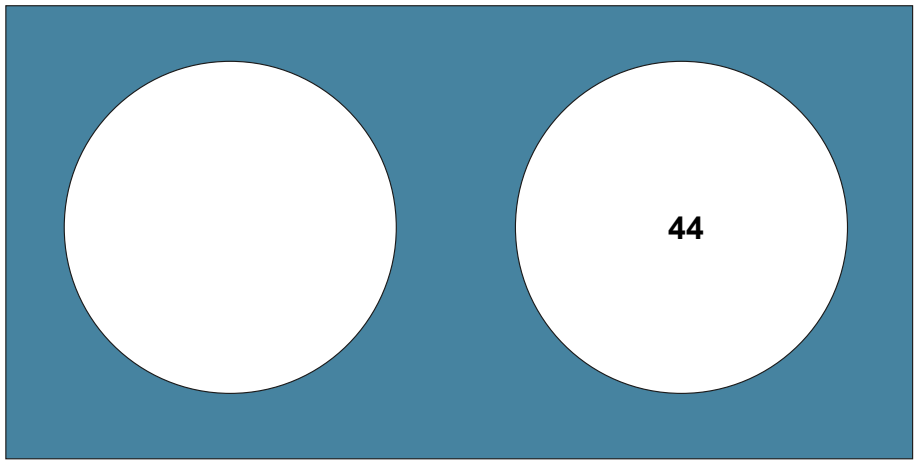
30

multi MBR 4x30-30/24
cables 14-23 mm
art. no. 70.0055 for 60 mm
art. no. 70.0065 for 110 mm
art. no. 70.0075 for 140 mm
art. no. 70.0085 for 160 mm
art. no. 70.0095 for 210 mm



40

multi MBR 3x40-40/32
cables 22-30 mm
art. no. 70.0056 for 60 mm
art. no. 70.0066 for 110 mm
art. no. 70.0076 for 140 mm
art. no. 70.0086 for 160 mm
art. no. 70.0096 for 210 mm

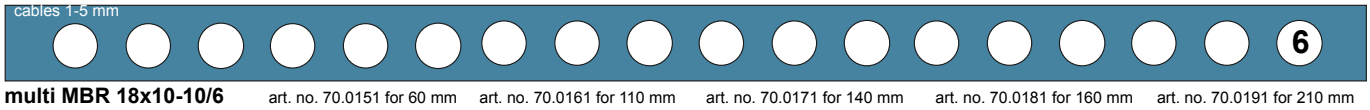


60

multi MBR 2x60- 60/44
cables 28-42 mm
art. no. 70.0057 for 60 mm
art. no. 70.0067 for 110 mm
art. no. 70.0077 for 140 mm
art. no. 70.0087 for 160 mm
art. no. 70.0097 for 210 mm

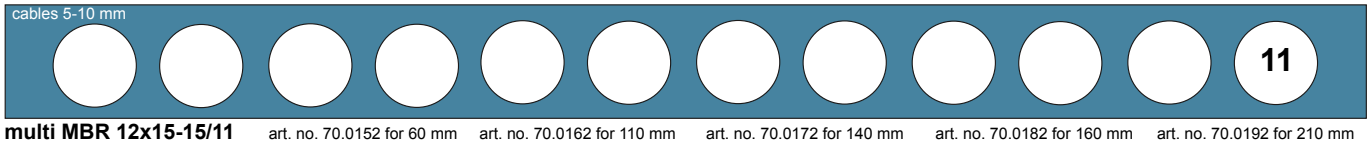
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

CONTROFIL® MULTI-CABLE PASSAGE SINGLE ROW BLOCKS 180 mm



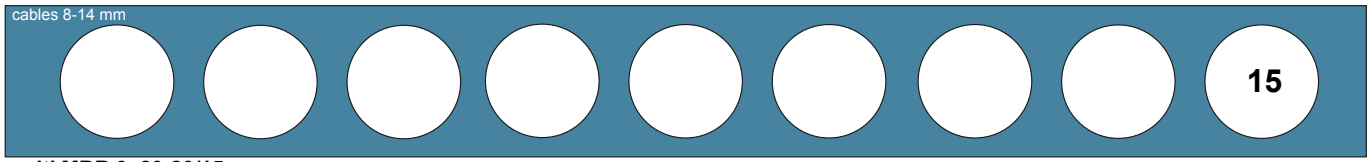
10

multi MBR 18x10-10/6 art. no. 70.0151 for 60 mm | art. no. 70.0161 for 110 mm | art. no. 70.0171 for 140 mm | art. no. 70.0181 for 160 mm | art. no. 70.0191 for 210 mm



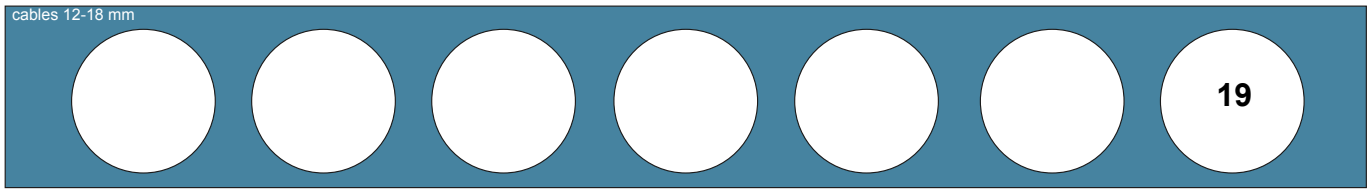
15

multi MBR 12x15-15/11 art. no. 70.0152 for 60 mm | art. no. 70.0162 for 110 mm | art. no. 70.0172 for 140 mm | art. no. 70.0182 for 160 mm | art. no. 70.0192 for 210 mm



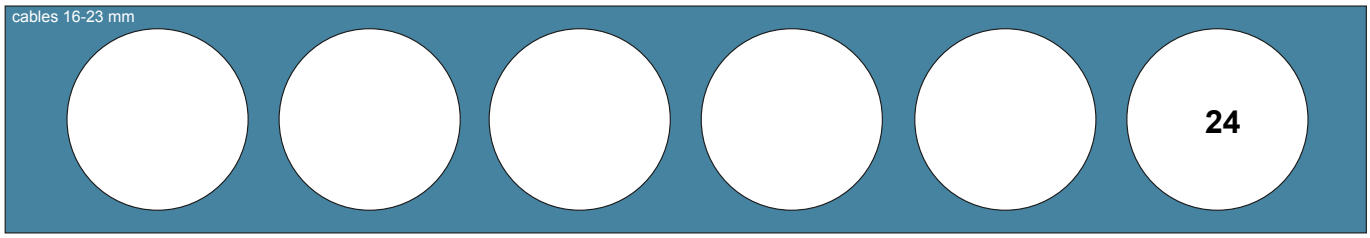
20

multi MBR 9x20-20/15 art. no. 70.0153 for 60 mm | art. no. 70.0163 for 110 mm | art. no. 70.0173 for 140 mm | art. no. 70.0183 for 160 mm | art. no. 70.0193 for 210 mm



24

multi MBR 7x24-24/19 art. no. 70.0154 for 60 mm | art. no. 70.0164 for 110 mm | art. no. 70.0174 for 140 mm | art. no. 70.0184 for 160 mm | art. no. 70.0194 for 210 mm



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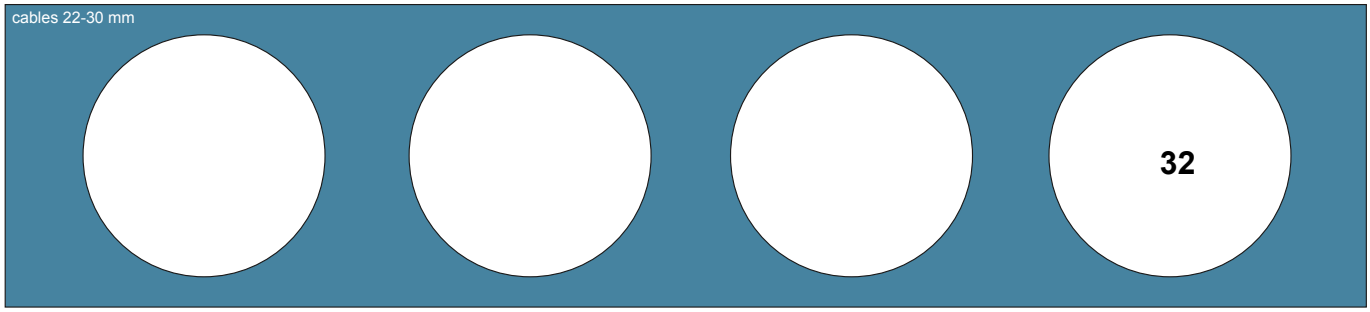
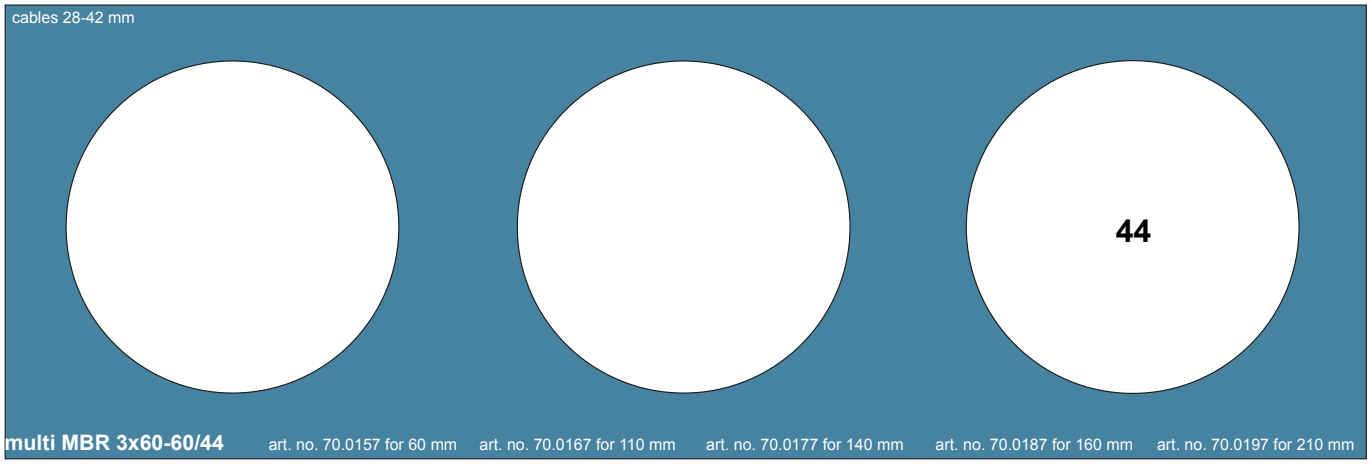
multi MBR 6x30-30/24 art. no. 70.0155 for 60 mm | art. no. 70.0165 for 110 mm | art. no. 70.0175 for 140 mm | art. no. 70.0185 for 160 mm | art. no. 70.0195 for 210 mm



40

multi MBR 4x40-40/32 art. no. 70.0156 for 60 mm | art. no. 70.0166 for 110 mm | art. no. 70.0176 for 140 mm | art. no. 70.0186 for 160 mm | art. no. 70.0196 for 210 mm



60

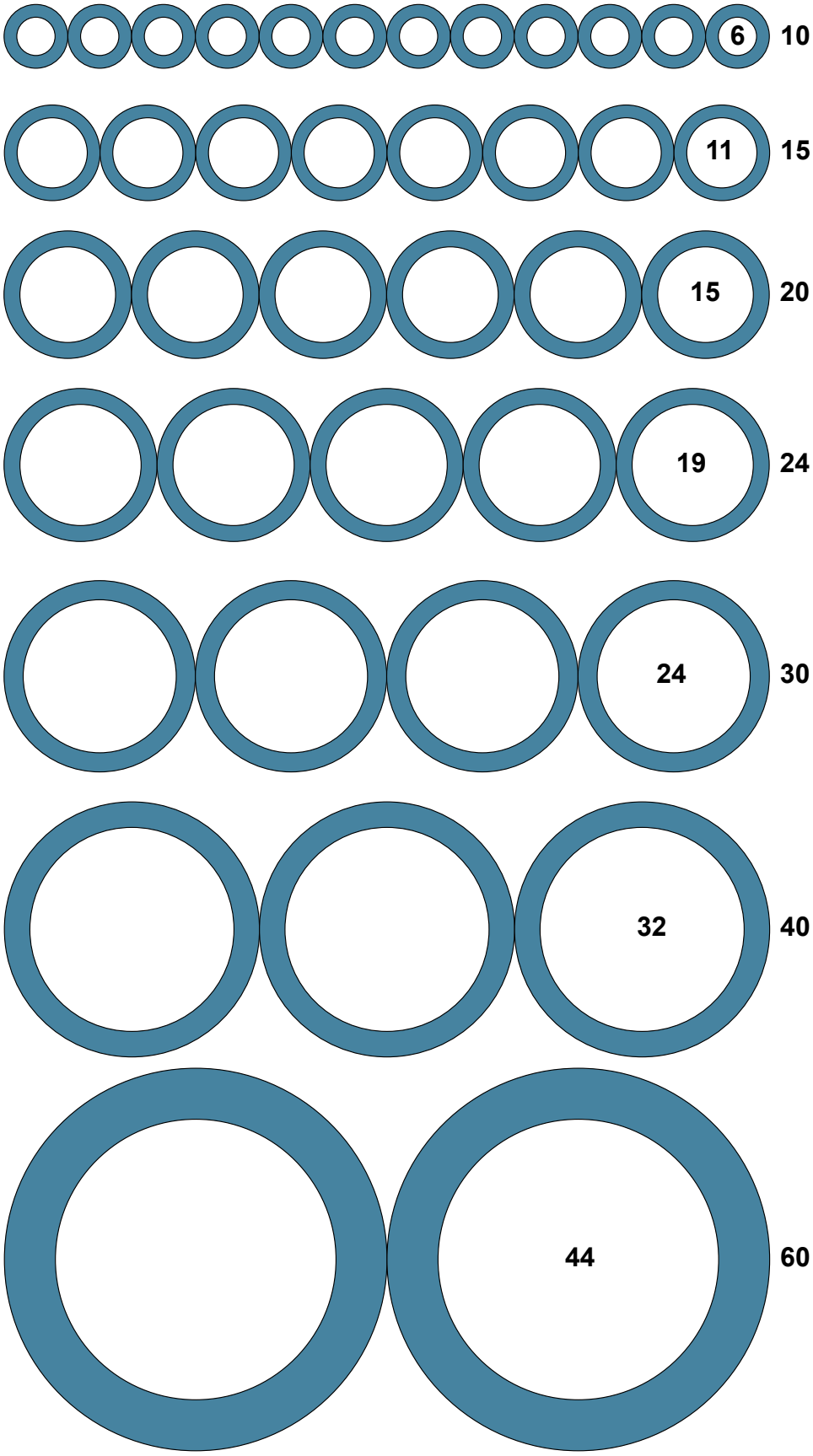
multi MBR 3x60-60/44 art. no. 70.0157 for 60 mm | art. no. 70.0167 for 110 mm | art. no. 70.0177 for 140 mm | art. no. 70.0187 for 160 mm | art. no. 70.0197 for 210 mm

BEELE WE CARE SAFETY SEALING SYSTEMS

CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

CONTROFIL® MULTI-CABLE PASSAGE SLEEVES 120 mm



multi MS 12x10-10/6
cables 1-5 mm
art. no. 70.0201 for 60 mm
art. no. 70.0211 for 110 mm
art. no. 70.0221 for 140 mm
70.0231 for 160 mm
70.0241 for 210 mm

multi MS 8x15-15/11
cables 5-10 mm
art. no. 70.0202 for 60 mm
art. no. 70.0212 for 110 mm
art. no. 70.0222 for 140 mm
70.0232 for 160 mm
70.0242 for 210 mm

multi MS 6x20-20/15
cables 8-14 mm
art. no. 70.0203 for 60 mm
art. no. 70.0213 for 110 mm
art. no. 70.0223 for 140 mm
art. no. 70.0233 for 160 mm
art. no. 70.0243 for 210 mm

multi MS 5x24-24/19
cables 12-18 mm
art. no. 70.0204 for 60 mm
art. no. 70.0214 for 110 mm
art. no. 70.0224 for 140 mm
art. no. 70.0234 for 160 mm
art. no. 70.0244 for 210 mm

multi MS 4x30-30/24
cables 14-23 mm
art. no. 70.0205 for 60 mm
art. no. 70.0215 for 110 mm
art. no. 70.0225 for 140 mm
art. no. 70.0235 for 160 mm
art. no. 70.0245 for 210 mm

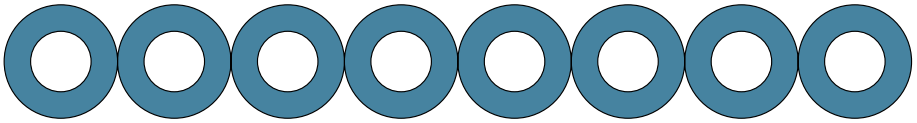
multi MS 3x40-40/32
cables 22-30 mm
art. no. 70.0206 for 60 mm
art. no. 70.0216 for 110 mm
art. no. 70.0226 for 140 mm
art. no. 70.0236 for 160 mm
art. no. 70.0246 for 210 mm

multi MS 2x60- 60/44
cables 28-42 mm
art. no. 70.0207 for 60 mm
art. no. 70.0217 for 110 mm
art. no. 70.0227 for 140 mm
art. no. 70.0237 for 160 mm
art. no. 70.0247 for 210 mm

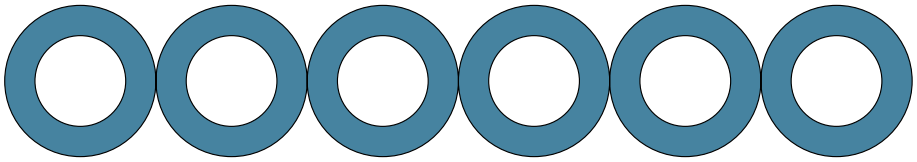
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

CONTROFIL® MULTI-CABLE FILLER SLEEVES 120 mm & BLOCK FILLER

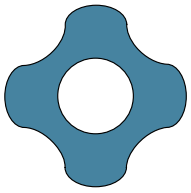
multi filler 12x10-10/4
art. no. 70.0301 for 60 mm
art. no. 70.0311 for 110 mm
art. no. 70.0321 for 140 mm
art. no. 70.0331 for 160 mm
art. no. 70.0341 for 210 mm



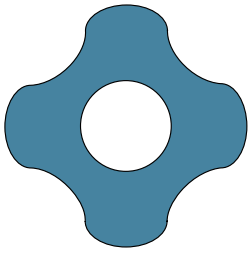
multi filler 8x15-15/8
art. no. 70.0302 for 60 mm
art. no. 70.0312 for 110 mm
art. no. 70.0322 for 140 mm
art. no. 70.0332 for 160 mm
art. no. 70.0342 for 210 mm



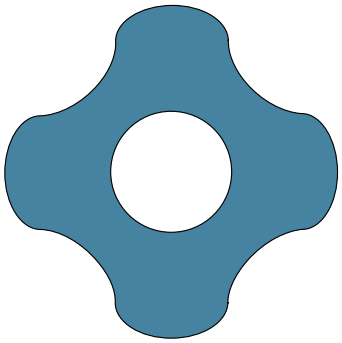
multi filler 6x20-20/12
art. no. 70.0303 for 60 mm
art. no. 70.0313 for 110 mm
art. no. 70.0323 for 140 mm
art. no. 70.0333 for 160 mm
art. no. 70.0343 for 210 mm



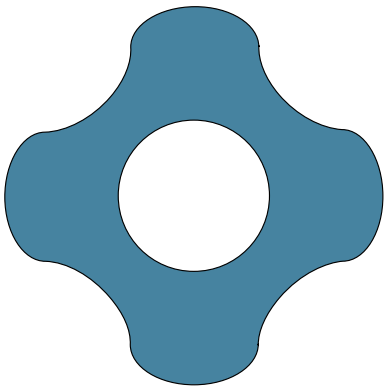
block filler 24/10
art. no. 70.0351 for 60 mm
art. no. 70.0361 for 110 mm
art. no. 70.0371 for 140 mm
art. no. 70.0381 for 160 mm
art. no. 70.0391 for 210 mm



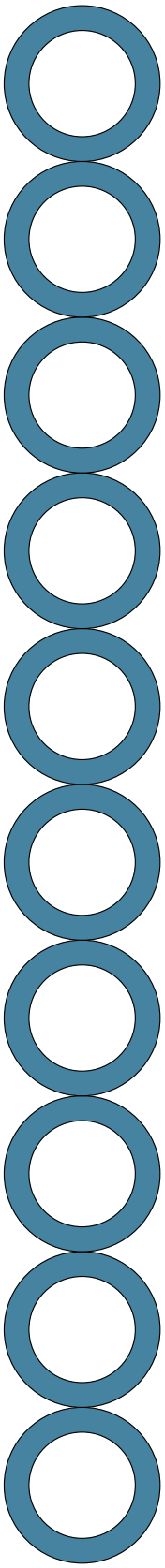
block filler 32/12
art. no. 70.0352 for 60 mm
art. no. 70.0362 for 110 mm
art. no. 70.0372 for 140 mm
art. no. 70.0382 for 160 mm
art. no. 70.0392 for 210 mm



block filler 44/16
art. no. 70.0353 for 60 mm
art. no. 70.0363 for 110 mm
art. no. 70.0373 for 140 mm
art. no. 70.0383 for 160 mm
art. no. 70.0393 for 210 mm



block filler 50/20
art. no. 70.0354 for 60 mm
art. no. 70.0364 for 110 mm
art. no. 70.0374 for 140 mm
art. no. 70.0384 for 160 mm
art. no. 70.0394 for 210 mm

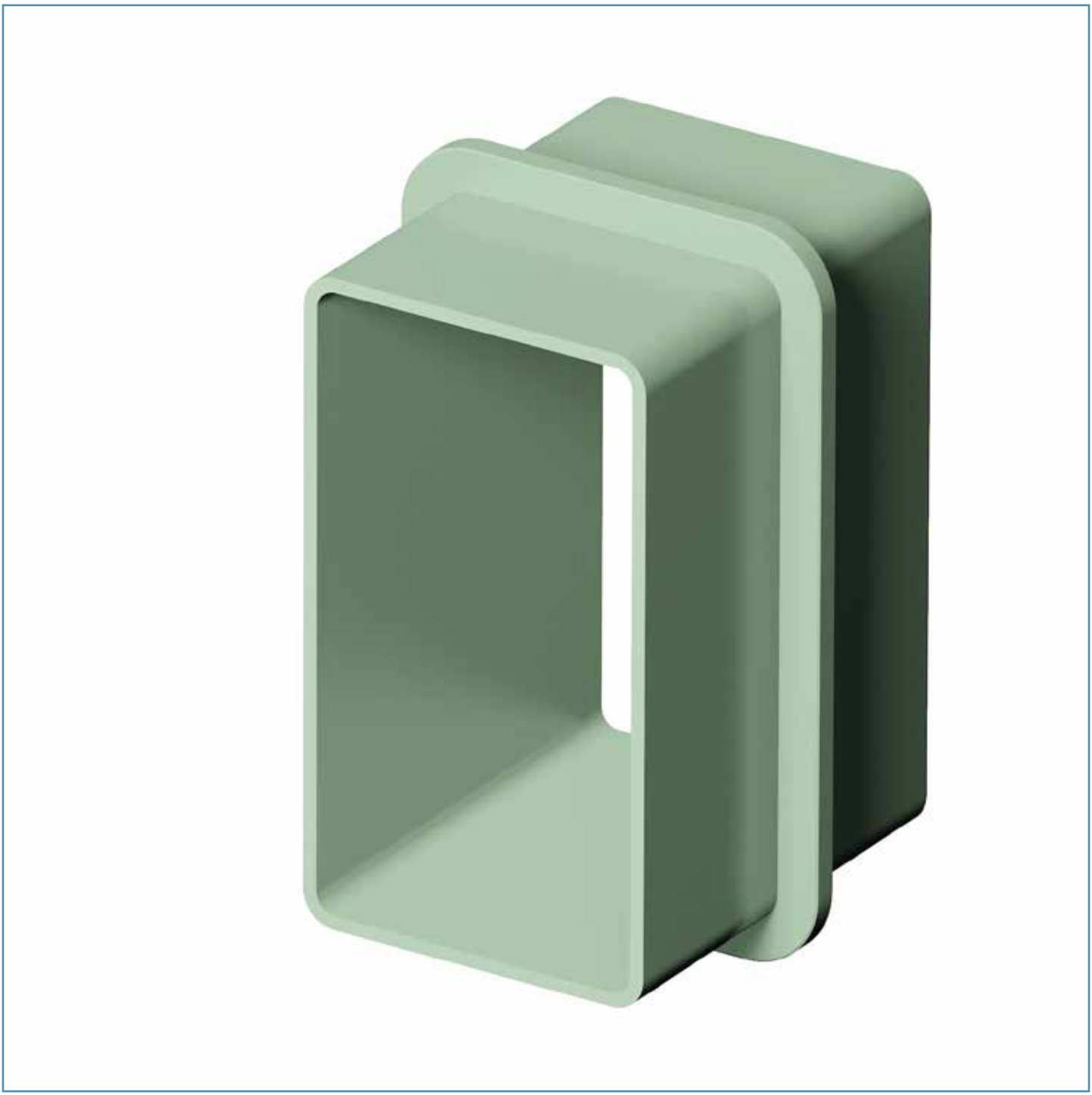


multi filler sleeve 22/15
art. no. 70.0304 for 60 mm
art. no. 70.0314 for 110 mm
art. no. 70.0324 for 140 mm
art. no. 70.0334 for 160 mm
art. no. 70.0344 for 210 mm

BEELE WE CARE SAFETY SEALING SYSTEMS

CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



For optimum performance of the CONTROFIL® block type multi-cable transits, the inner dimensions of the transit frames are of utmost importance. CONTROFIL® frames are supplied single and as multi-window combinations. The frames have a welding flange. The inner dimensions of the single frames are 160x120 mm or 220x120 mm. The frames are made from steel EN 10216-1/10210 St. 52-3N or stainless steel 1.4571. Due to the presence of a welding flange, the wall thickness of the frames is limited to a minimum of 5 mm.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO®
DUCT & SEALING SYSTEM TYPE MB/MBR

The welding flange is 10 mm thick, 15 mm high with rounded corners to enable good positioning for welding and to prevent welding stresses in the construction. The thickness of the welding flange prevents tilting of the conduit frame or destroying the thinner wall conduit frames during welding. The stainless steel CONTROFIL® conduit frames (1.4571) are passivated and are exposed in the technical laboratory of BEELE Engineering to a salt fog test for 20 years sea water resistance.

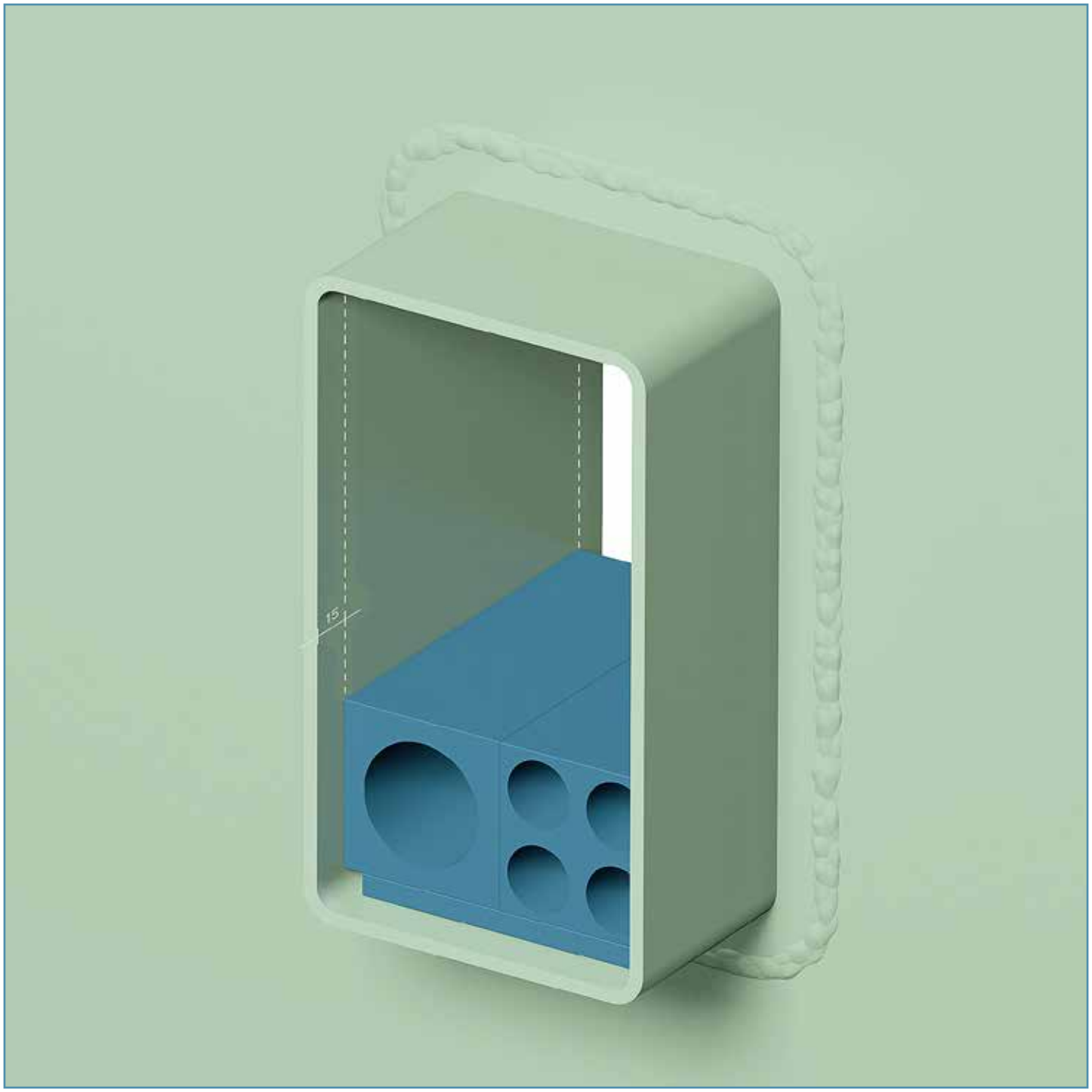
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

A coating is applied to prevent corrosion, especially at the inside of the CONTROFIL® transit frames, to make installation easier and to optimize for tightness ratings. However, the transit frames might be welded into the partition long before cable pulling will start. For this reason, the status of the inside of the frames has to be checked when starting cable pulling. Before insertion of the CONTROFIL® multi-blocks, the inside of the transit frames have to be cleaned and any dirt, oil, grease and other residues or corrosion should be removed from the inside of the CONTROFIL® transit frame.

CONTROFIL
MULTI-CABLE TRANSITS

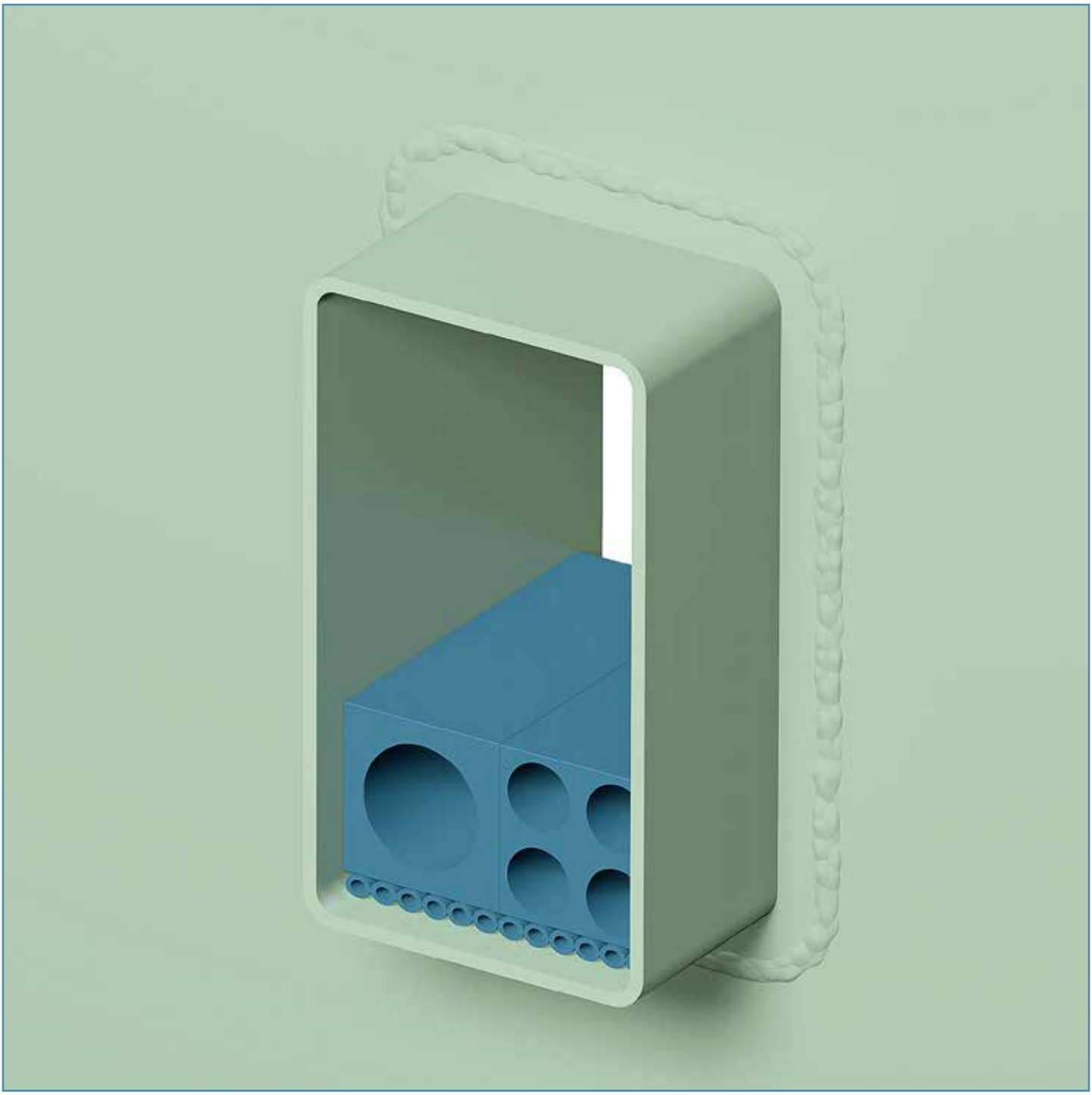
SAFETY SEALING SYSTEMS
BEELE WE CARE

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



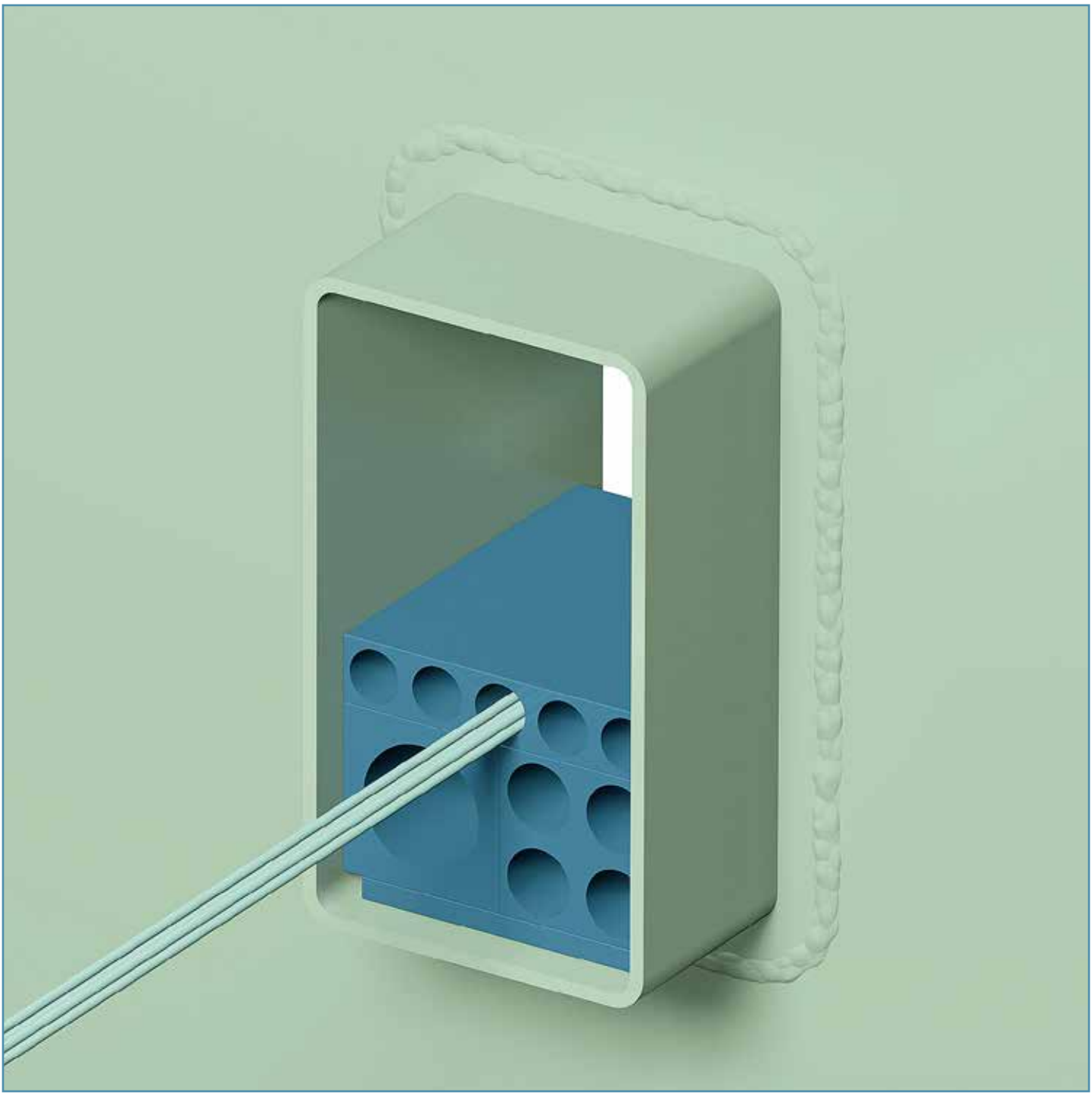
CONTROFIL® multi-block (MB/MBR) type multi-cable transits are specially developed to avoid overfilling of multi-cable transits. Cable lay-outs that are based on published cable diameters, face the risk that the actual cable diameters on site are totally different. Open transits at site allow for pulling more cables through than planned. Sealing the multi-cable penetration will then be difficult or not possible at all. With the CONTROFIL® multi-block system these risks are minimized. The lay-out can be determined at site, based on the actual cables to be ducted. Ultimately, this system “self-governs” the cable fill, and prevents over-filling. The blocks have to be inserted leaving minimum 15 mm free space inside the frame at both sides.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



A CONTROFIL® fill plate or a fitting CONTROFIL® multi-sleeve, with a height equal to the bending radii of the corners of the transit frame is placed at the bottom of the frame. This is needed to prevent the blocks from being inserted in the bending radii of the frame.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

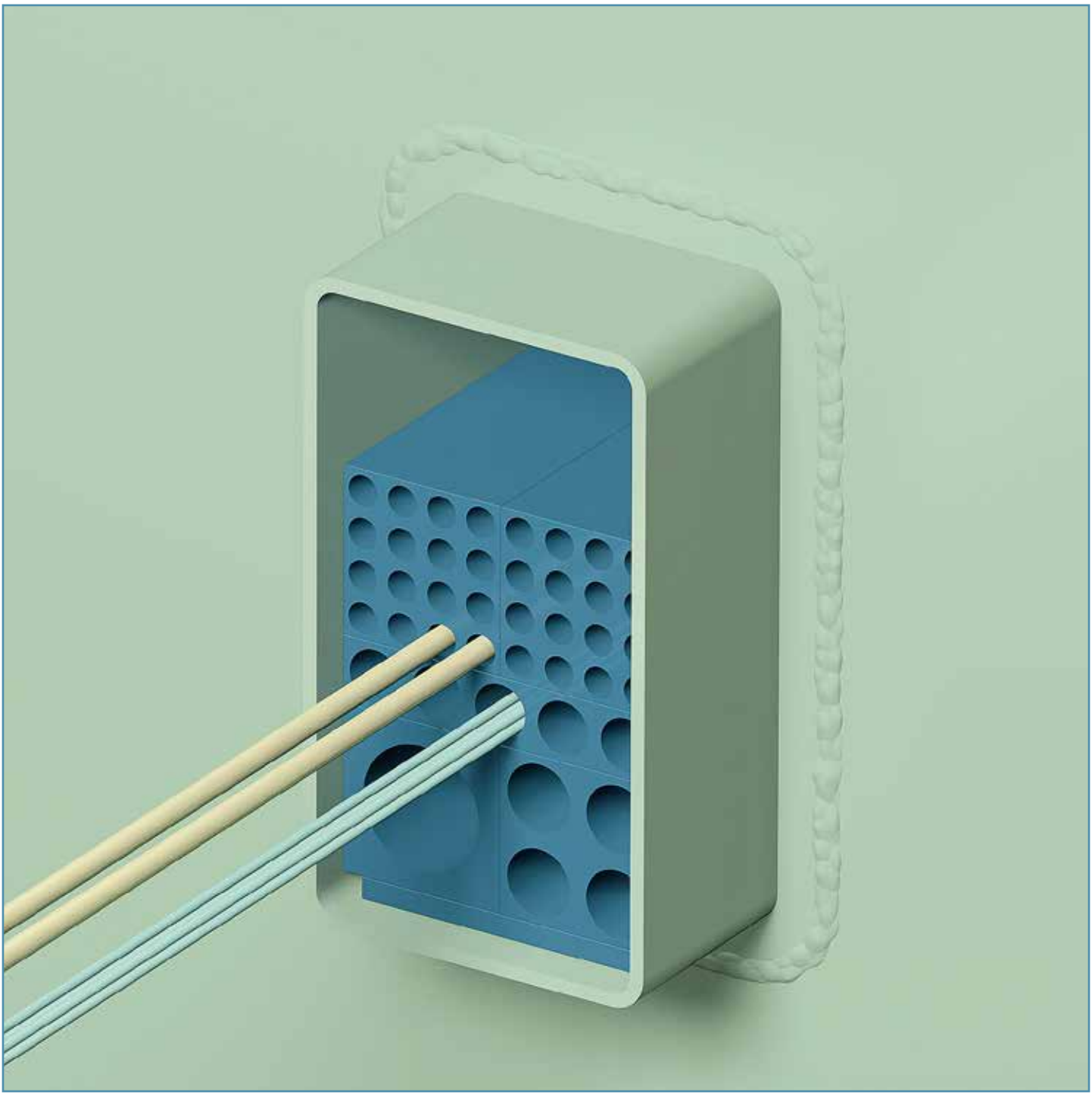


On top of the fill plate/sleeve, CONTROFIL® multi-blocks are stacked. Multi-blocks are 60x60 mm or in a row version with different heights and a width of 120 mm. Available depths of the blocks are 60 mm, 110 mm, 140 mm, 160 mm and 210 mm. The multi-blocks are not used for final sealing of the multi-cable transit; they are a ducting facility. The CONTROFIL® multi-block passage holes allow for ducting one or several cables.

BEELE WE CARE SAFETY SEALING SYSTEMS

CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The CONTROFIL® multi-blocks are dimensioned to enable ease of installation without heavy forces. The optimized hardness and the smooth surface of the blocks contribute also to ease of installation. The required clamping properties of the blocks inside the frame are obtained by the quality of the CRUSHNOF® rubber, of which the blocks are made, and the engineered dimensions of the blocks. In case an incorrect block type has been selected, the blocks can be removed/replaced easily during installation, as long as there are no cables ducted. The system allows for maximum flexibility. There are 6 block types 60x60 mm and 7 block types row version 120 mm available.

CONTROFIL
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SAFETY SEALING SYSTEMS
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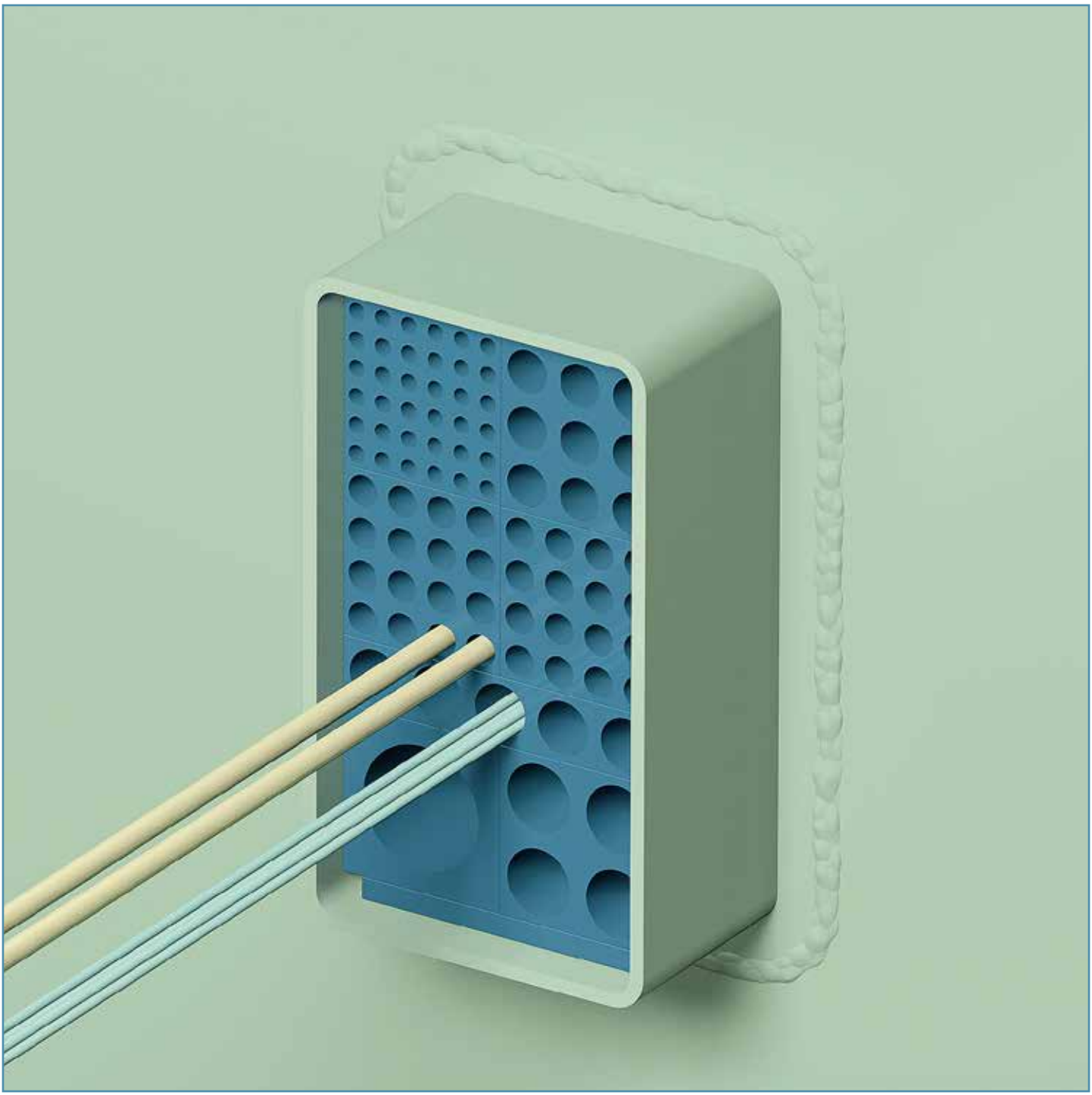
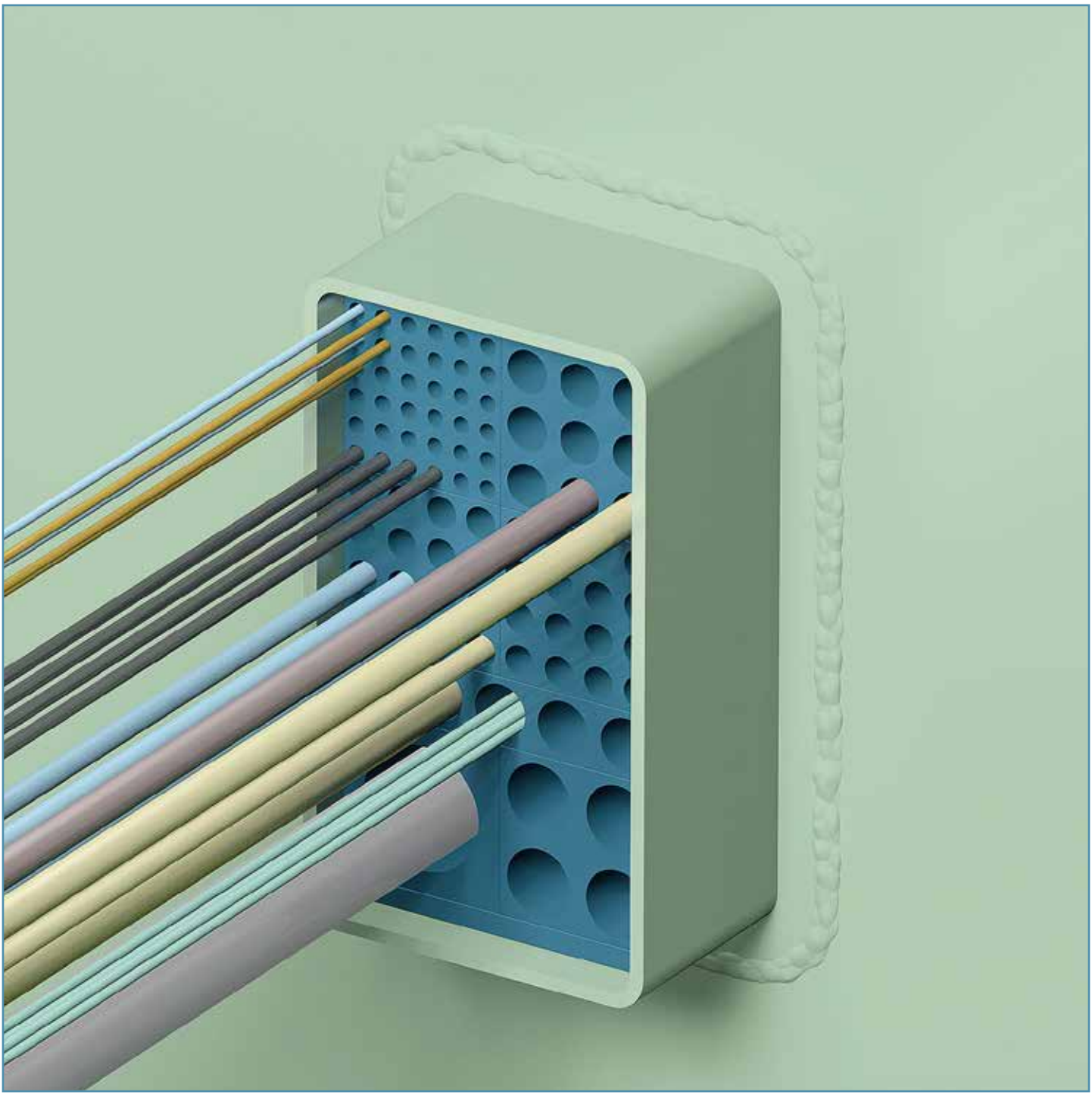
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



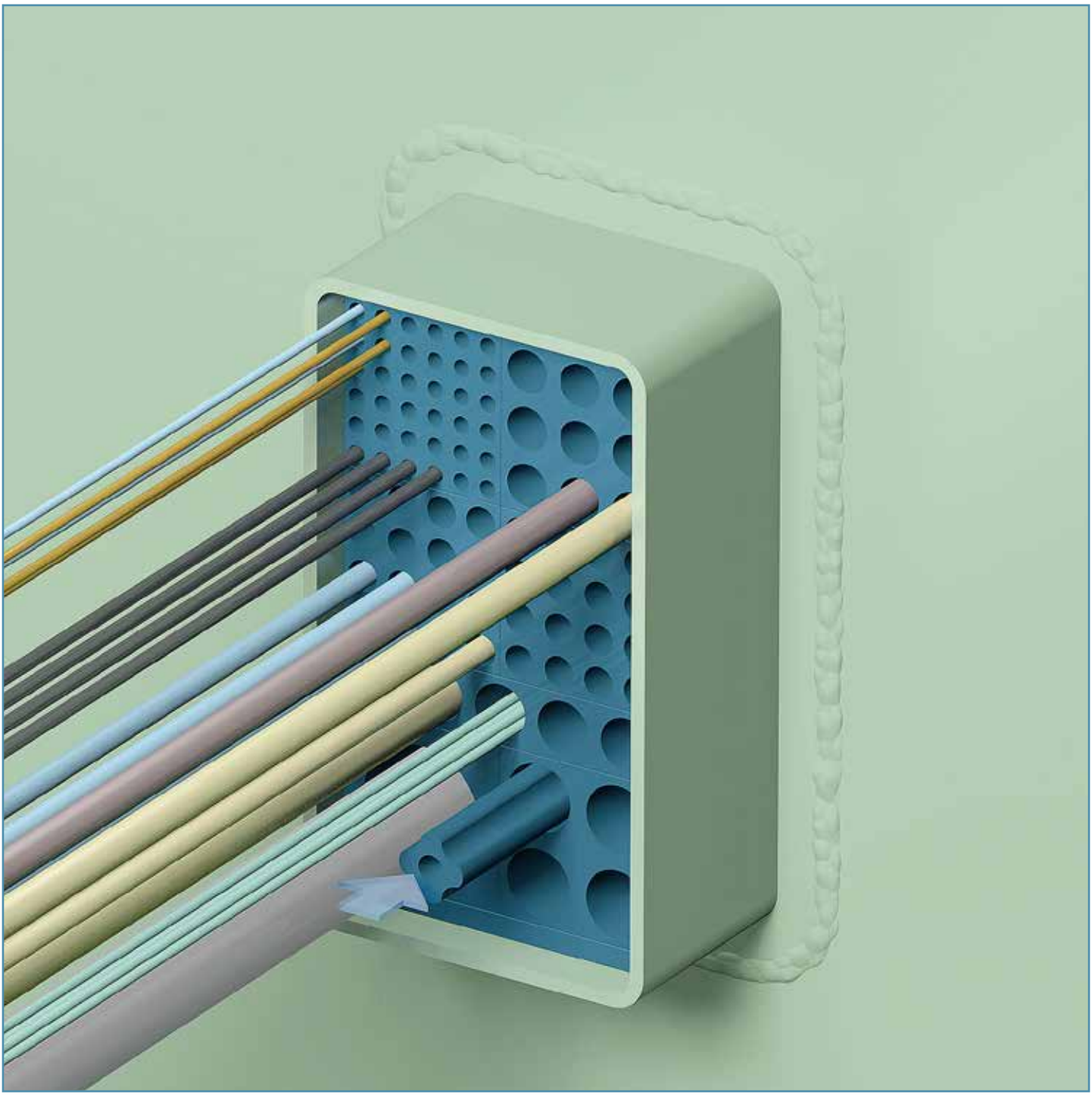
CONTROFIL® block type multi-cable transits are specially developed for a controlled filling of multi-cable transits. Conduit openings create not only the risk of overfilling, but also the risk of pulling cables through in a tangled, bent, oblique or bundled way, with the result that final sealing will be complicated, or impossible. Tightness ratings, but also fire ratings, are questionable in such cases. By inserting all the CONTROFIL® multi-blocks in the transit frame before pulling the cables these problems can be ruled out easily. A fill plate or multi-sleeve is tightly inserted on top of the stacked blocks, to improve mechanical stability of the filling and to compensate for the bending radii of the transit corners.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



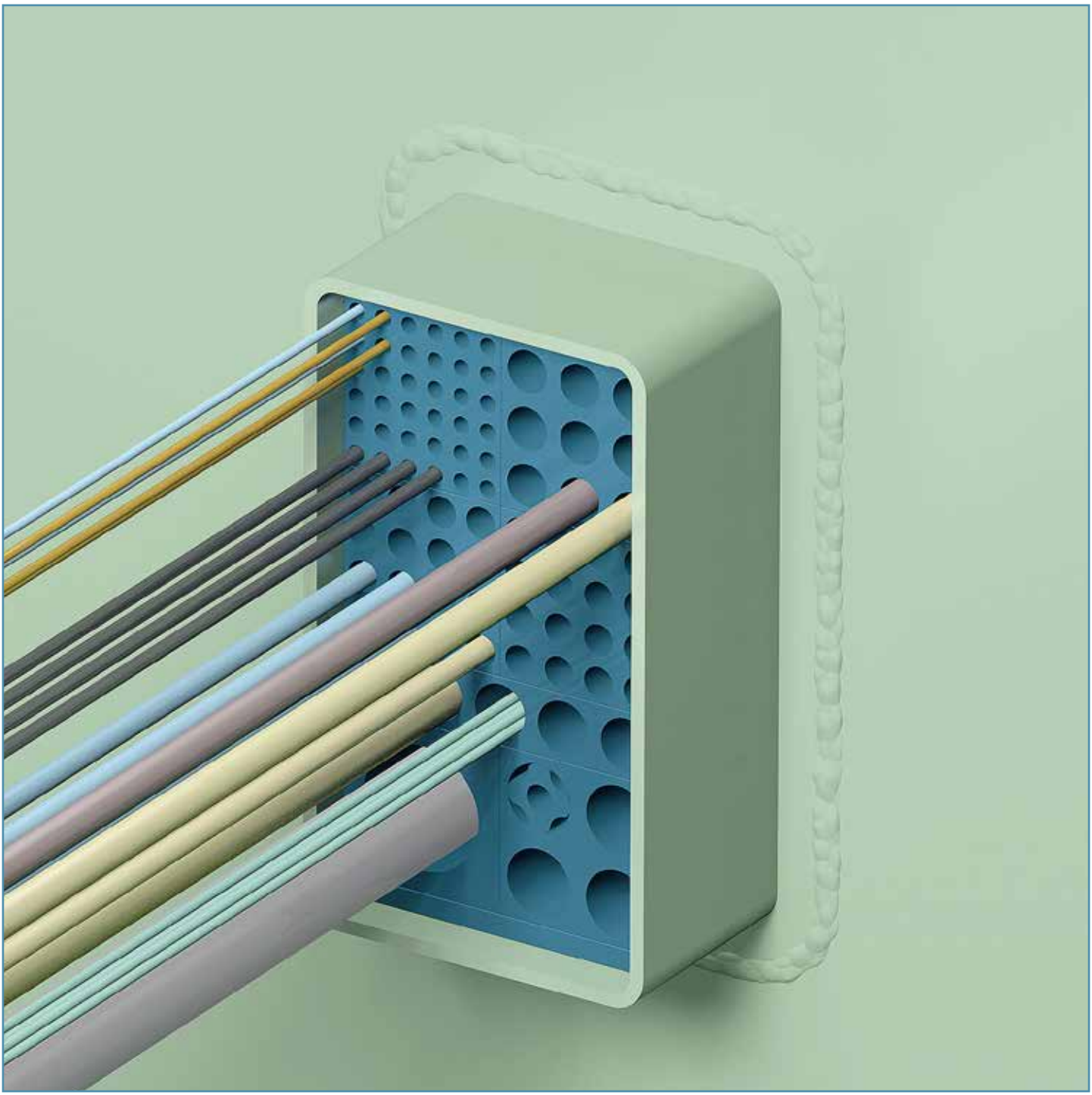
Cables can be pulled through in random order. There is always sufficient separation of the cables provided by the predetermined hole configurations of the multi-blocks. The passage holes are designed for a wide variety of cable diameters to be pulled through. The holes allow also for some limited bending of the cables since they are generally larger in diameter than the outer diameters of the ducted cables. There is no need to measure the cable diameters to select a fitting block as is the case with traditional block type systems. CONTROFIL® has been fire tested successfully with bundled cables. However, for watertight penetrations it is not allowed to duct the cables tightly bundled through a single opening.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The CRUSHNOF® rubber of which the blocks are made, is a combination of the best properties of the NOFIRNO® and CRUSHER® rubber grades, developed by BEELE Engineering. The CRUSHNOF® rubber has a controlled expansion rate under fire exposure to fill up open spaces in the blocks/transit and to compensate for the melting cable sheathings. Even during construction the system is fire safe. The CRUSHNOF® rubber will ultimately form a stiff ceramic char inside the penetration, holding all parts together. Passage holes of the larger multi-blocks types, not occupied with cables, are filled with block fillers. These can be removed when the passage hole is needed to duct a cable in a later stage.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

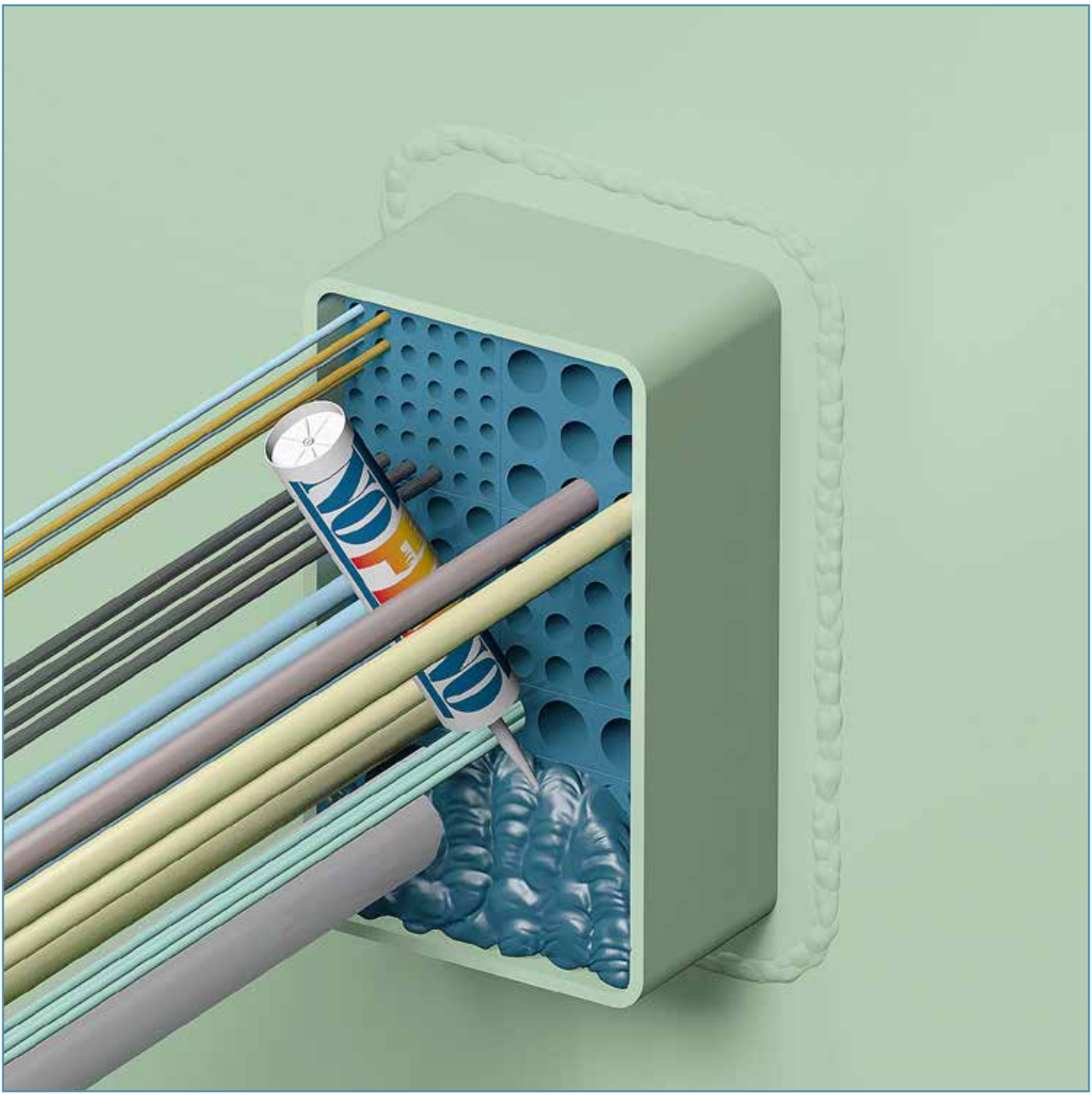


CONTROFIL® block fillers must be used for unused passage holes in the CONTROFIL® multi-blocks with sizes of the passage holes 19 up to 44 mm. In a later stage, the block fillers can be removed for extensions of the cable set. The block fillers are applied with a view to improve mechanical stability. Due to the extra amount of CRUSHNOF® rubber, the block fillers contribute to a rapid filling of the open spaces in case of fire. The other possibility to fill these openings (partly) is to place one or several CONTROFIL® filler sleeves in the non-used openings.
The CONTROFIL® multi-cable transits are optimizing the quality of installation work.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO®
DUCT & SEALING SYSTEM TYPE MB/MBR

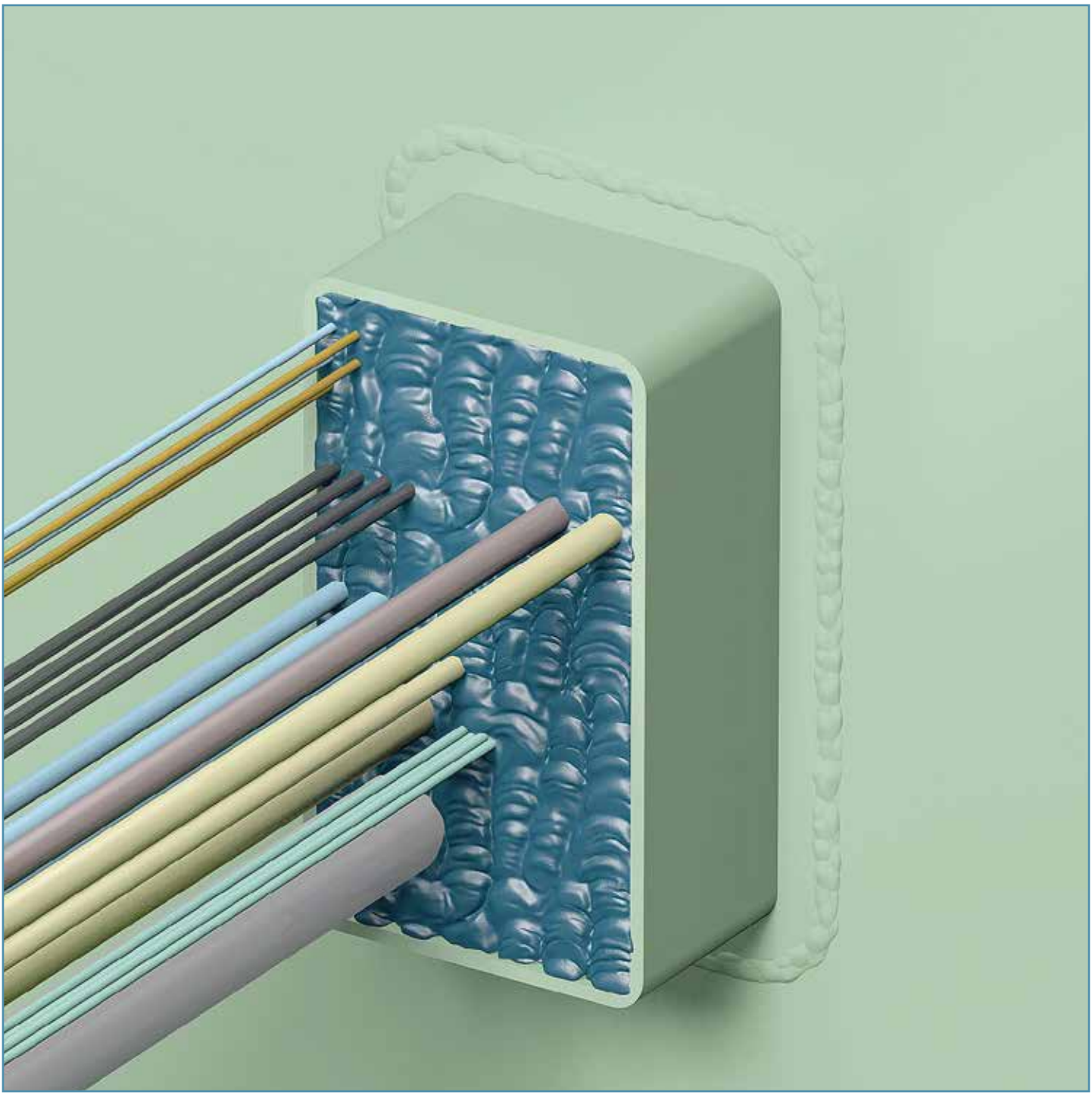
The block fillers are inserted into the larger passage holes to complete the filling of the transit. Final smoke, gas and watertight sealing of the CONTROFIL multi-cable transits is carried out with the application of NOFIRNO® sealant. NOFIRNO® sealant has proven ultimate performance with regard to mechanical and fire resistance properties, even by exposure to jet fires. The sealant is available in the standard terracotta colour or in a blue grey colour in line with the colour of the CONTROFIL® multi-blocks. Non-compressive sealing prevents heavy loads on cable sheathings, which causes cold creep, and stress relaxation of the rubber parts, causing permanent deformation and loss of sealing capacity.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



A minimum 15 mm thick layer of NOFIRNO® sealant is applied at each side of the CONTROFIL® multi-cable transit. Clean and dry the wall of the transit frame inside as well as the cables thoroughly, and remove any dirt, rust or oil residues before applying the sealant. Use our professional sealant guns. Hand fatigue is prevented and optimum flow of the sealant is obtained. Skin formation of the sealant takes place after ca. 10-15 minutes. Apply only such an amount of sealant which can be finished within this time span. People with sensitive skin should use gloves when working with NOFIRNO®.
Please refer to the Safety Data Sheet for more information.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



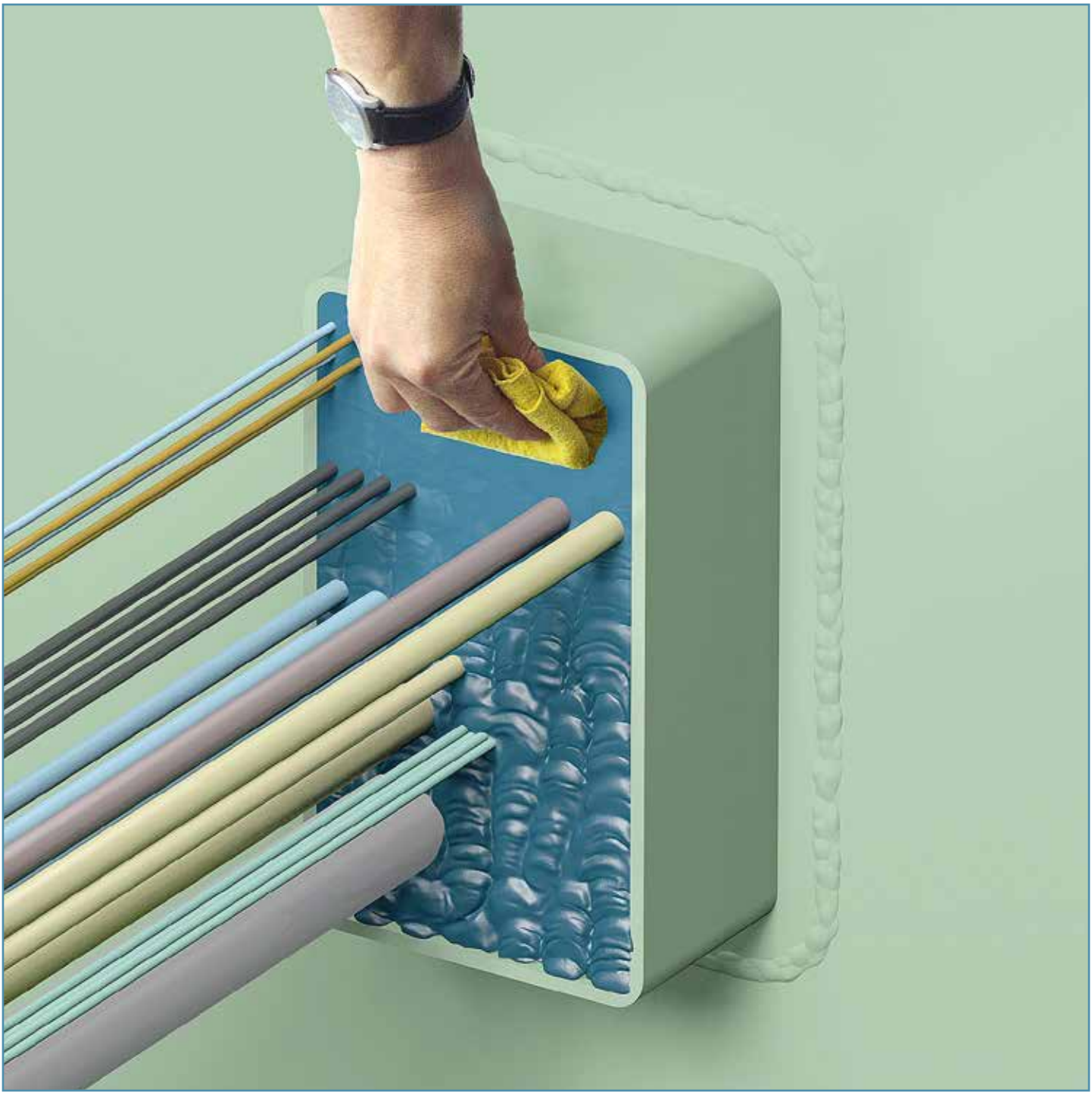
The transit should be overfilled with NOFIRNO® sealant, because some sealant will be pushed into the empty spaces at both sides of the fill blocks (top/bottom) and into the non-used passages of the CONTROFIL® multi-blocks during further finishing. This will contribute to obtain higher tightness ratings. NOFIRNO® sealant has an engineered viscosity, preventing the sealant from sagging and also allowing for a perfect flow of the sealant between the cables during injection. The NOFIRNO® sealant can be applied overhead for deck/floor transits without dripping or sagging. For cable transits with a high filling rate, longer nozzles for the sealant cartridges are available.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

To smooth the surface of the NOFIRNO® sealant layer, a cloth is sprayed with water. This prevents the sealant from sticking to the cloth.
Note: do not use soap water! Soap water will have a negative impact on the adhesive properties of the sealant.

People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The cloth is then used to press down the sealant layer flush with the end of the transit frame.

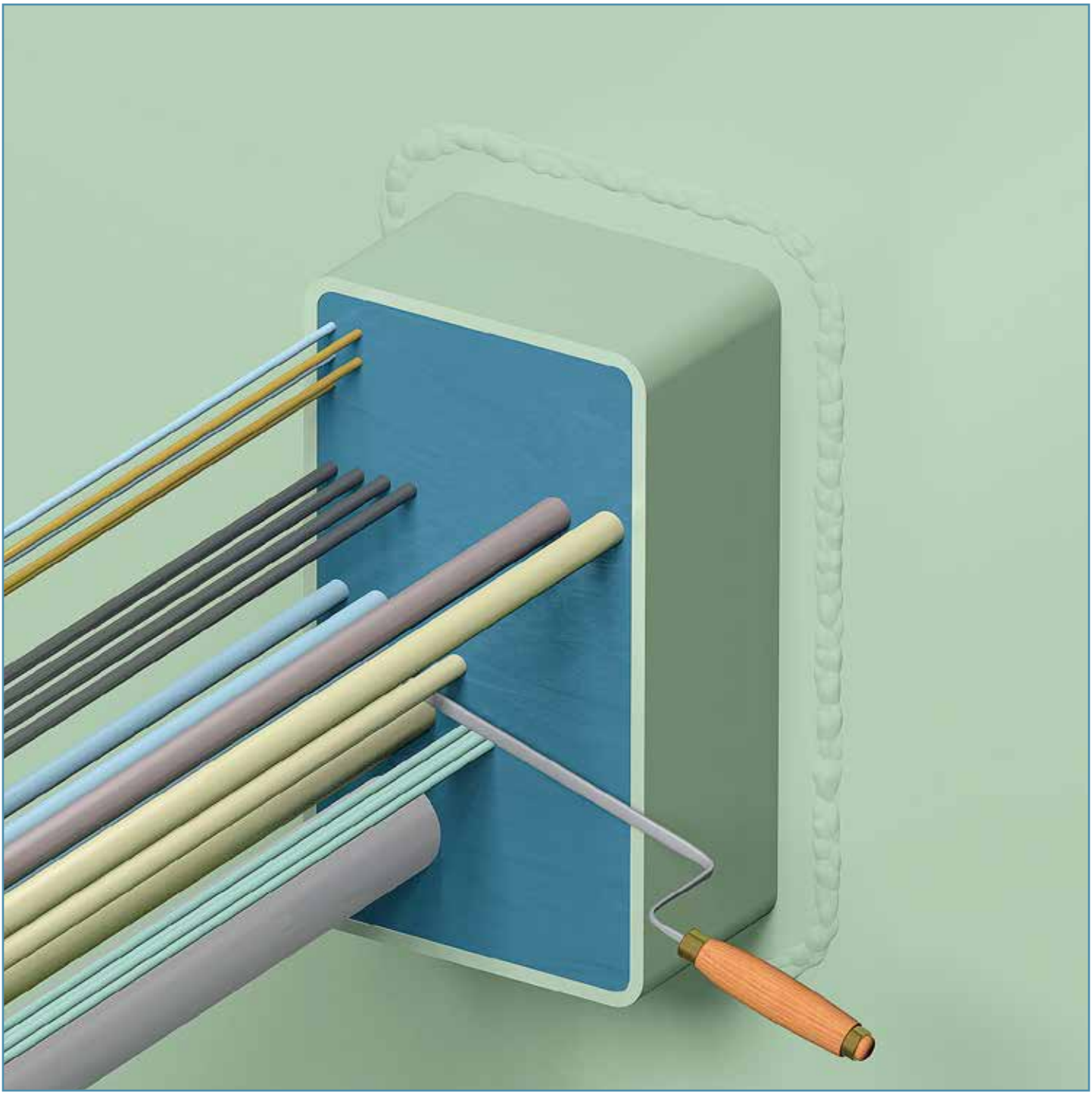
Note: do not use soap water! Soap water will have a negative impact on the adhesive properties of the sealant.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

The surface can be smoothed by hand. Just wet the hands thoroughly with soap and water. No dirty hands when working with NOFIRNO® and a very neat surface is the result.

People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

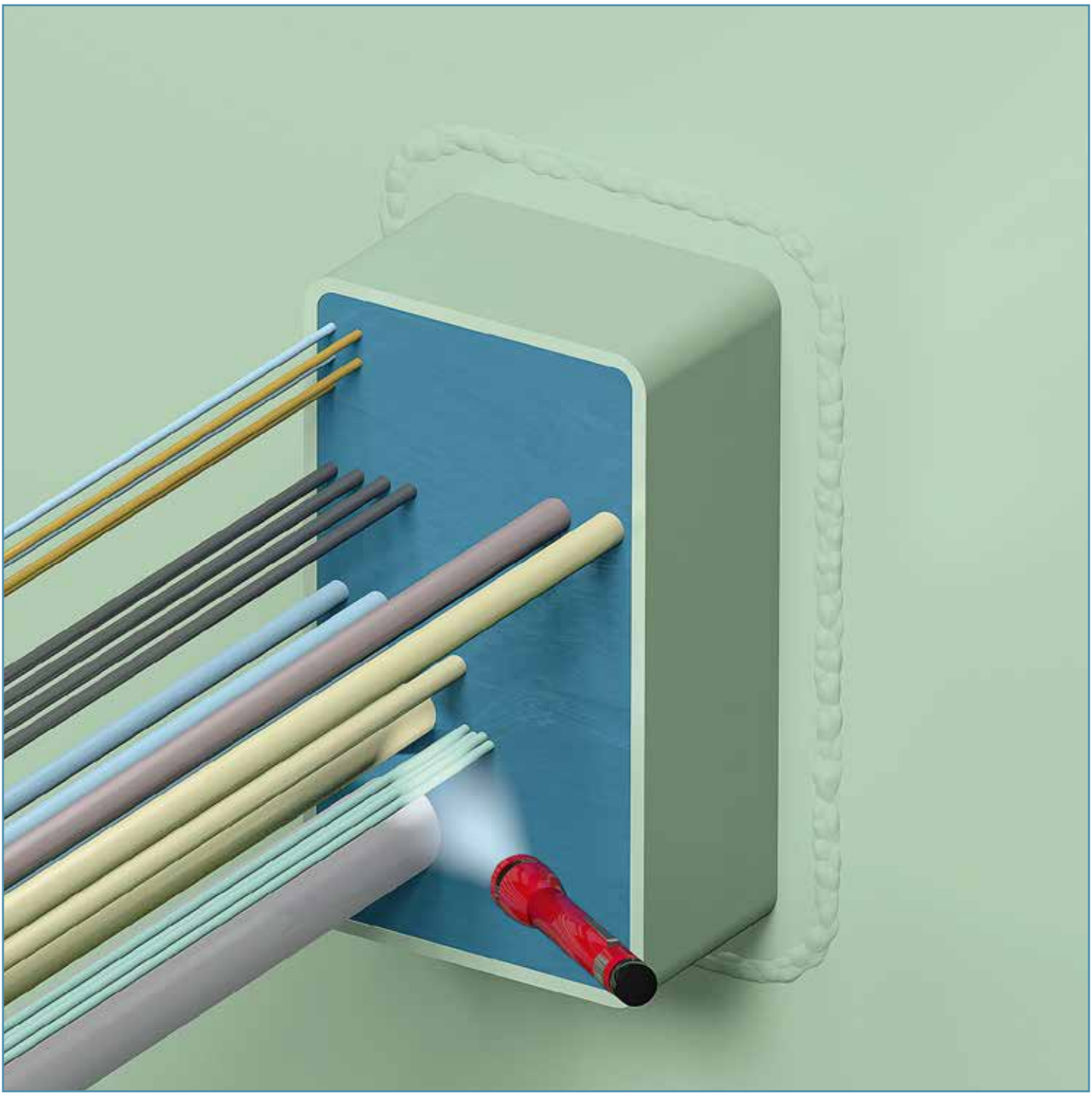
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The NOFIRNO® sealant between the cables is pressed down and smoothed by hand or with a spatula or putty knife. A special tool, developed by BEELE Engineering, with a PTFE compression/ smoothing part is available. The sealant will not stick to the PTFE.

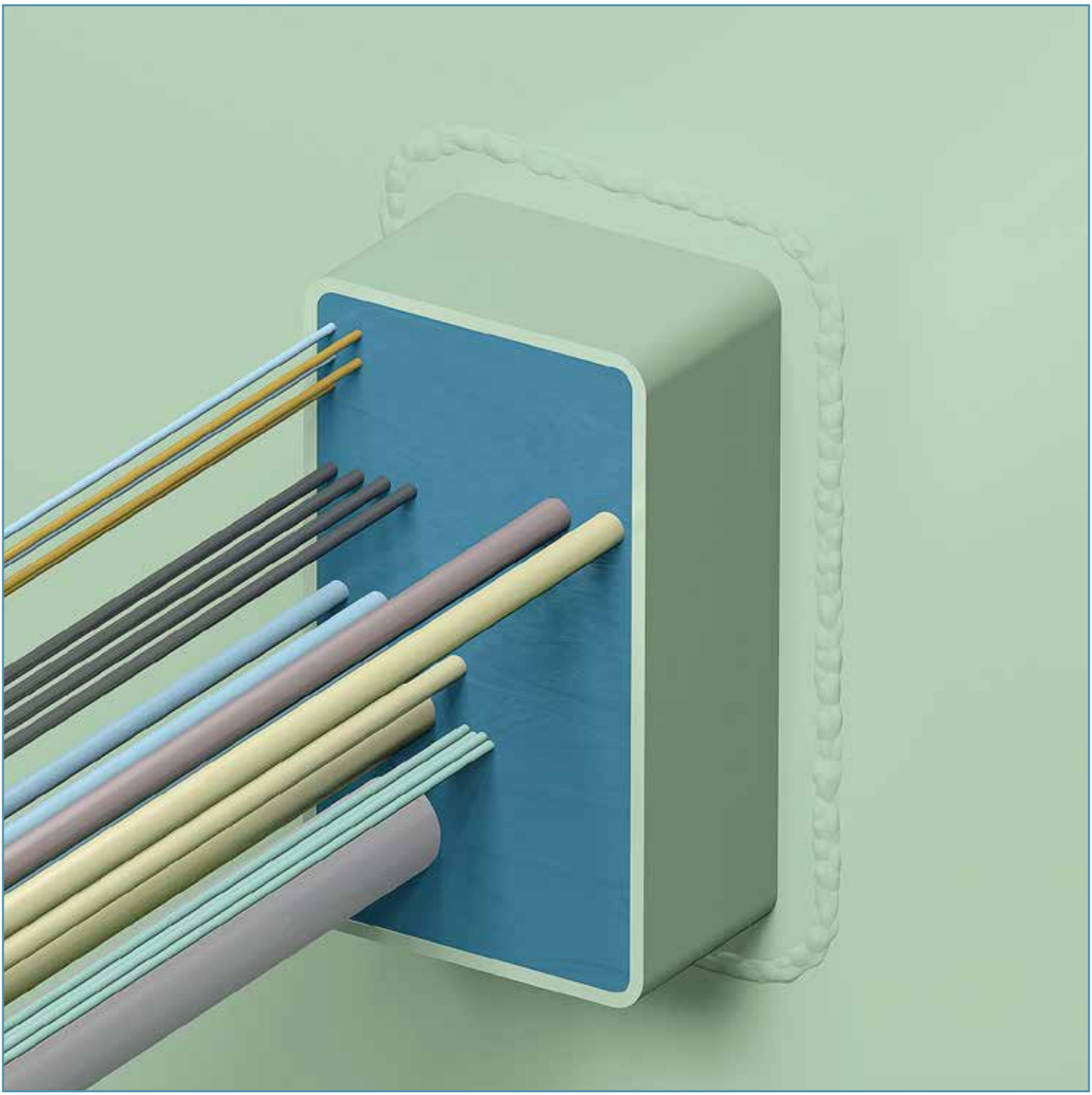
Compression and smoothing is essential to obtain an effective gas and water tightness.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



After smoothing is finished, a last check should be taken to ensure sufficient sealant has been applied in between the cables (especially for transits with larger amounts of cables). This is most important for water and gas tight penetrations.
Although the CONTROFIL® multi-blocks allow for only limited displacement of the ducted cables, the cables should be tightly fixed immediately after finishing the transit to obtain optimum adhesion during the curing process of the sealant. Note: time needed for curing of the sealant is dependent on air humidity in combination with the environmental temperature.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

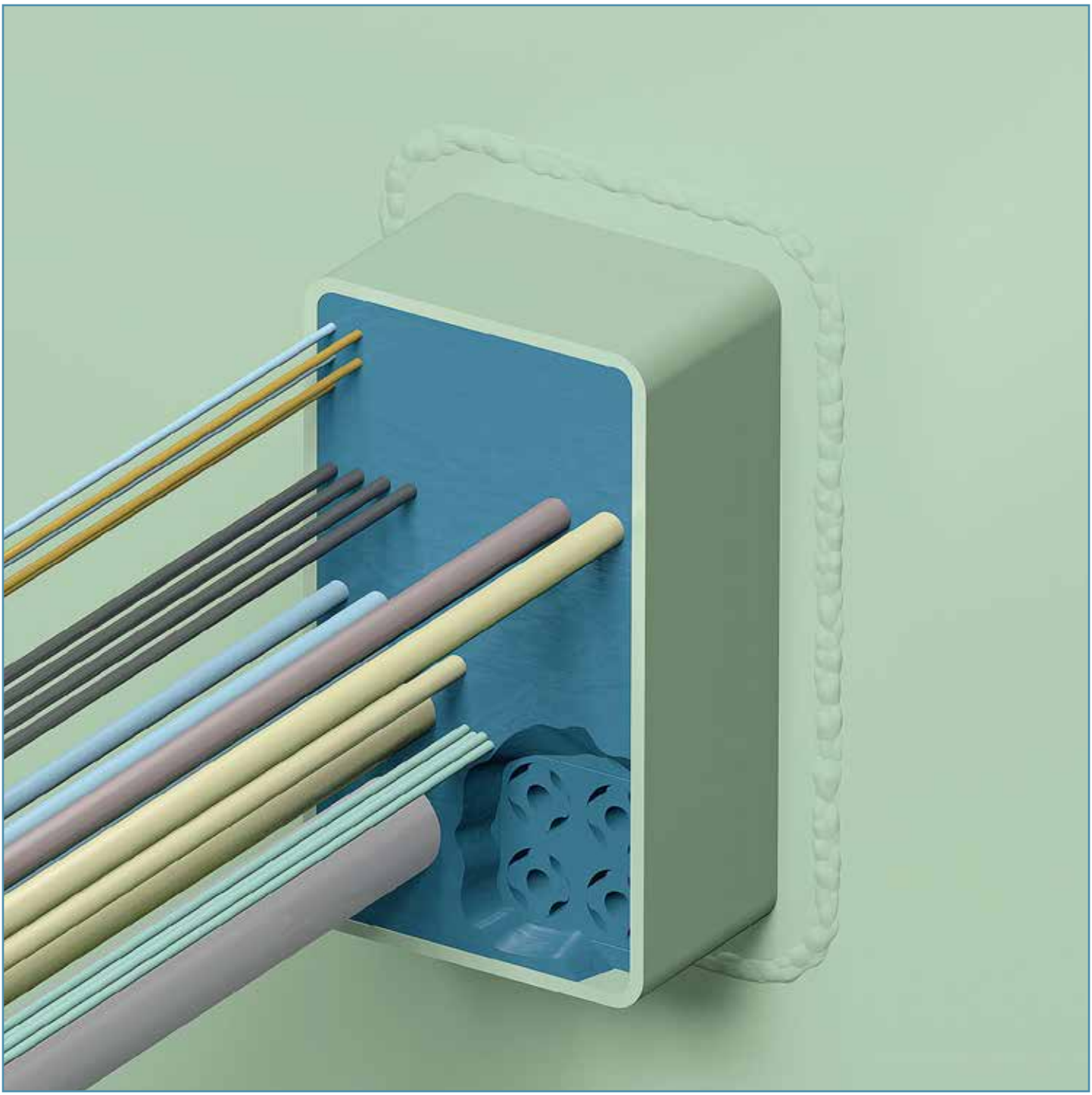


The depth of the CONTROFIL® multi-cable transit system has been reduced compared to the RISE® and NOFIRNO® cable transits on the basis of the fire technical properties of the CRUSHNOF® rubber grade and the reduction of the thickness of the sealant layer. The NOFIRNO® sealant immediately forms a protective layer and char when exposed to flames, in this way protecting the filling of the penetration seal; the CRUSHNOF® rubber will not be consumed by the fire and compensates for burned/melted cable sheathings. The engineered expansion ratio of the rubber is developed to maintain sealing performance under fire load. No shrinkage of the CONTROFIL® rubber parts will occur.

BEELE WE CARE SAFETY SEALING SYSTEMS

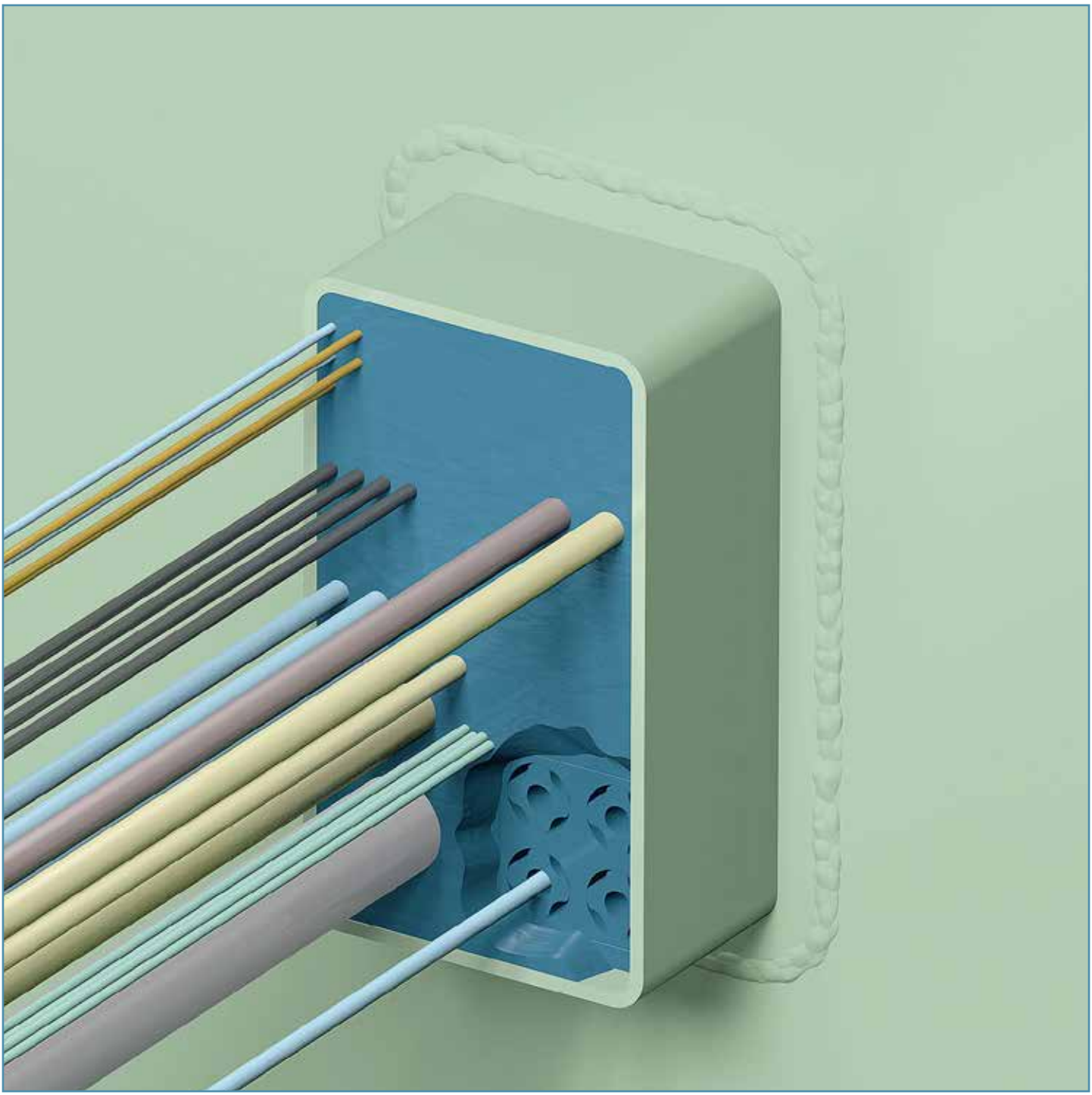
CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



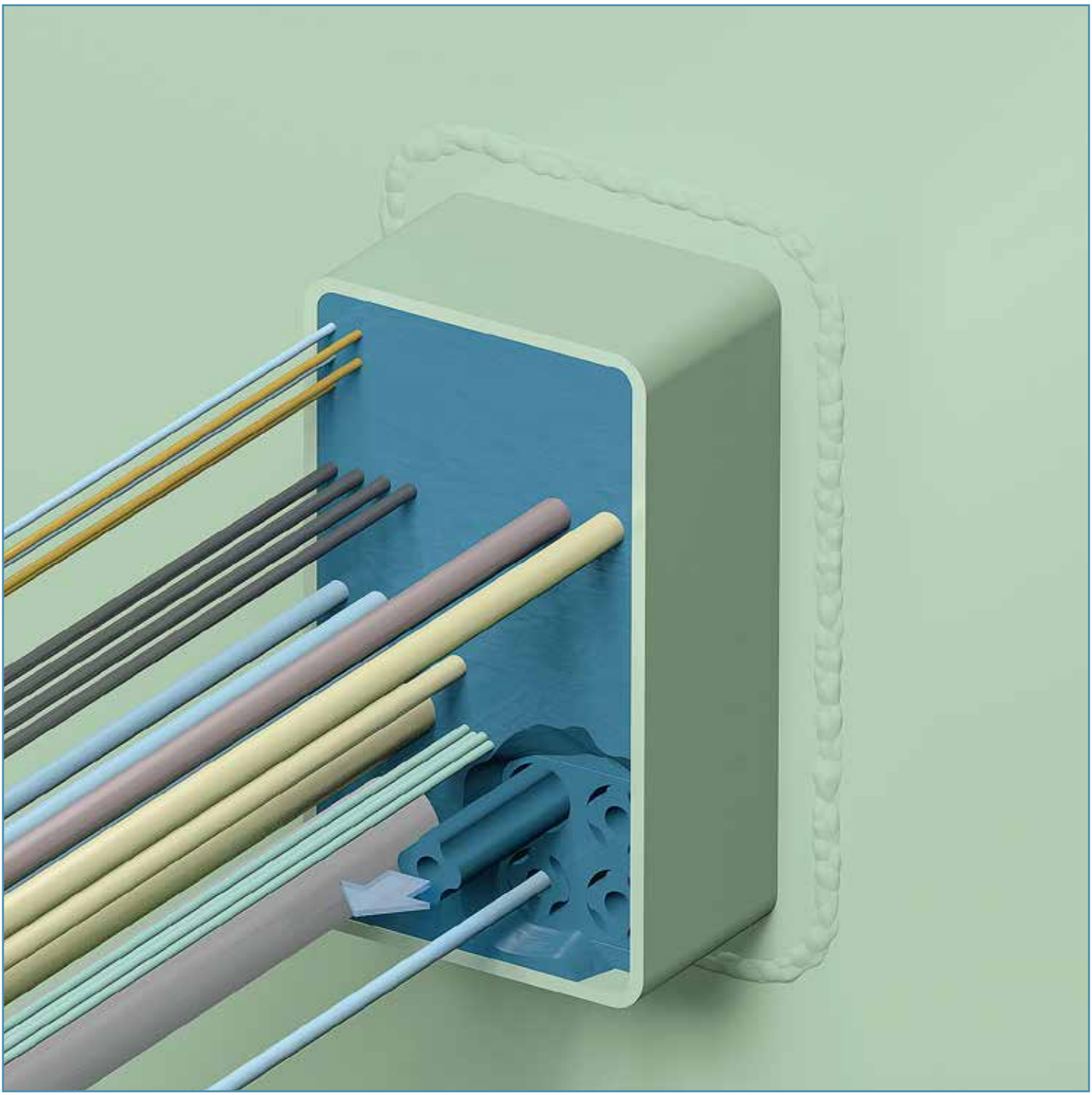
Adding extra cables through a finished CONTROFIL® multi-cable transit is an easy job. With CONTROFIL® no permanent deformation of the rubber parts will occur and the cables are ducted individually. This means there is no need to disassemble the whole transit. Note: CONTROFIL® is not a compressive sealing system. Cut away the sealant layer at both sides of the penetration with a plastic knife or a hollow punch in a tapering shape at a spot where there is sufficient spare space visible on the surface of the sealant layer. To locate the multi-blocks for certain dimensions of cables, CONTROFIL® markers (not shown) could be installed in the passages not used for cables.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



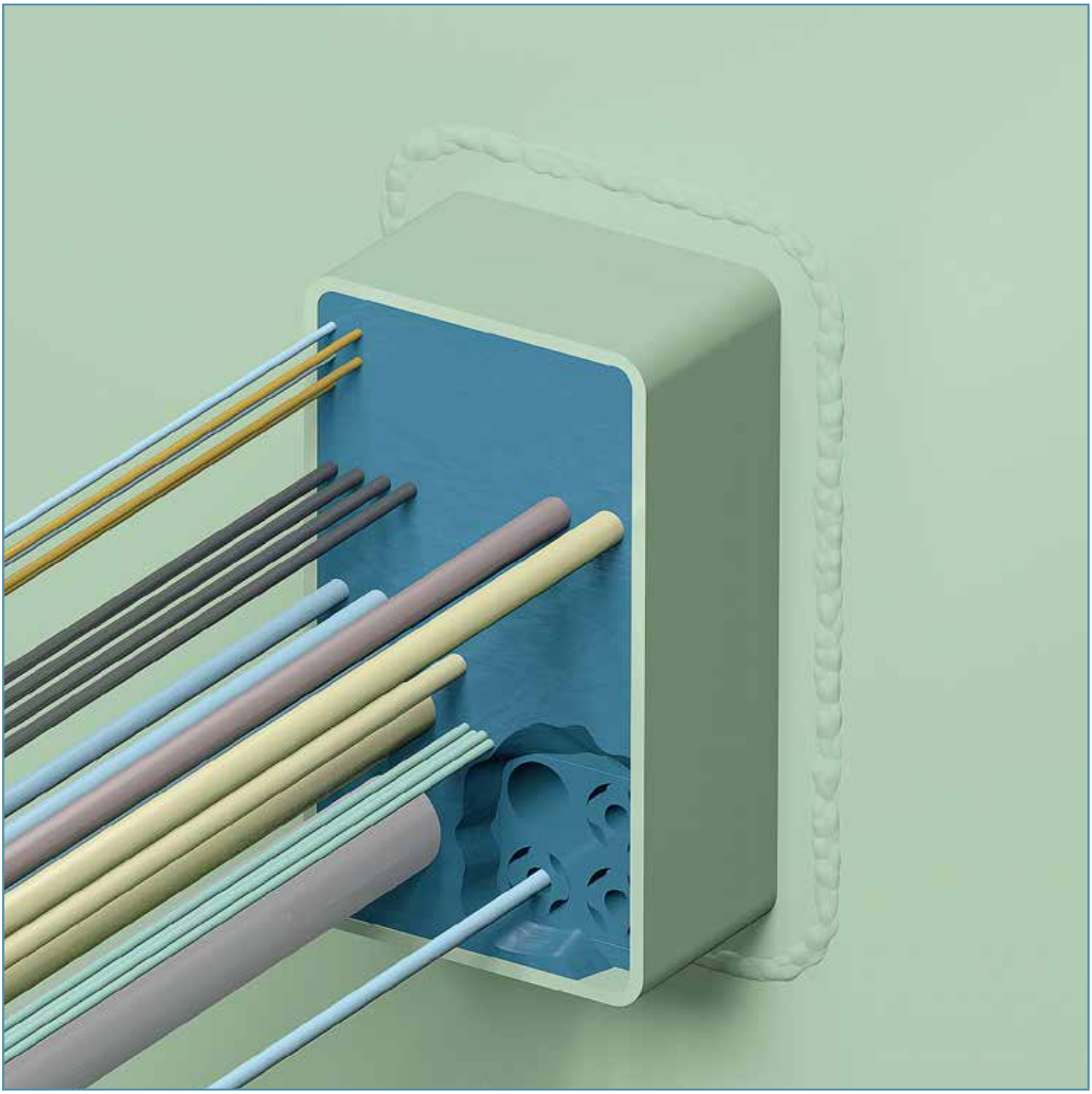
In case a small diameter cable has to be pulled through, the free space around or in the center of a CONTROFIL® block filler can be used. The blocks with smaller passage openings have no filler blocks and the cable can be pulled through the open passage hole.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



For larger diameter cables, a CONTROFIL® block filler has to be removed. These block fillers can be used for other CONTROFIL® multi-cable transits which might be under construction in the project.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



An open passage is now available for ducting a new cable through the existing CONTROFIL® multi-cable transit.

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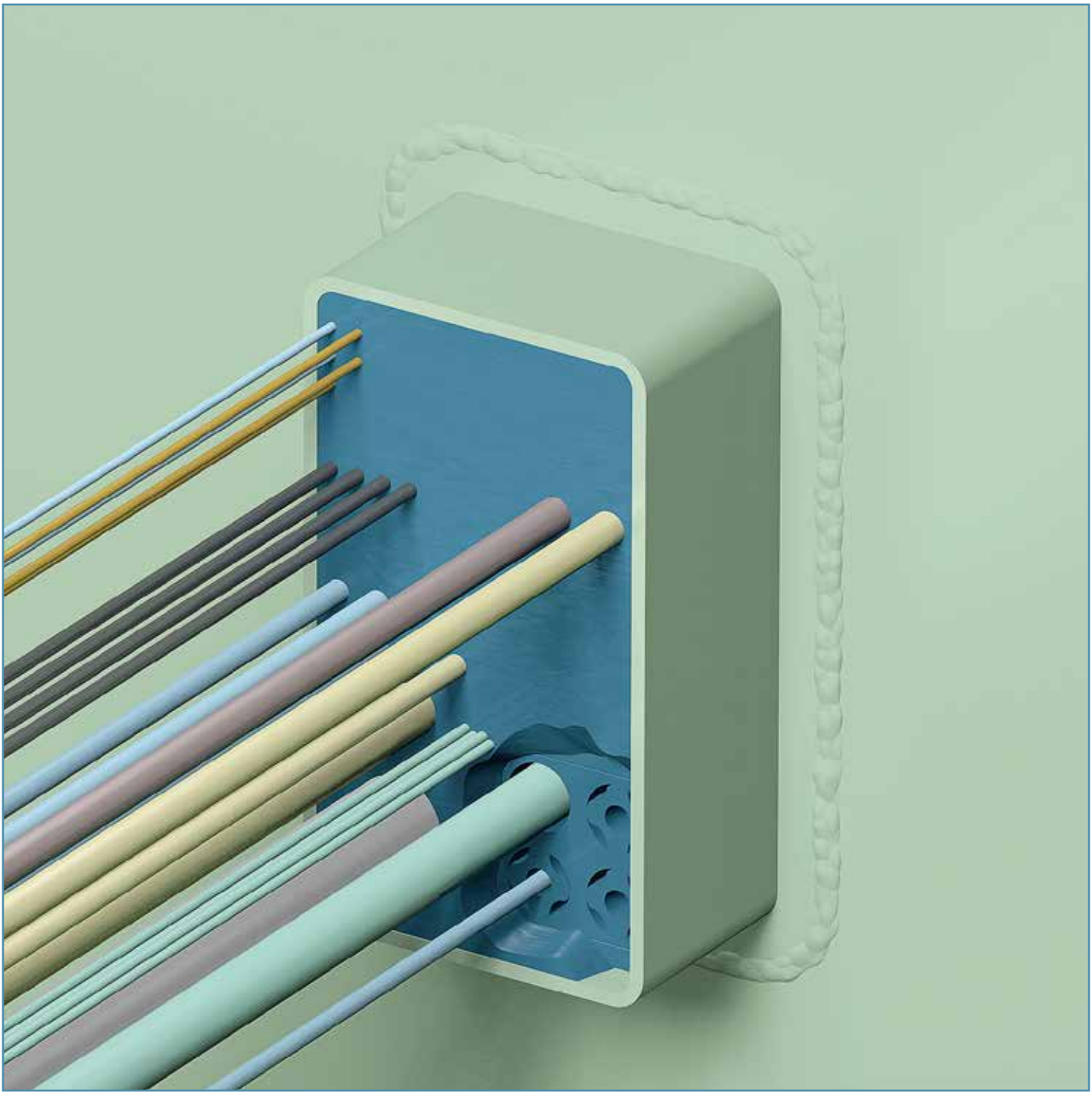
CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

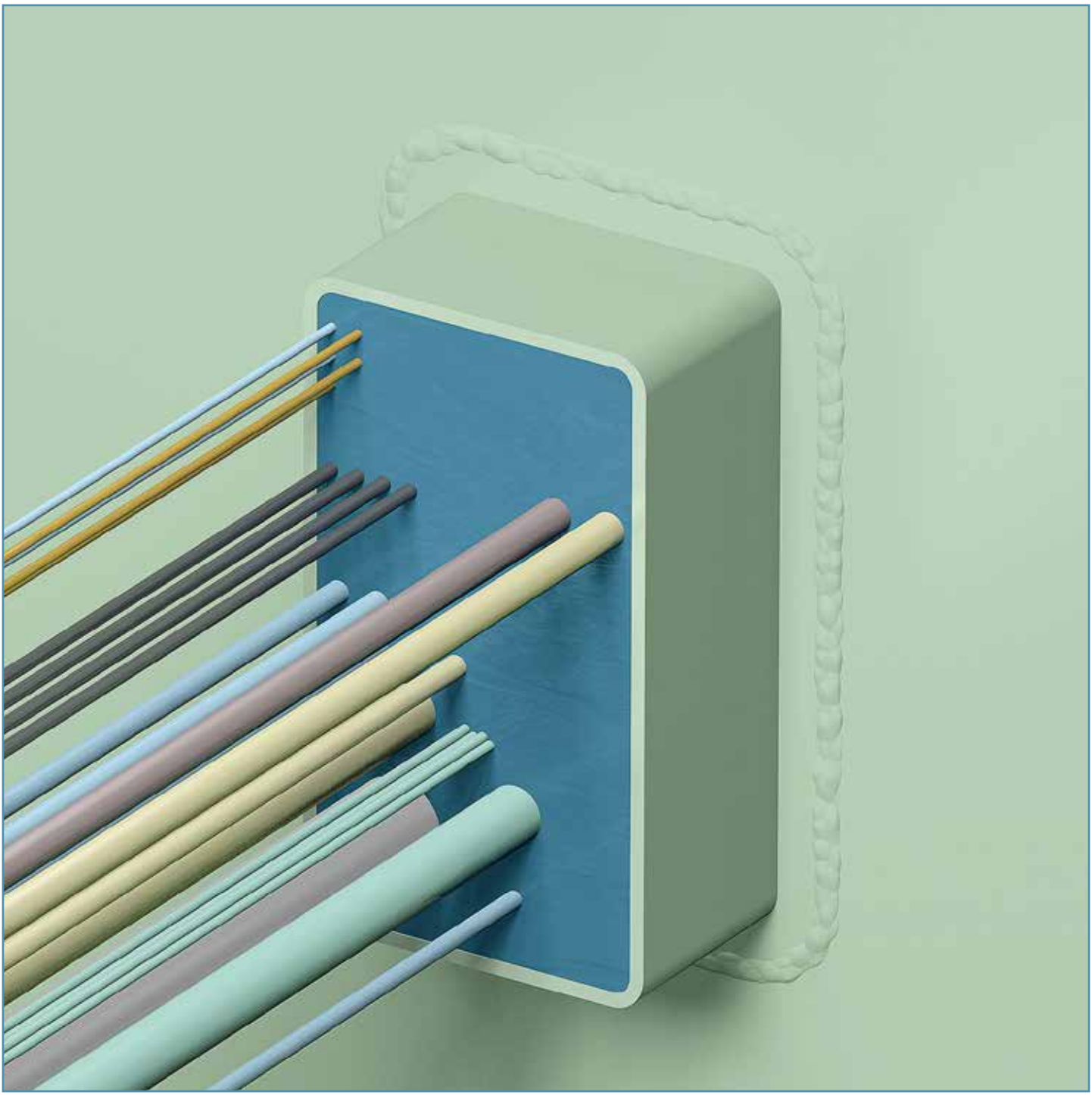


A cable is pulled through the free passage opening of the CONTROFIL® multi-block. For adding cables, there is in fact no more disassembling needed than removing a block filler. No extra costs for the extension of the cable set other than some new sealant to be applied.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

Clean and dry the wall of the transit frame inside as well as the newly ducted cables thoroughly and refill the opening in the sealant layer at both sides of the transit with NOFIRNO® sealant.
The fresh sealant adheres very well to the already cured sealant. Finish the new sealant layer in the same way as done for the initial sealant layer.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The finished CONTROFIL® block type multi-cable transit. The CRUSHNOF® rubber grade and the NOFIRNO® sealant, which are compounded under strict conditions in our factory, are suitable for gas and water tight ducting and for fire rated applications as well. CRUSHNOF® and NOFIRNO® stay flexible at temperatures of -50 °C, allowing application in arctic environments, and can be exposed to temperatures up to +180 °C as well. The components of the CONTROFIL® multi-cable transits immediately create a protective layer at the fire side, will not be consumed under fire exposure and prevent smoke emission. Based on the use of high tech silicone compositions, the system offers excellent durability.

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MULTI-CABLE TRANSITS

SAFETY SEALING SYSTEMS
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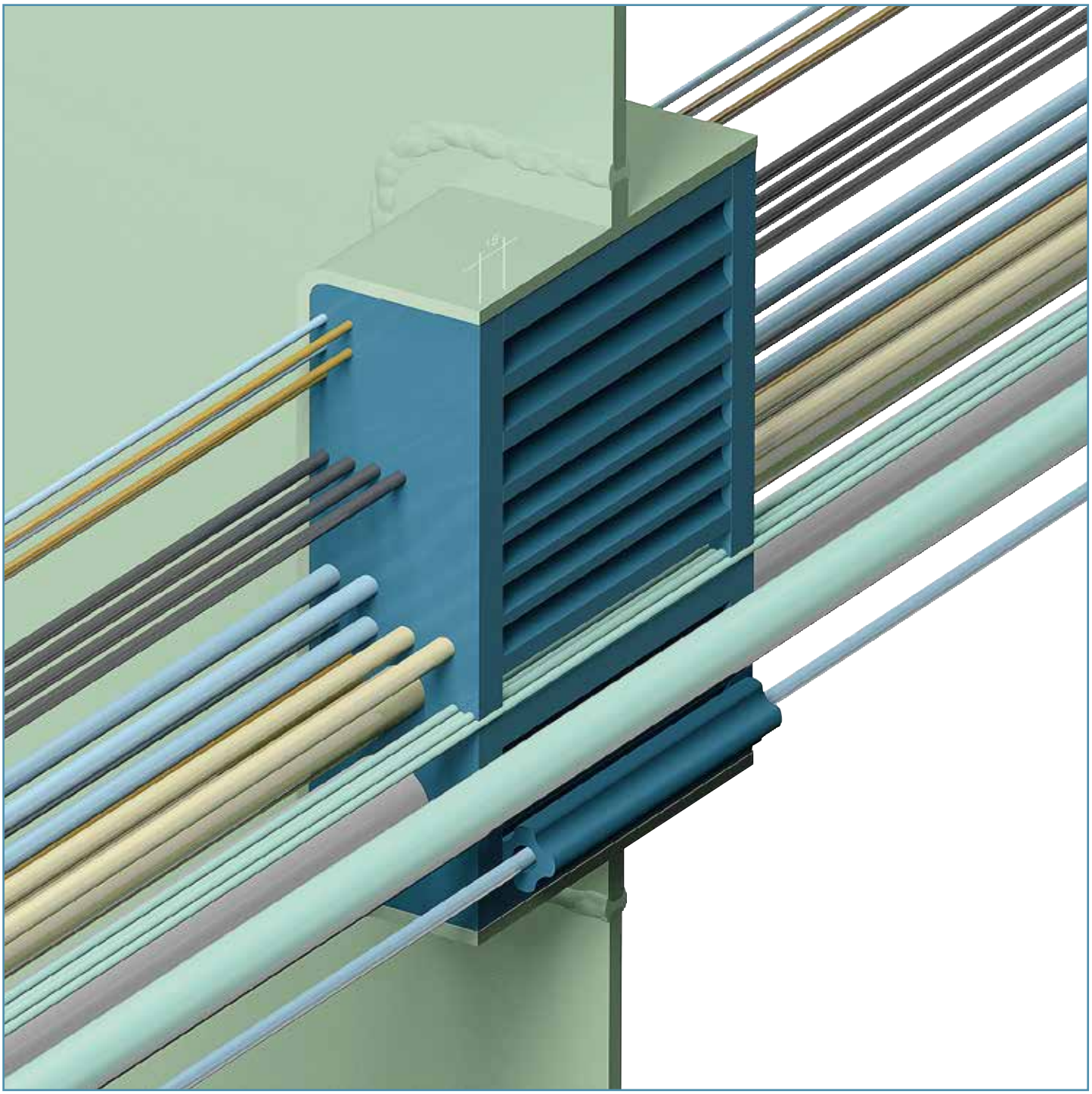
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

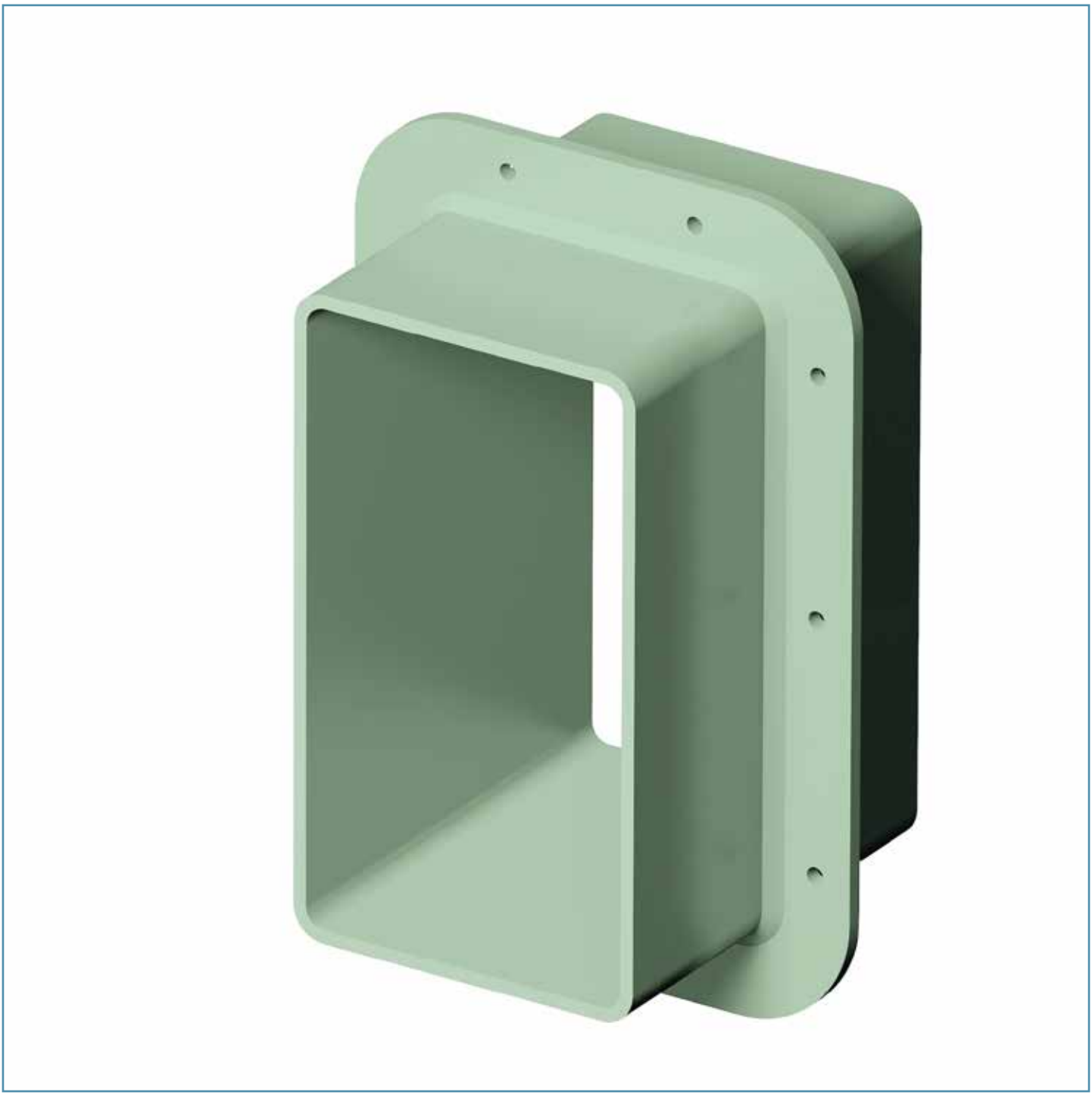
The CONTROFIL® block type multi-cable transit finished with the terracotta NOFIRNO® sealant.
The CONTROFIL® multi-cable transits are very good UV, Ozone and weathering resistant.
No metal parts are incorporated in the sealing system. No corrosion of the sealing system itself can take place. The conduit frames cannot corrode inside as well due to the tight sealant layers at both sides of the transit.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



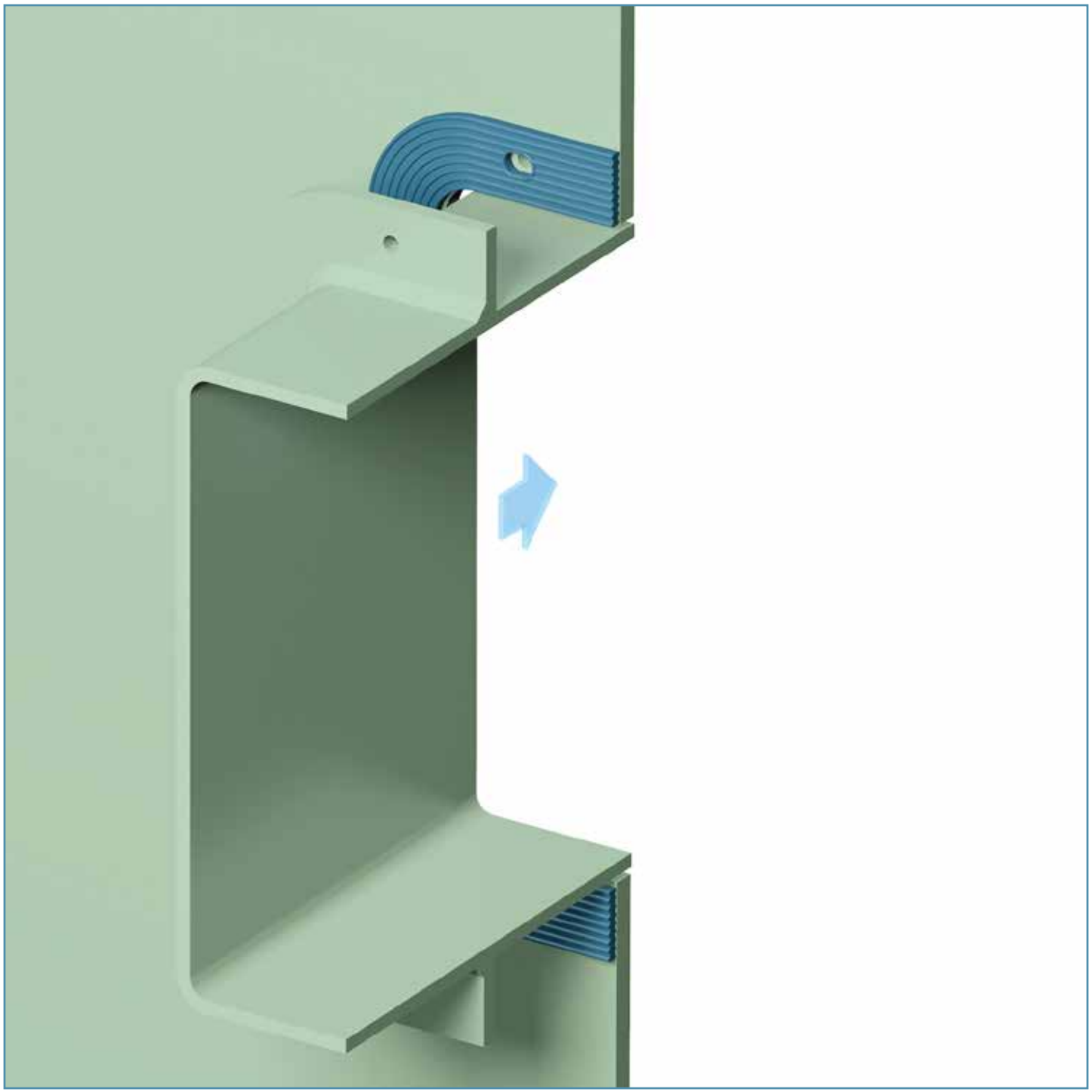
For A-class penetrations (which are insulated), the CONTROFIL® multi-cable transit frame needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. No extra insulation needed in front of the penetration and/or in between the cables. Tested with larger amounts LAN data cables (bundled as well) up to CLX high voltage cables up to 3 x 380 mm^2 with an OD of 105 mm. Note: for the larger cable sizes, CONTROFIL® cable sleeves and wraps have to be used.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



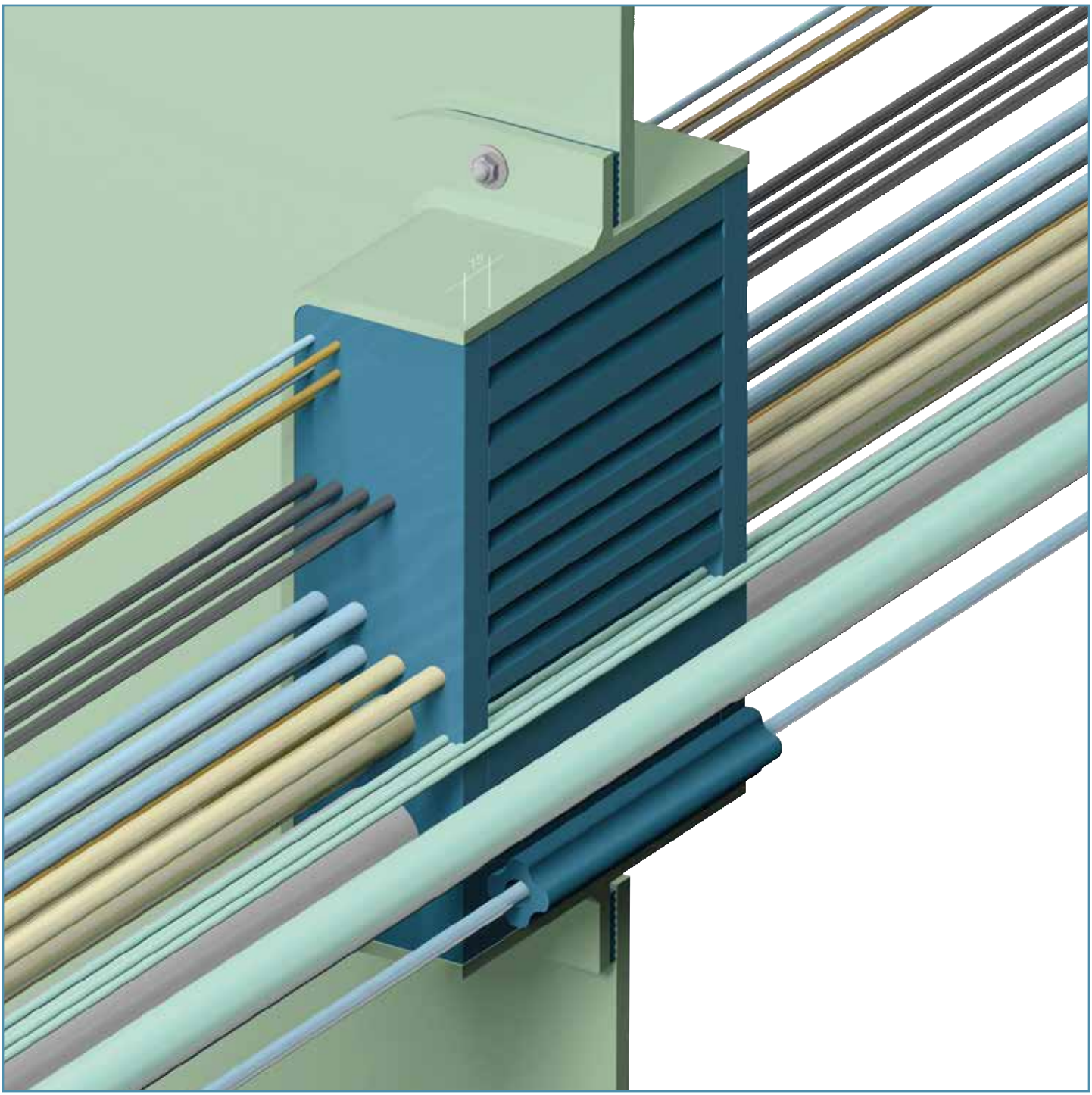
CONTROFIL® flanged frames are also available. CONTROFIL® flanged frames are supplied, as is the case with the welding frames, single and as multi-window combinations. The flange for bolting is 60 mm wide and 6 mm thick with a hole configuration for fixation. The inner dimensions of the single frames are 160x120 mm or 220x120 mm. The frames are made from steel EN 10216-1/10210 St. 52-3N or stainless steel 1.4571. Wall thickness of the frames is minimum 5 mm.
A CRUSHNOF® gasket has to be applied between the flange and the construction.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



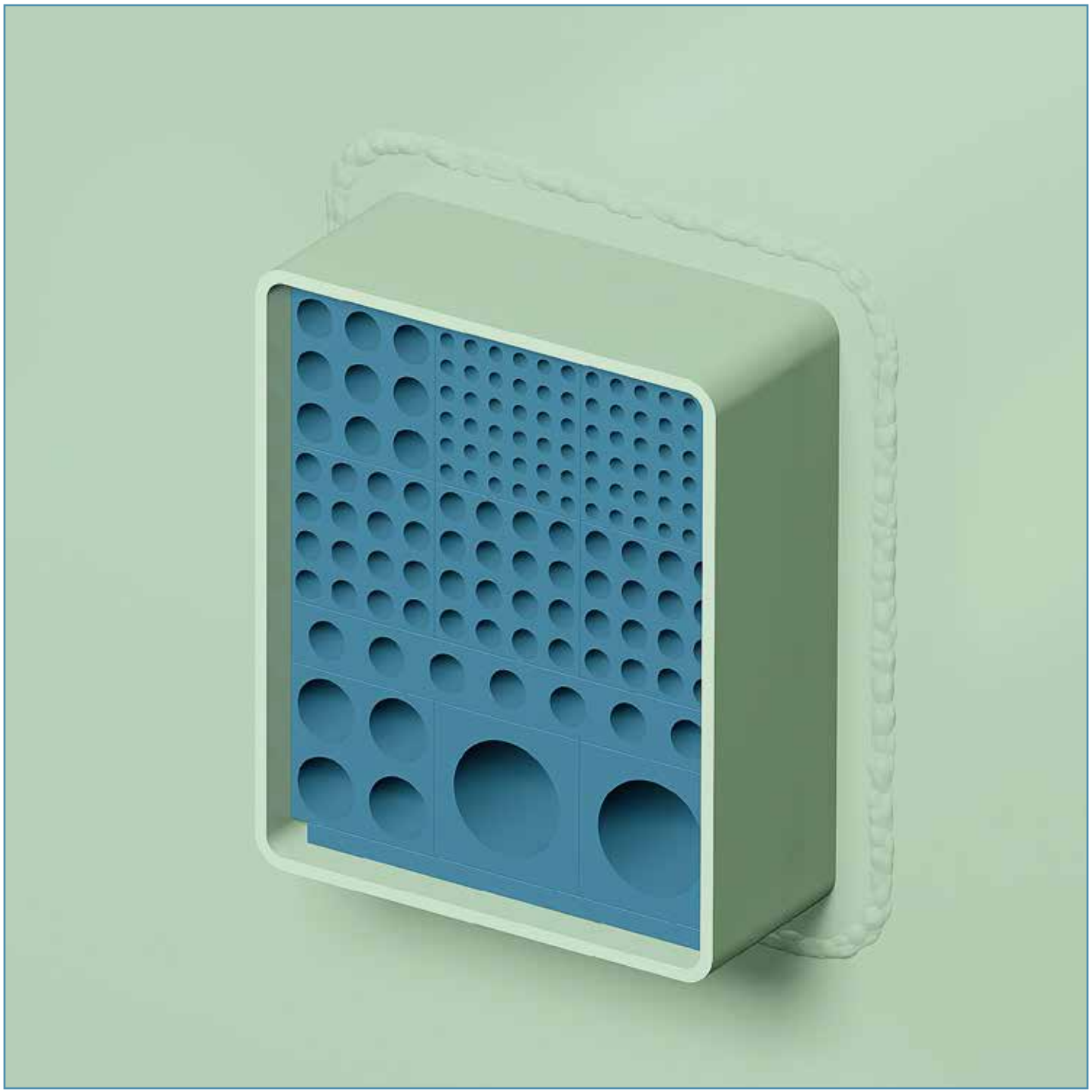
The CONTROFIL® flanged transit frames are bolted against the partition. A firesafe NOFIRNO® gasket has to be applied between the flange of the transit frame and the partition. The gaskets have a designed profiling to exclude the need for excessive compression (6-10 Nm is sufficient). The reduced forces on the profiled rubber makes the usual need for retightening from time to time a thing of the past.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The CONTROFIL® transit frames can be bolted also against or on the partition. In these cases, a NOFIRNO® gasket has to be applied between the flange of the transit frame and the partition.
For A-class penetrations (which are insulated), the CONTROFIL® multi-cable transit frame needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. No extra insulation needed in front of the penetration and/or in between the cables. Tested with larger amounts LAN data cables (bundled as well) up to CLX high voltage cables up to 3 x 380 mm^2 with an OD of 105 mm.
Note: for the larger cable sizes, CONTROFIL® cable sleeves and wraps have to be used.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The CONTROFIL® transit frames are available also in sizes 220x180 mm.
This means that 3 blocks 60x60 mm can be inserted next to each other. The single row blocks are delivered with a width of 180 mm instead of 120 mm.
In this way the configuration for ducting cables in a single transit is substantially extended.

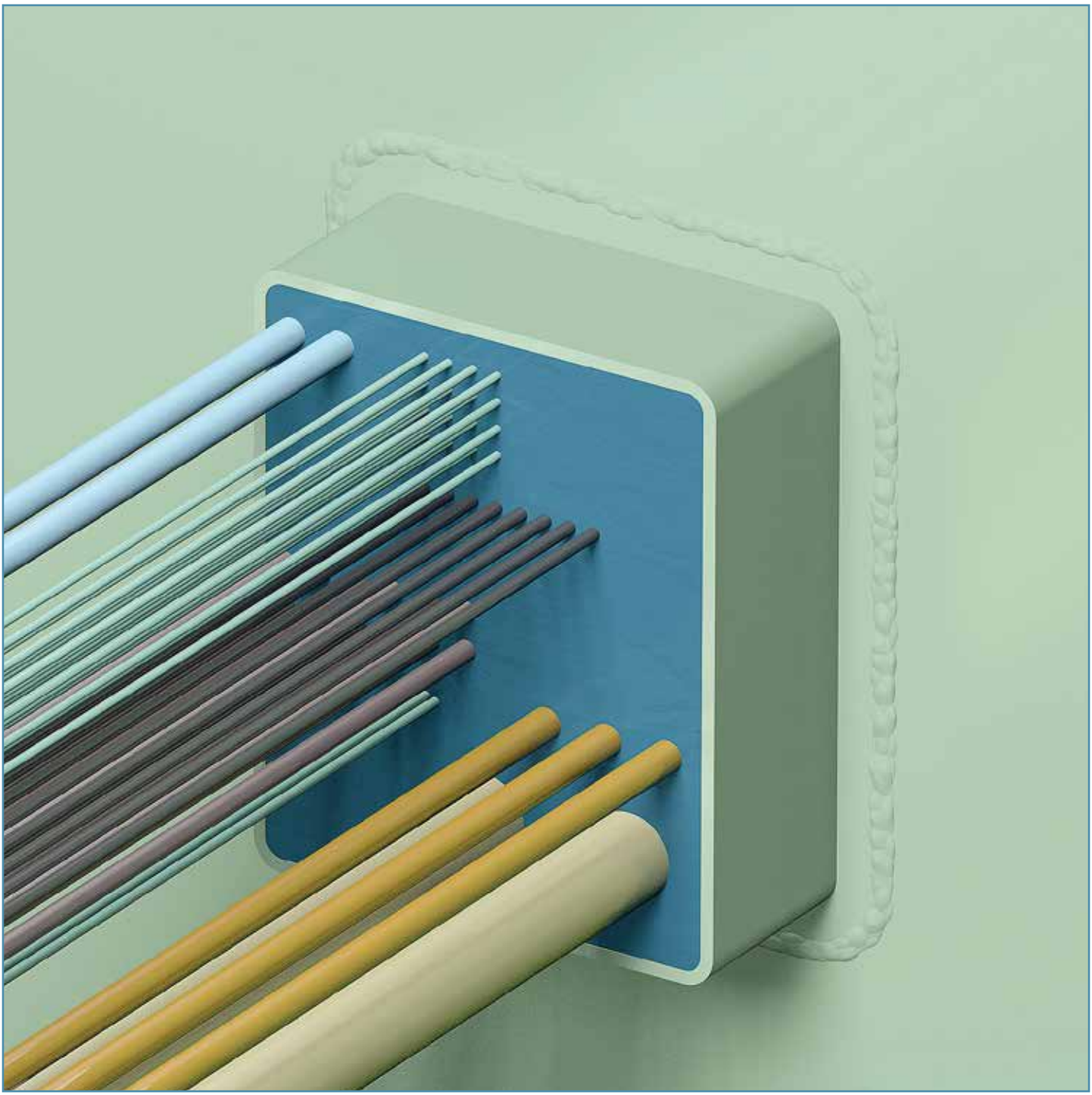
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR

The NOFIRNO® sealant is applied in a similar way.
Note: for this application use should be made of the longer nozzles of the cartridges, especially with higher filling rates with cables, to inject the sealant in between the cables in the centre of the cable set.

BEELE WE CARE SAFETY SEALING SYSTEMS

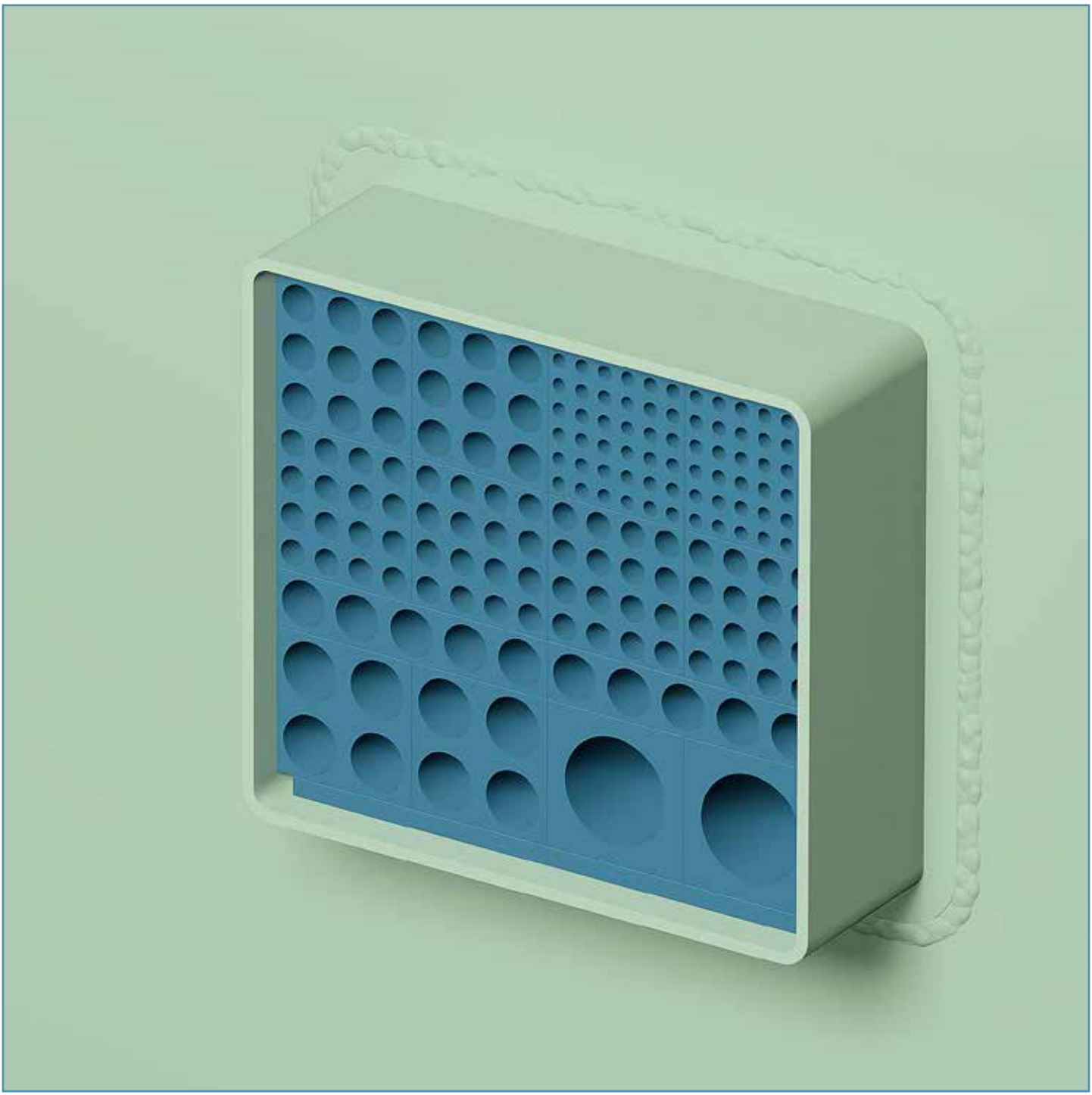
CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The finished transit.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO®
DUCT & SEALING SYSTEM TYPE MB/MBR

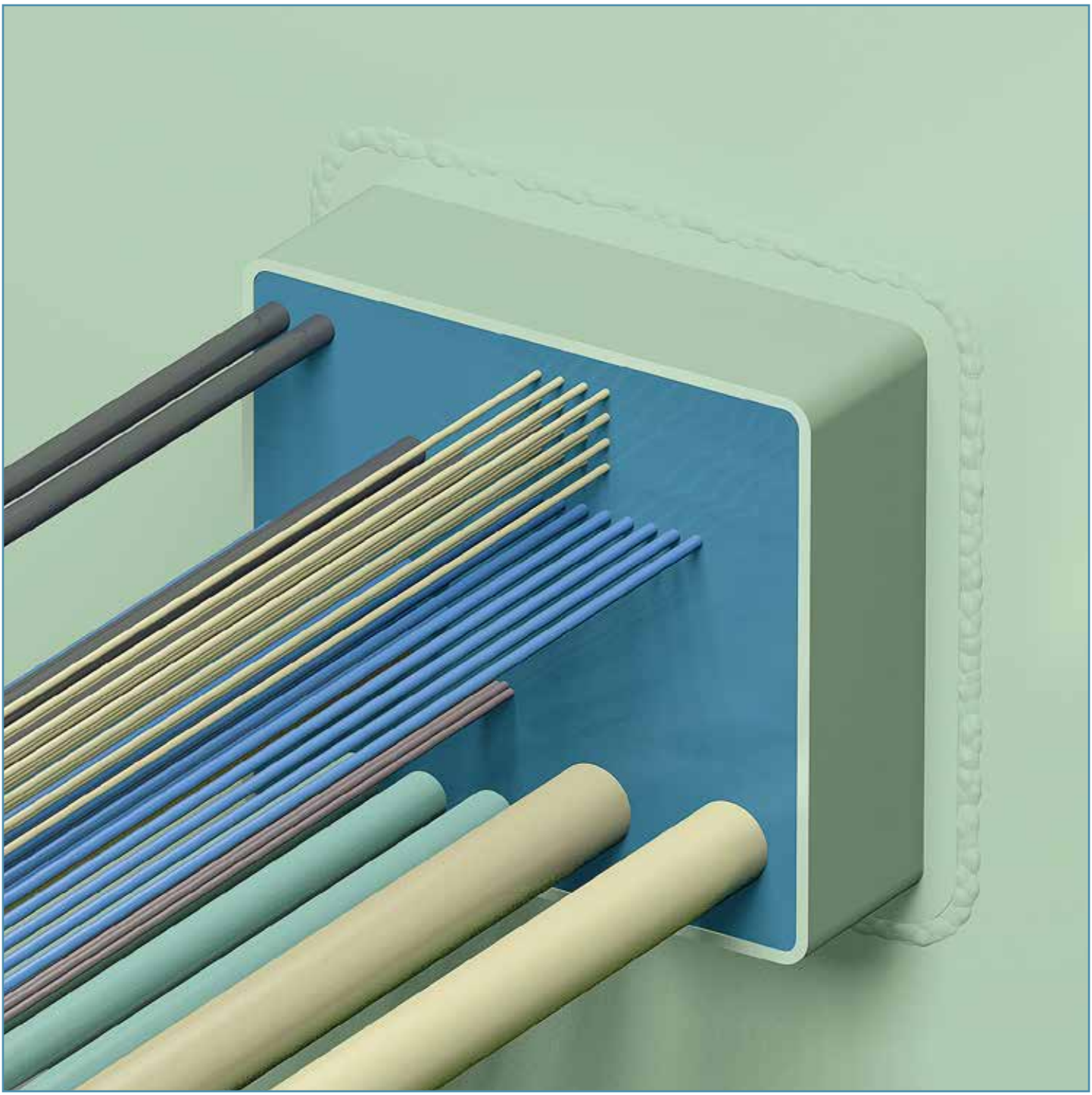


The CONTROFIL® transit frames are available also in sizes 220x240 mm.
This means that 4 blocks 60x60 mm can be inserted next to each other. Alternatively two single row blocks 120 mm wide can be inserted next to each other.
In this way the configuration for ducting cables in a single transit is substantially extended.

BEELE WE CARE SAFETY SEALING SYSTEMS

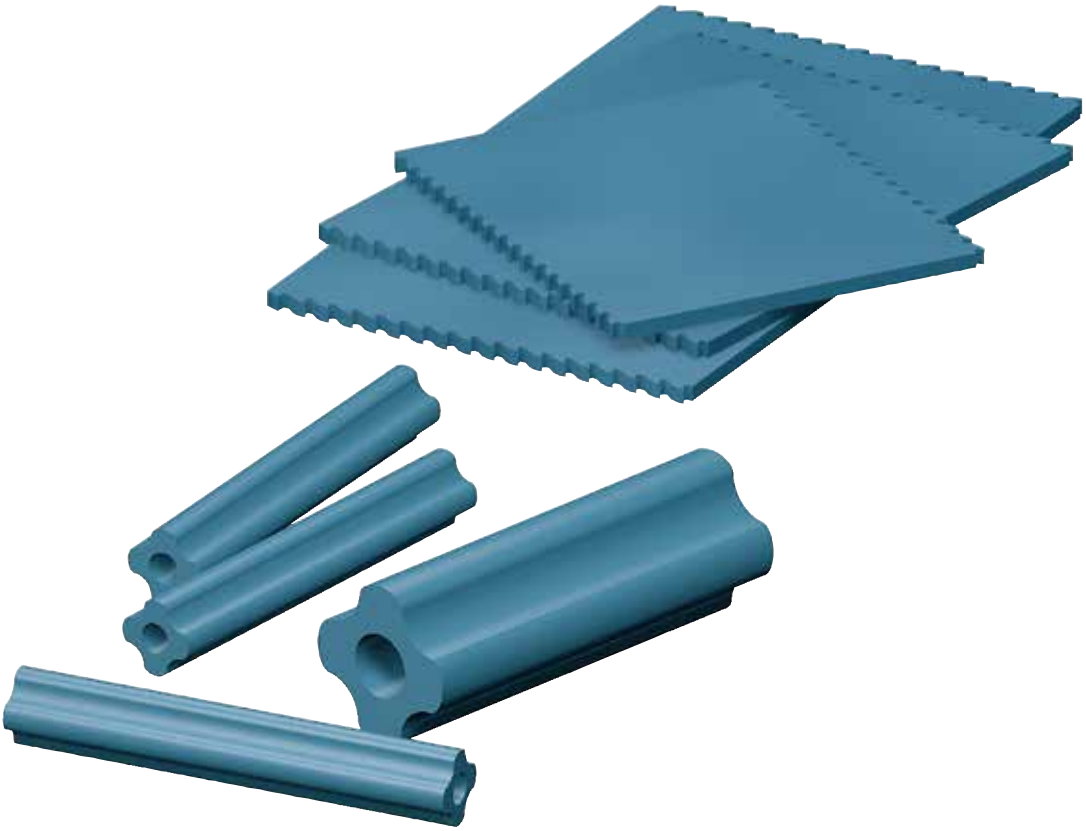
CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MB/MBR



The finished transit.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS



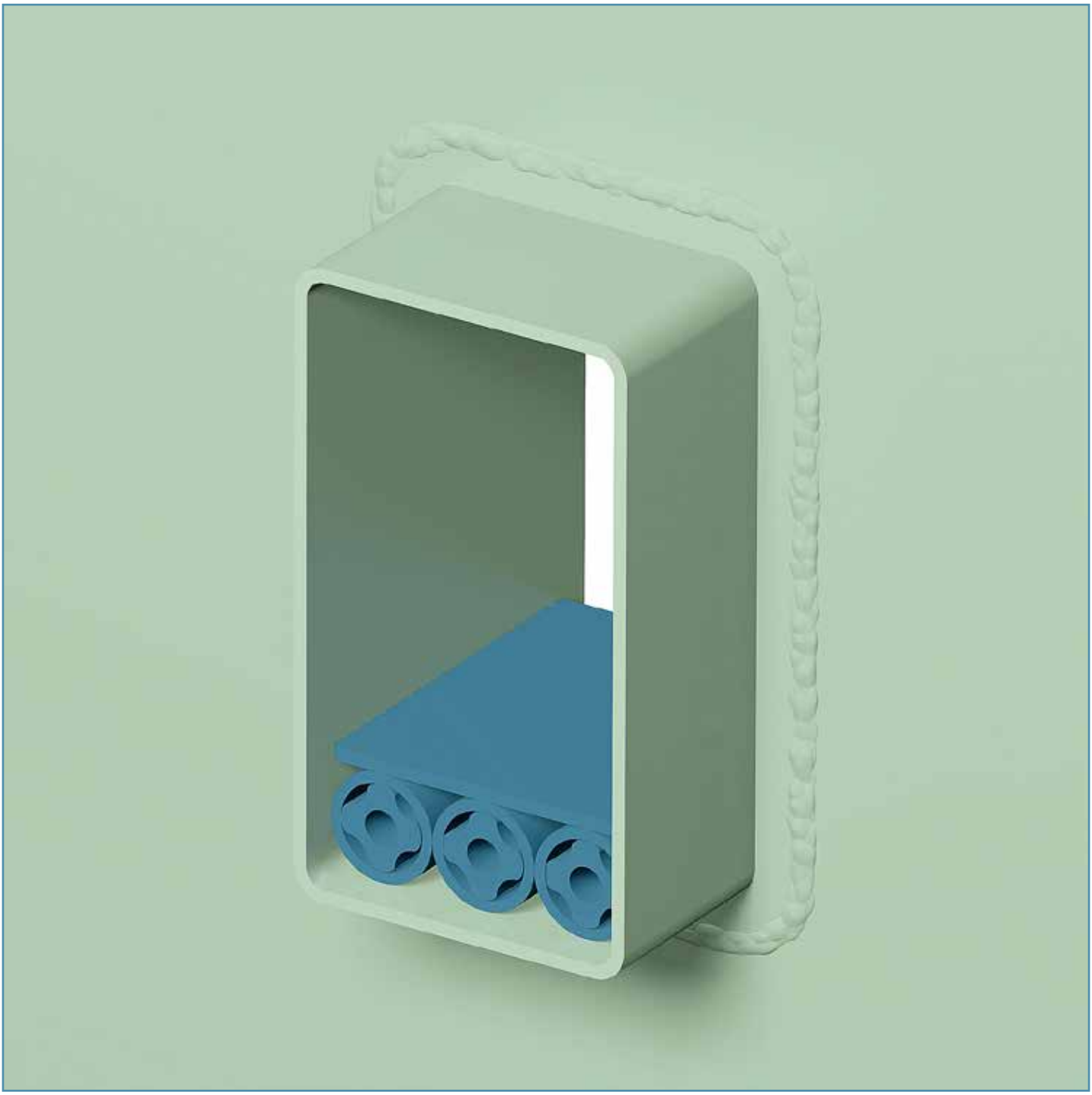
BEELE WE CARE SAFETY SEALING SYSTEMS

CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS

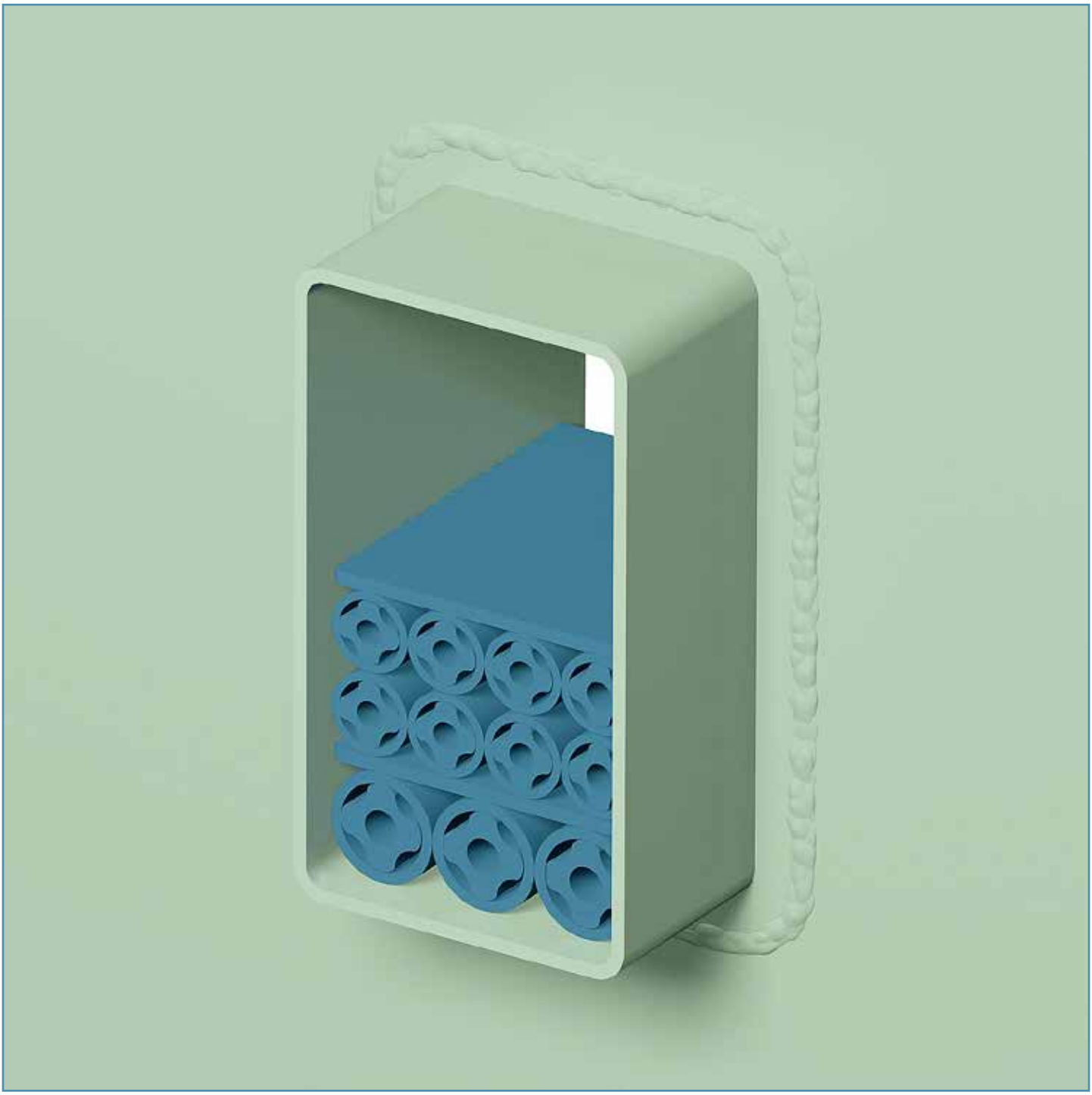
The CONTROFIL® multi-sleeve (MS) type multi-cable transits are specially developed to avoid overfilling of multi-cable transits. Lay-outs on the basis of cable diameters in brochures, include a fair risk that at the end cable diameters at site are totally different. Open transits at site allow for pulling more cables through than planned. Sealing the multi-cable penetration will then be difficult or not possible at all.
With the CONTROFIL® multi-sleeve system these risks are minimized. The lay-out can be determined at site, based on the actual cables to be ducted. Ultimately this system leads to full-is-full. The multi-sleeves have to be inserted leaving minimum 15 mm free space inside the frame at both sides.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS



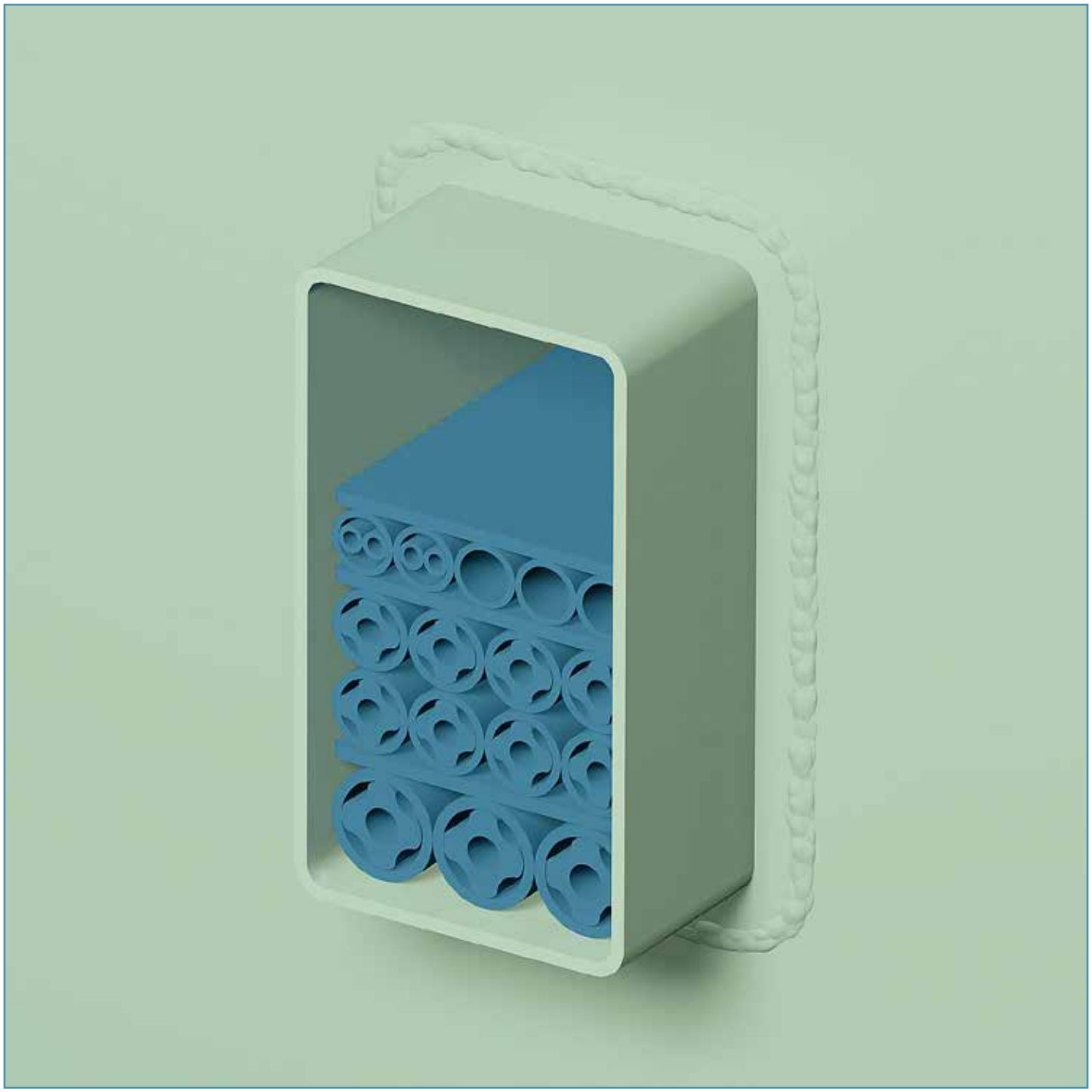
To enable easy pulling of cables the transit frame is fully filled with CONTROFIL® multi-sleeves. CONTROFIL® block fillers are used for unused passage holes in the CONTROFIL® multi-sleeves with sizes of the passage holes 19 up to 44 mm. In a later stage the block fillers can be removed for extensions of the cable set. The block fillers are applied with a view to improve mechanical stability. Due to the extra amount of CRUSHNOF® rubber, the block fillers contribute to a rapid filling of the open spaces in case of fire. CONTROFIL® separators can be used to prevent “waving” of the sleeve configuration.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS



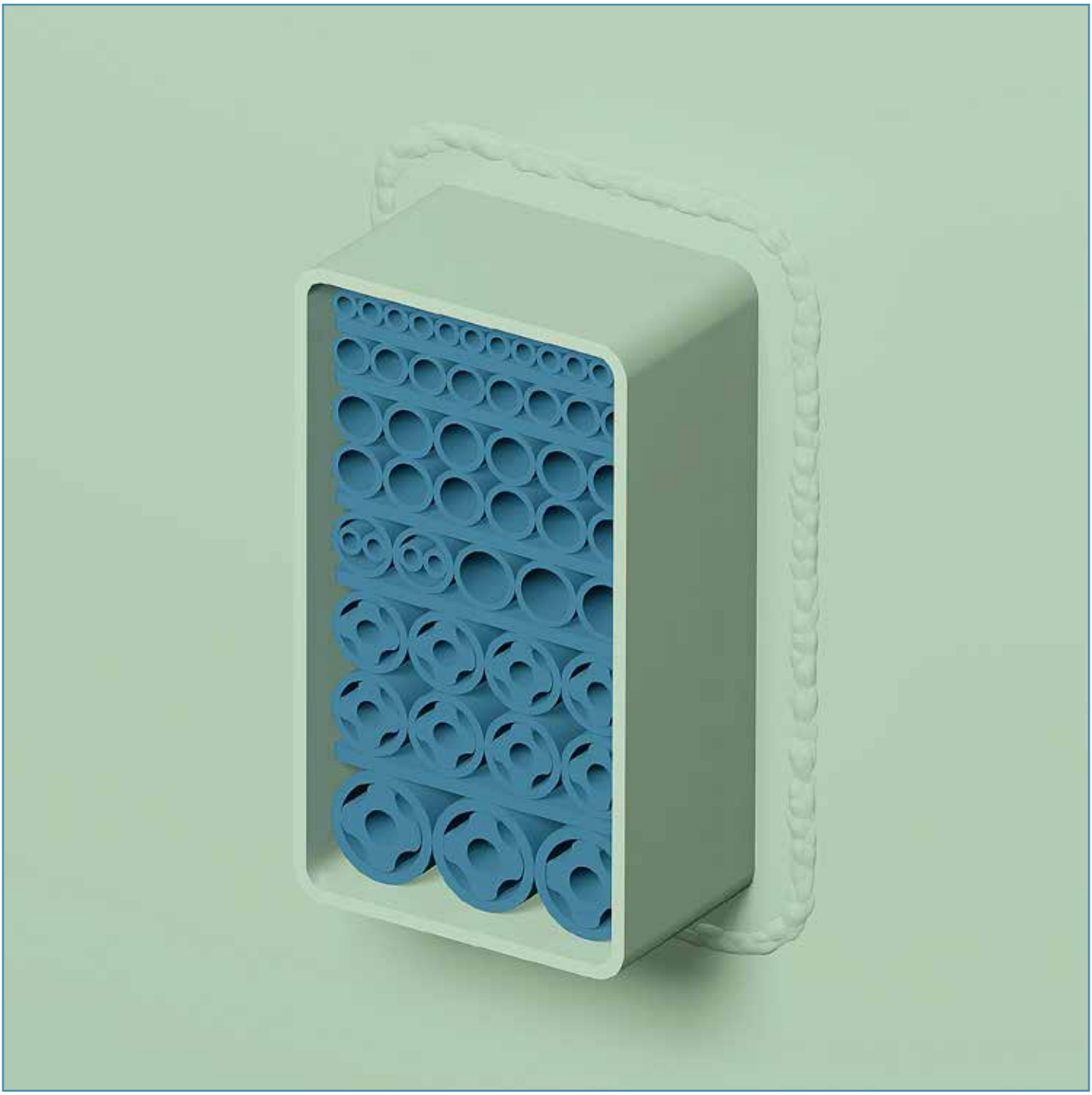
There is no need to place CONTROFIL® separators between rows of identical multi-sleeve types. Another CONTROFIL® separator is placed on top of the set CONTROFIL® multi-sleeves

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO®
DUCT & SEALING SYSTEM TYPE MS/SS



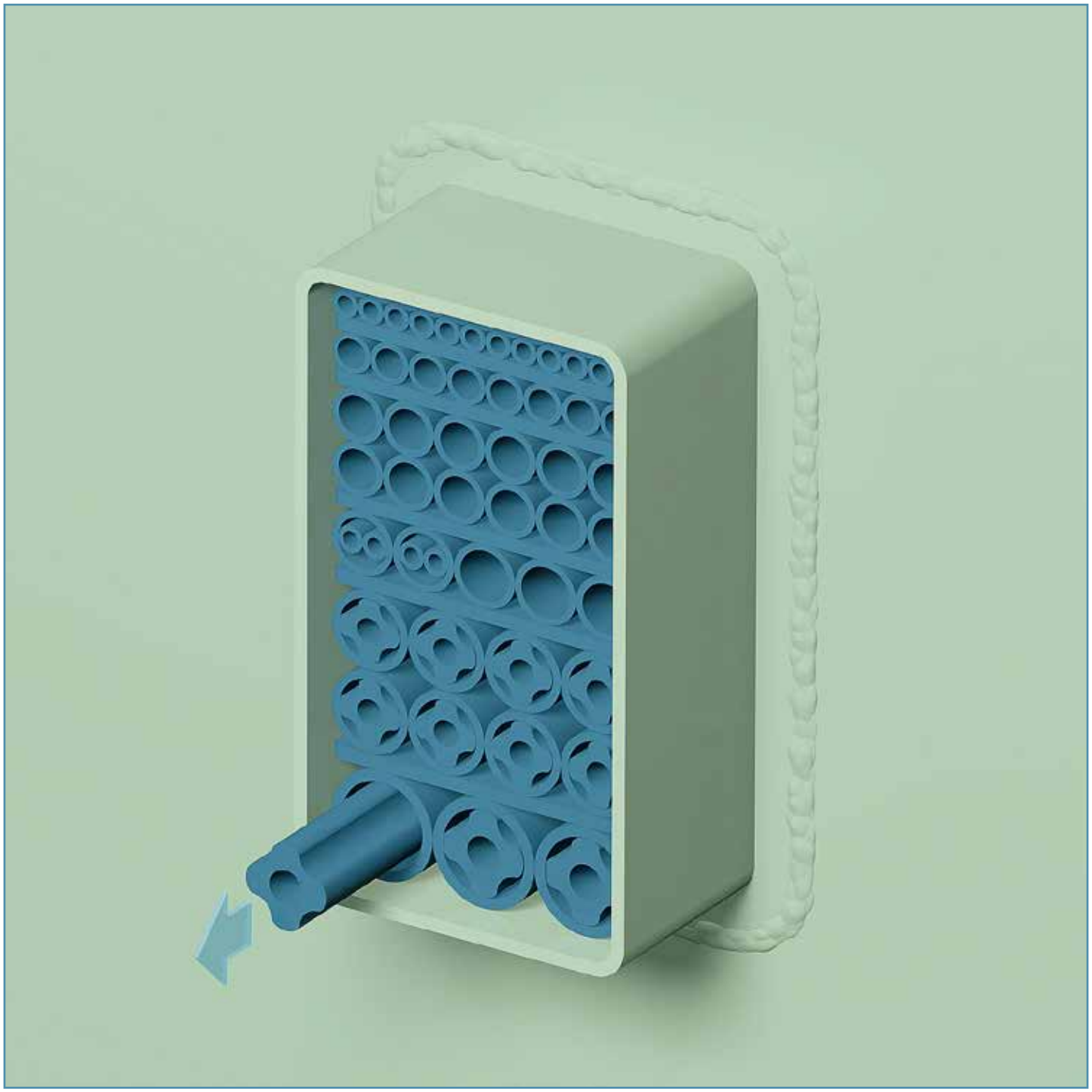
One or several CONTROFIL® cable or filler sleeves can also be placed in the non-used openings.
CONTROFIL® multi-sleeves are available with different heights and a width of 120 mm.
Available lengths of the sleeves are 60 mm, 110 mm, 140 mm, 160 mm and 210 mm.
The multi-sleeves are not used for final sealing of the multi-cable transit; they are a ducting facility.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS



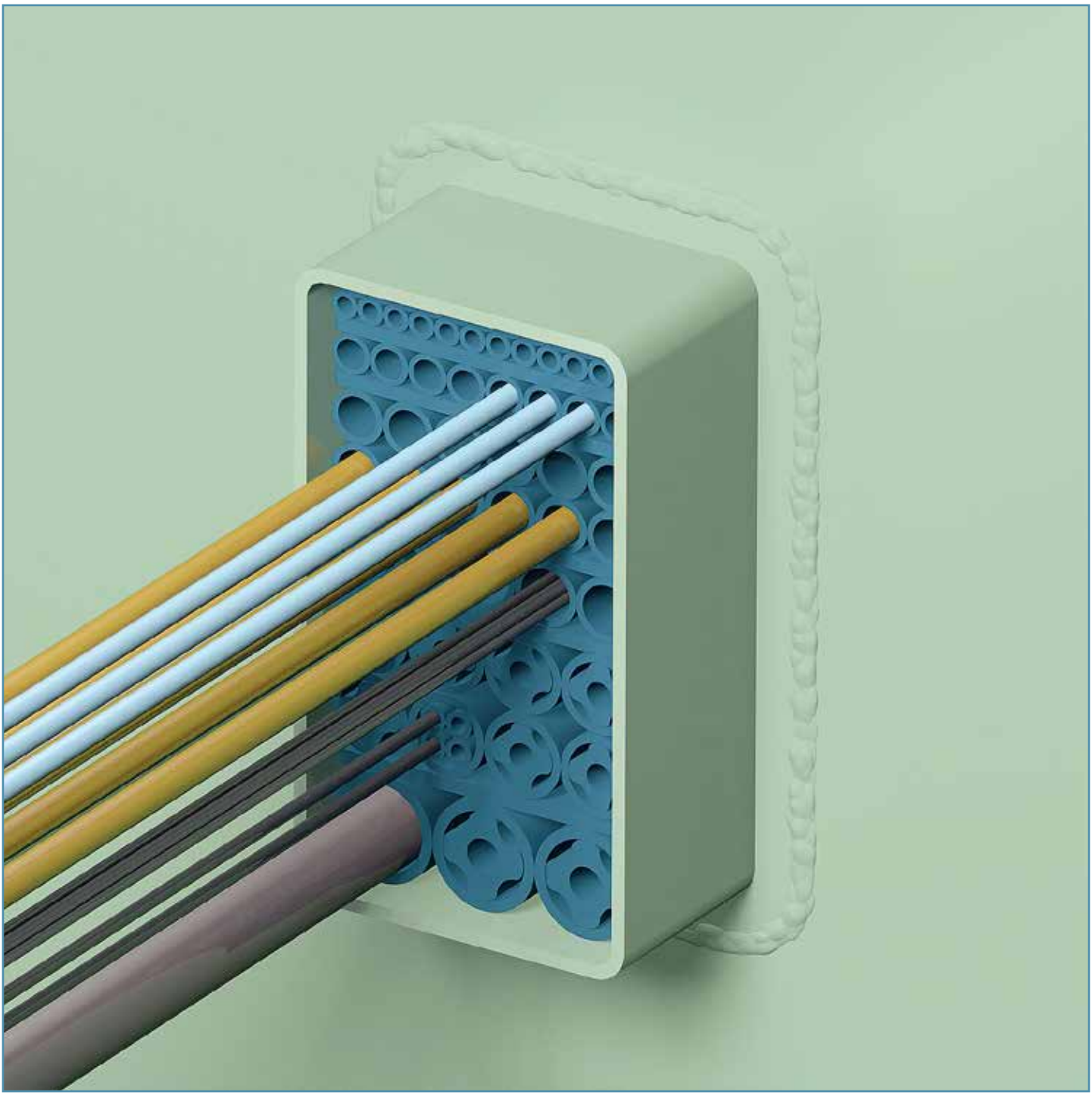
The CONTROFIL® multi-sleeves are dimensioned to enable ease of installation without heavy forces. The optimized hardness and the smooth surface of the sleeves contribute also to ease of installation. The required clamping properties of the sleeves inside the frame are obtained by the quality of the CRUSHNOF® rubber, of which the sleeves are made, and the engineered dimensions of the sleeves. There are 7 multi-sleeve types available with heights of 10, 15, 20, 24, 30, 40 and 60 mm. All with a width of 120 mm.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS



The CONTROFIL® multi-sleeve passage holes allow for ducting one or several cables. The passage holes are designed for a wide variety of cable diameters to be pulled through. The holes allow also for some limited bending of the cables since they are generally larger in diameter than the outer diameters of the ducted cables. There is no need to measure the cable diameters to select a fitting sleeve as is the case with traditional block type systems. Even during construction the system is fire safe. Remove a CONTROFIL® block filler before ducting a cable. These block fillers can be used for other CONTROFIL® multi-cable transits which might be under construction in the project.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS



Replace any removed block fillers in the passage openings of the larger multi-sleeve types when the transit is to be finished.
The CRUSHNOF® rubber of which the sleeves are made, is a combination of the best properties of the NOFIRNO® and CRUSHER® rubber grades, which have been developed by BEELE Engineering. The CRUSHNOF® rubber has a controlled expansion rate under fire exposure to fill up open spaces in the sleeves/transit and to compensate for the melting cable sheathings. The CRUSHNOF® rubber will ultimately form a stiff ceramic char inside the penetration, holding all parts together.

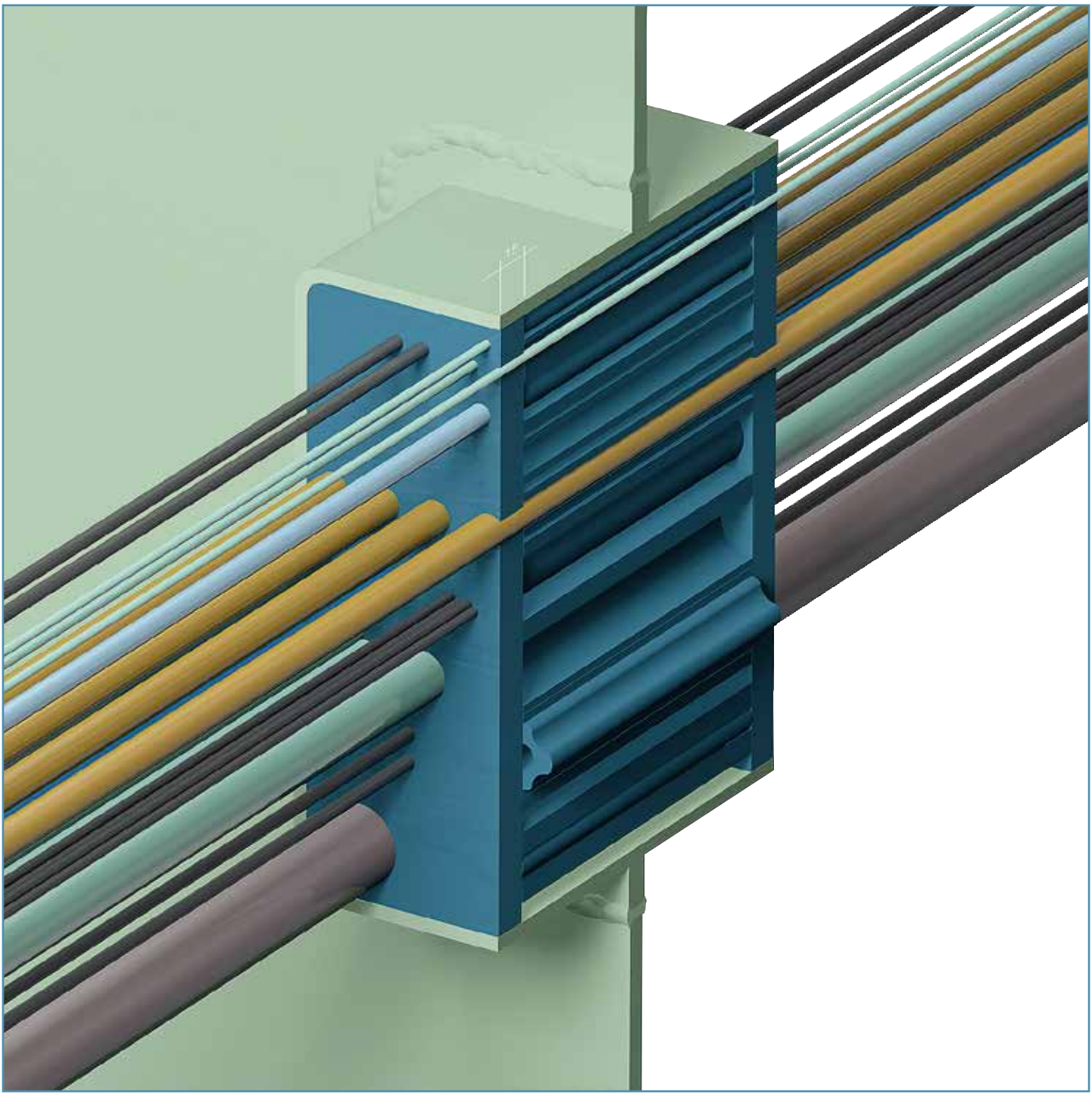
ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS

Final smoke, gas and watertight sealing of the CONTROFIL® multi-cable transits is carried out with the application of NOFIRNO® sealant. NOFIRNO® sealant has proven ultimate performance with regard to mechanical and fire resistance properties, even by exposure to jet fires. The sealant is available in the standard terracotta colour or in a blue grey colour in line with the colour of the CONTROFIL® multi-sleeves. Non-compressive sealing prevents heavy loads on cable sheathings, which causes cold creep, and stress relaxation of the rubber parts, causing permanent deformation and loss of sealing capacity.

BEELE WE CARE SAFETY SEALING SYSTEMS

CONTROFIL MULTI-CABLE TRANSITS

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS



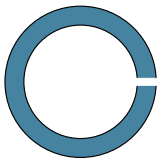
For A-class penetrations (which are insulated), the CONTROFIL® multi-cable transit frame needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. No extra insulation needed in front of the penetration and/or in between the cables. Tested with larger amounts LAN data cables (bundled as well) up to CLX high voltage cables up to 3 x 380 mm^2 with an OD of 105 mm. Note: for the larger cable sizes CONTROFIL® cable sleeves and wraps have to be used.

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS

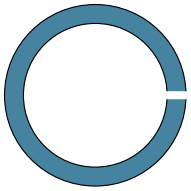
CONTROFIL® SINGLE SPLIT CABLE SLEEVES

SS 10/6
cables 1-7 mm
art. no. 70.0401 for 60 mm
art. no. 70.0411 for 110 mm
art. no. 70.0421 for 140 mm
art. no. 70.0431 for 160 mm
art. no. 70.0441 for 210 mm

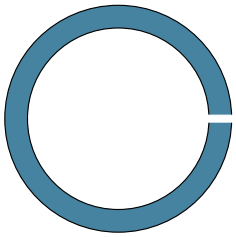
SS 15/11
cables 6-12 mm
art. no. 70.0402 for 60 mm
art. no. 70.0412 for 110 mm
art. no. 70.0422 for 140 mm
art. no. 70.0432 for 160 mm
art. no. 70.0442 for 210 mm



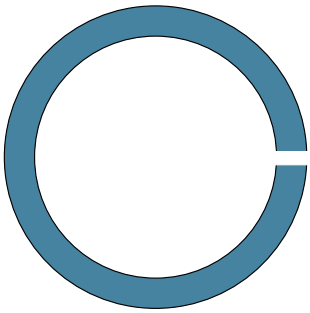
SS 20/15
cables 10-16 mm
art. no. 70.0403 for 60 mm
art. no. 70.0413 for 110 mm
art. no. 70.0423 for 140 mm
art. no. 70.0433 for 160 mm
art. no. 70.0443 for 210 mm



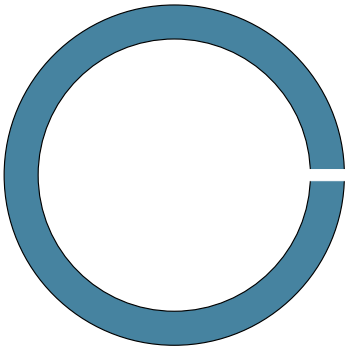
SS 24/19
cables 15-20 mm
art. no. 70.0404 for 60 mm
art. no. 70.0414 for 110 mm
art. no. 70.0424 for 140 mm
art. no. 70.0424 for 160 mm
art. no. 70.0444 for 210 mm



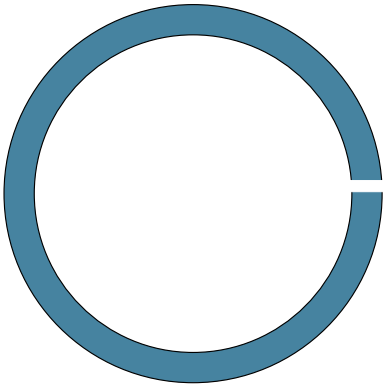
SS 30/24
cables 20-25 mm
art. no. 70.0405 for 60 mm
art. no. 70.0415 for 110 mm
art. no. 70.0425 for 140 mm
art. no. 70.0435 for 160 mm
art. no. 70.0445 for 210 mm



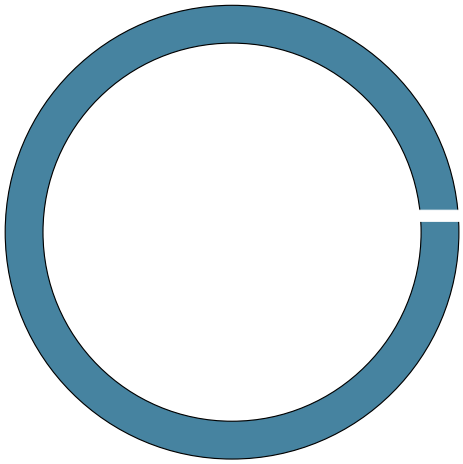
SS 40/32
cables 25-33 mm
art. no. 70.0406 for 60 mm
art. no. 70.0416 for 110 mm
art. no. 70.0426 for 140 mm
art. no. 70.0436 for 160 mm
art. no. 70.0446 for 210 mm



SS 45/36
cables 33-38mm
art. no. 70.0407 for 60 mm
art. no. 70.0417 for 110 mm
art. no. 70.0427 for 140 mm
art. no. 70.0437 for 160 mm
art. no. 70.0447 for 210 mm



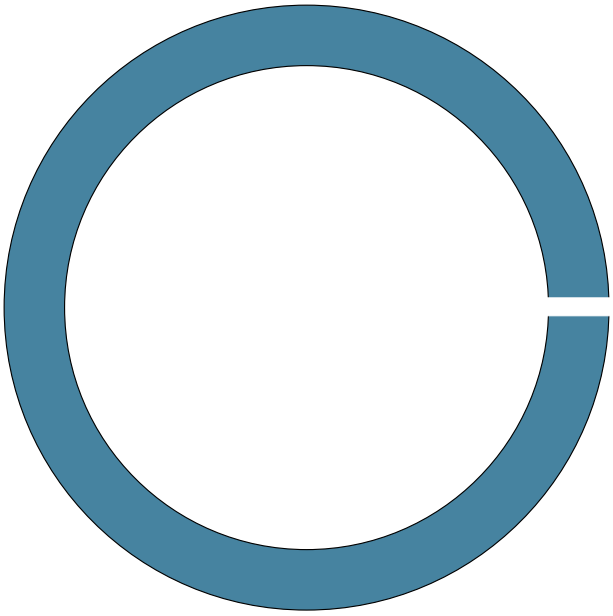
SS 50/42
cables 38-44 mm
art. no. 70.0408 for 60 mm
art. no. 70.0418 for 110 mm
art. no. 70.0428 for 140 mm
art. no. 70.0438 for 160 mm
art. no. 70.0448 for 210 mm



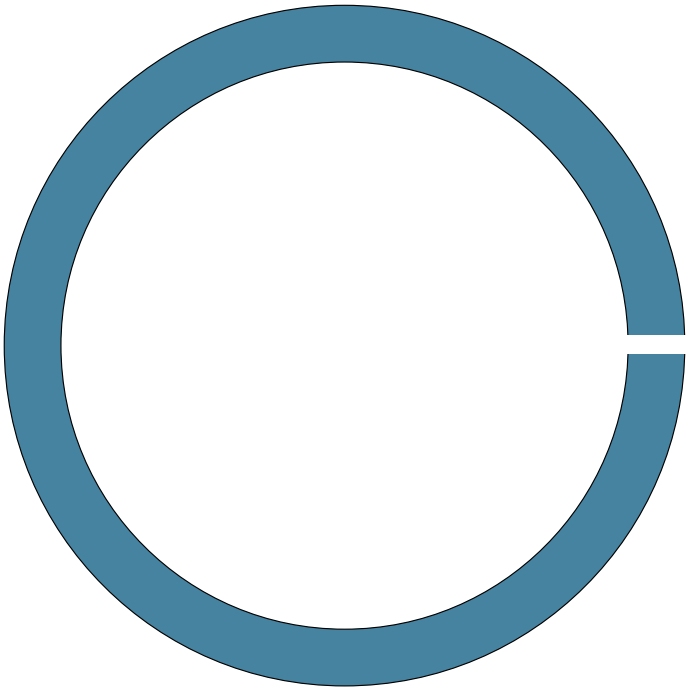
SS 60/50
cables 44-52 mm
art. no. 70.0409 for 60 mm
art. no. 70.0419 for 110 mm
art. no. 70.0429 for 140 mm
art. no. 70.0439 for 160 mm
art. no. 70.0449 for 210 mm

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM TYPE MS/SS

CONTROFIL® SINGLE SPLIT CABLE SLEEVES



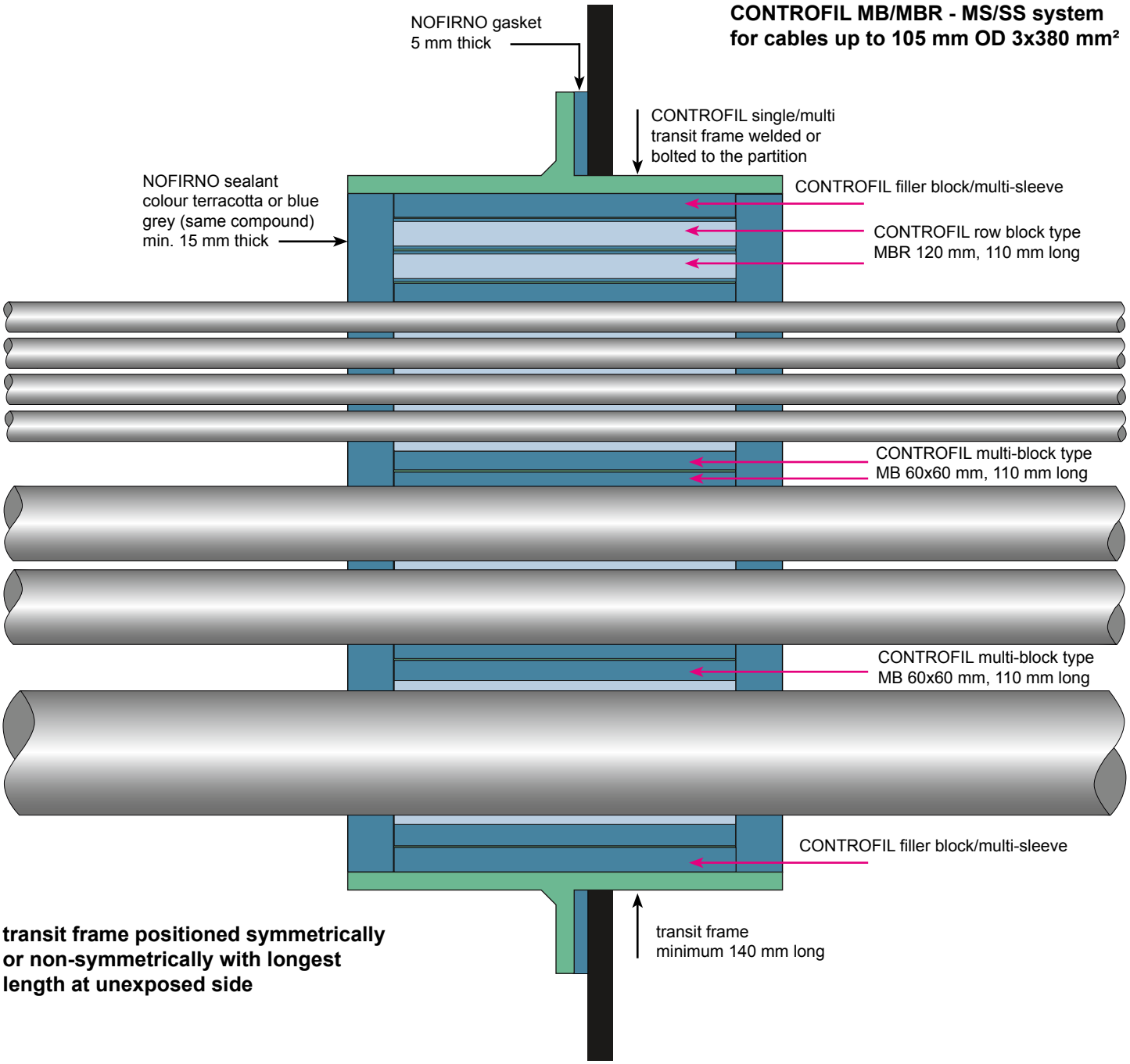
SS 80/62
cables 52-64 mm
art. no. 70.0451 for 60 mm
art. no. 70.0461 for 110 mm
art. no. 70.0471 for 140 mm
art. no. 70.0481 for 160 mm
art. no. 70.0491 for 210 mm



SS 90/75
cables 64-77 mm
art. no. 70.0452 for 60 mm
art. no. 70.0462 for 110 mm
art. no. 70.0472 for 140 mm
art. no. 70.0482 for 160 mm
art. no. 70.0492 for 210 mm

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM

CONTROFIL® TYPICAL LAY-OUT TYPE MB/MBR



transit frame positioned symmetrically or non-symmetrically with longest length at unexposed side

CONTROFIL multi-blocks 60x60 mm:

type MB 36x10-10/6
type MB 16x15-15/11
type MB 9x20-20/15
type MB 4x30-30/24
type MB 1x60-60/44
type MB 1x60-60/50

CONTROFIL multi-row blocks:

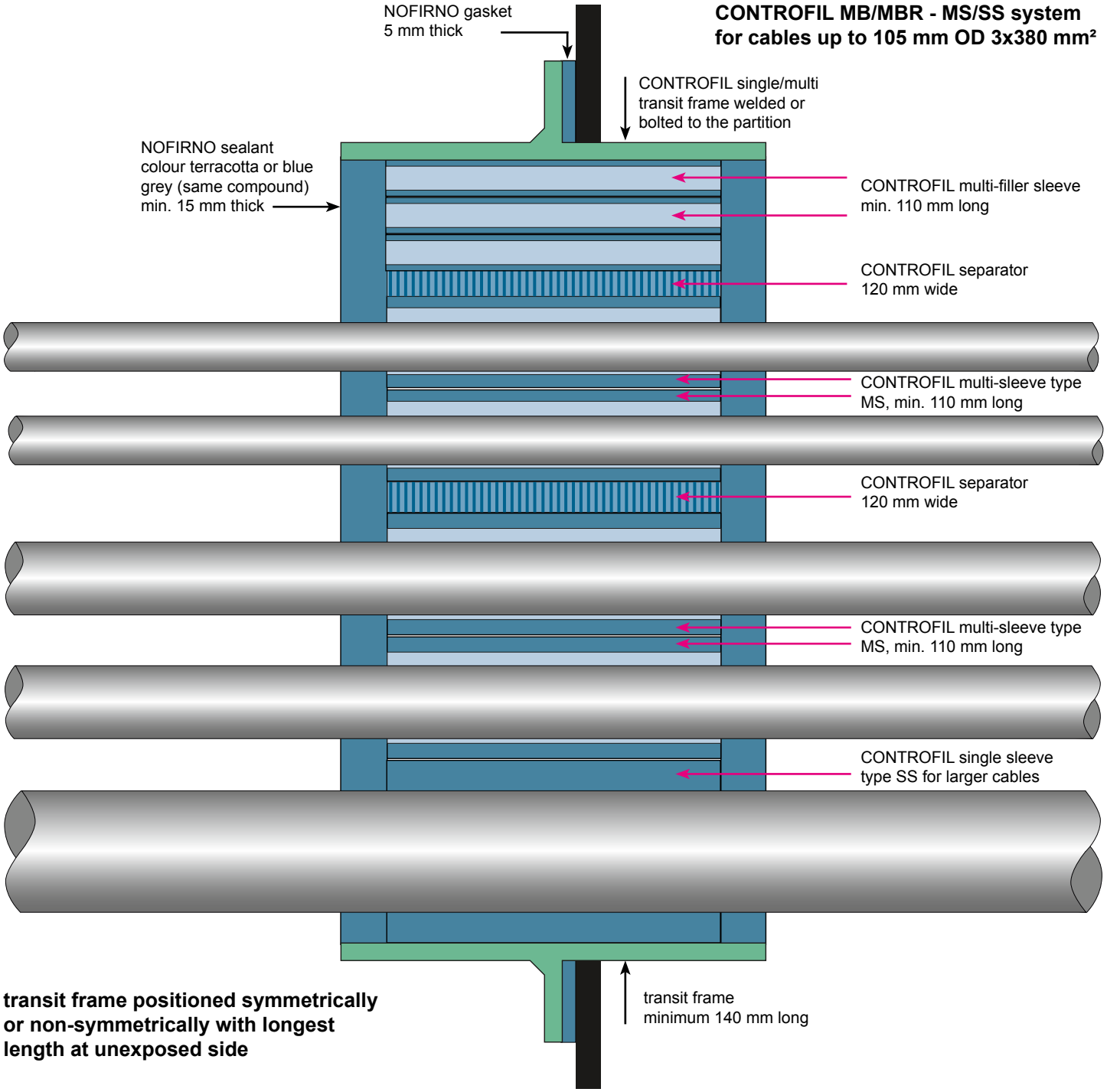
type MBR 12x10-10/6
type MBR 8x15-15/11
type MBR 6x20-20/15
type MBR 5x24-24/19
type MBR 4x30-30/24
type MBR 3x40-40/32
type MBR 2x60-60/44

CONTROFIL block fillers:

type 19/8
type 24/10
type 32/12
type 50/20

ASSEMBLY INSTRUCTIONS FOR CONTROFIL®/NOFIRNO® DUCT & SEALING SYSTEM

CONTROFIL® TYPICAL LAY-OUT TYPE MS/SS



CONTROFIL multi-sleeves:

type MS 12x10-10/6
type MS 8x15-15/11
type MS 6x20-20/15
type MS 5x24-24/19
type MS 4x30-30/24
type MS 3x40-40/32
type MS 2x60-60/44

CONTROFIL split single sleeves:

type SS 30/24
type SS 40/32
type SS 45/36
type SS 50/42
type SS 60/50
type SS 80/62
type SS 90/75

CONTROFIL block fillers & filler sleeves:

type 19/8
type 24/10
type 32/12
type 50/20
12x10/4
8x15-15/8
6x20/2012

STATE-OF-THE ART MULTI-CABLE TRANSIT SEALING SYSTEMS

RISE®

- For fire, gas, smoke and watertight sealing of multi-cable penetrations.
- Compact system. No precise fitting parts.
- No metal parts, no corrosion.
- Most cost-effective way of installation.
- No pre-engineering or special conduit frames.
- No restrictions on cable types and sizes, no insulation in front of the penetration needed.
- Adding or removing cables an easy matter.
- RISE® EXTEND-A-FRAME for upgrading block systems - doubles the usable space!
- RISE® CONDUCTON® for EMC penetrations - high attenuation values - no galvanic corrosion - no aging.
- Proven - for new and upgraded installations.
- The system of choice in shipyards worldwide for more than 25 years!

NOFIRNO®

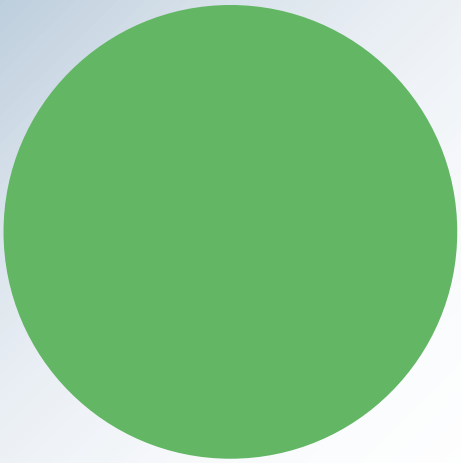
- System technology based on RISE®.
- Even easier installation.
- Even higher pressure ratings.
- Jet Fire tested for harshest applications.
- A-0 and H-0 up to A-60 and H-120.
- Breakthrough - bundled cable sets approved.
- The system of choice for highest fire ratings and harshest environment!

CONTROFIL®

- Newest technology for cable ducting and sealing.
- Newest rubber technology - CRUSHNOF® rubber.
- Shorter conduit depths - flexible composition.
- Prevents overfilling of cable transits.
- Fire tight - watertight.
- Breakthrough - controlled filling of transits.
- The system of choice for neat cable routing in installations.

CET-A-SIL®

- Multi-gland system for electrical cabinets.
- Modular system - sealing plugs and modules.
- Suitable for IP 68 rated equipment.
- Watertight up to 4 meter water column.
- No compression on cable sheathings.
- No metal parts - no corrosion - no O-rings.
- Breakthrough - no disassembling to add cables.
- The alternative system for cable glands.



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FOR OVER 40 YEARS

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