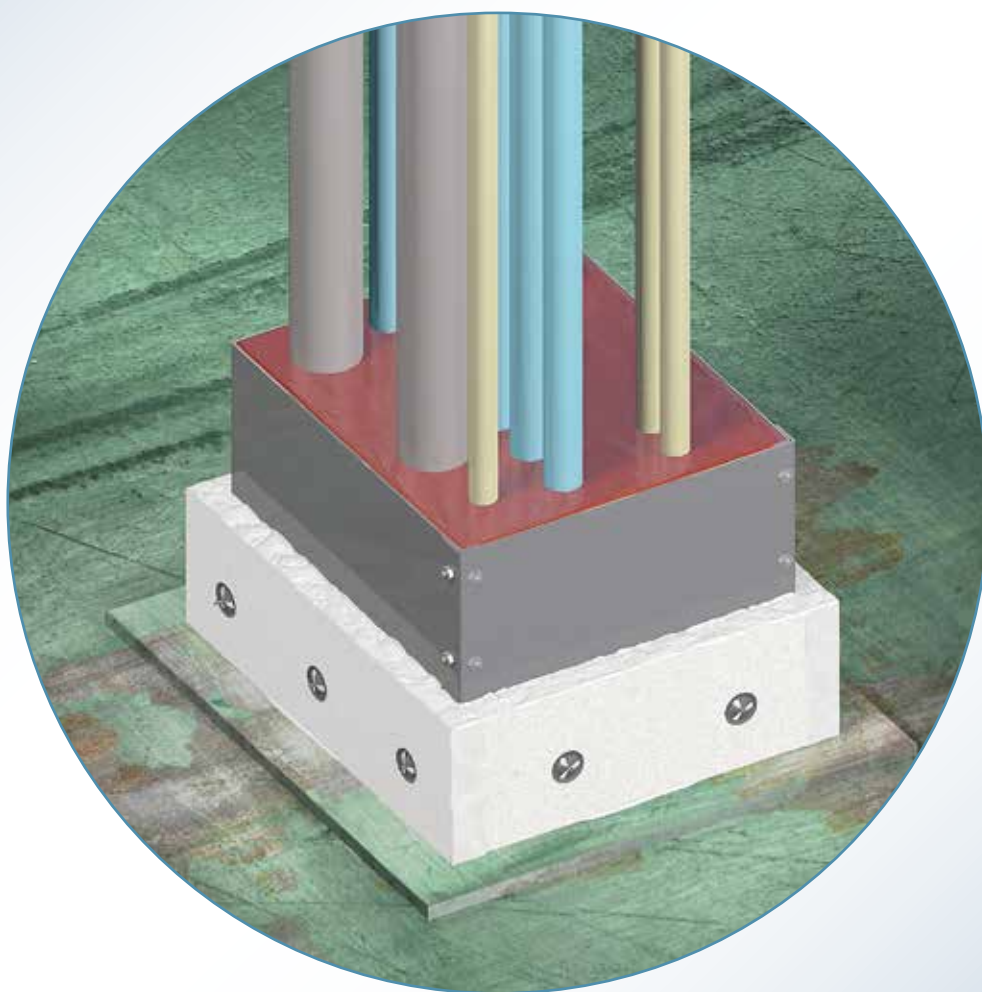




INSTALLATION INSTRUCTIONS NOFIRNO® UPGRADING SYSTEM FOR EXISTING CABLE TRANSITS



NOFIRNO®

FYLLOFYS® FISSIC®

Beele campus 45.000 m²
Ready 2020/2021



- A: Reception, Education Center, Workshops, Video Conferences
- B: Demonstration, Training and Installation
- C: R&D center, Testing Facilities
- D: Pilot plant for new developments
- E: Production Plant phase 1 and 2
- F: Park with amphitheater and Food Forest 15.000 m²

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Edition

: January 2022

Note

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Research & Development

: BEELE Engineering BV, Aalten, the Netherlands.

Note

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brochure code

: installation NOFIRNO upgrading

INSTALLATION INSTRUCTIONS FOR NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM



Not only for standard cellulose fires, but also for applications with highest Fire and tightness ratings (up to HC and Jet Fires) the NOFIRNO® sealing system is used. The NOFIRNO® multi-cable transit sealing system is composed of NOFIRNO® insert (cable) sleeves in 29 different sizes, NOFIRNO® (multi-) filler sleeves in 5 different sizes and NOFIRNO® sealant.

The use of NOFIRNO® multi-filler sleeves contributes to ease of installation.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM

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

article number 50.0107



terracotta

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.

blue



article number 50.0108

black



article number 50.0109

white



article number 50.0110

grey



article number 50.0111

INSTALLATION INSTRUCTIONS FOR NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM

NOFIRNO® CABLE INSERT SLEEVES



cable insert sleeves are split lengthwise

Operating temperatures:
-50 °C up to +180 °C

NOFIRNO® cable insert sleeves are used to separate cables inside the conduit opening. This allows for ease of application of the NOFIRNO® sealant in between and around the ducted cables. The NOFIRNO® cable sleeves are available in 29 sizes and in lengths of 60, 80, 110, 130, 140, 160 and 210 mm. The NOFIRNO® cable insert sleeves are split lengthwise and can therefore be placed around the cables in front of the conduit opening.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM

NOFIRNO® CABLE INSERT SLEEVES

NOFIRNO® sleeve	cable diameter	sleeve length	article number	sleeve length	article number	sleeve length	article number	sleeve length	article number
12/6	5 - 7	60	50.1000	80	50.1240	110	50.1040	130	50.1200
14/8	7 - 9		50.1001		50.1241		50.1041		50.1201
16/10	9 - 11		50.1002		50.1242		50.1042		50.1202
18/12	11 - 13		50.1003		50.1243		50.1043		50.1203
20/14	13 - 15		50.1004		50.1244		50.1044		50.1204
22/16	15 - 17		50.1005		50.1245		50.1045		50.1205
26/18	17 - 19		50.1006		50.1246		50.1046		50.1206
28/20	19 - 21		50.1007		50.1247		50.1047		50.1207
30/22	21 - 23		50.1008		50.1248		50.1048		50.1208
32/24	23 - 25		50.1009		50.1249		50.1049		50.1209
34/26	25 - 27		50.1010		50.1250		50.1050		50.1210
36/28	27 - 29		50.1011		50.1251		50.1051		50.1211
38/30	29 - 32		50.1012		50.1252		50.1052		50.1212
42/33	32 - 35		50.1013		50.1253		50.1053		50.1213
46/36	35 - 38		50.1014		50.1254		50.1054		50.1214
49/39	38 - 41		50.1015		50.1255		50.1055		50.1215
52/42	41 - 44		50.1016		50.1256		50.1056		50.1216
55/45	44 - 47		50.1017		50.1257		50.1057		50.1217
58/48	47 - 51		50.1018		50.1258		50.1058		50.1218
62/52	51 - 55		50.1019		50.1259		50.1059		50.1219
66/56	55 - 59		50.1020		50.1260		50.1060		50.1220
70/60	59 - 63		50.1021		50.1261		50.1061		50.1221
74/64	63 - 67		50.1022		50.1262		50.1062		50.1222
78/68	67 - 71		50.1023		50.1263		50.1063		50.1223
82/72	71 - 75		50.1024		50.1264		50.1064		50.1224
86/76	75 - 79		50.1025		50.1265		50.1065		50.1225
95/80	79 - 84		50.1026		50.1266		50.1066		50.1226
100/85	84 - 89		50.1027		50.1267		50.1067		50.1227
110/90	89 - 94		50.1028		50.1268		50.1068		50.1228
115/95	94 - 99		50.1029		50.1269		50.1069		50.1229
120/100	99 - 104		50.1030		50.1270		50.1070		50.1230

NOFIRNO® sleeve	cable diameter	sleeve length	article number	sleeve length	article number	sleeve length	article number	sleeve length	article number
12/6	5 - 7	140	50.1080	160	50.1120	210	50.1160		
14/8	7 - 9		50.1081		50.1121		50.1161		
16/10	9 - 11		50.1082		50.1122		50.1162		
18/12	11 - 13		50.1083		50.1123		50.1163		
20/14	13 - 15		50.1084		50.1124		50.1164		
22/16	15 - 17		50.1085		50.1125		50.1165		
26/18	17 - 19		50.1086		50.1126		50.1166		
28/20	19 - 21		50.1087		50.1127		50.1167		
30/22	21 - 23		50.1088		50.1128		50.1168		
32/24	23 - 25		50.1089		50.1129		50.1169		
34/26	25 - 27		50.1090		50.1130		50.1170		
36/28	27 - 29		50.1091		50.1131		50.1171		
38/30	29 - 32		50.1092		50.1132		50.1172		
42/33	32 - 35		50.1093		50.1133		50.1173		
46/36	35 - 38		50.1094		50.1134		50.1174		
49/39	38 - 41		50.1095		50.1135		50.1175		
52/42	41 - 44		50.1096		50.1136		50.1176		
55/45	44 - 47		50.1097		50.1137		50.1177		
58/48	47 - 51		50.1098		50.1138		50.1178		
62/52	51 - 55		50.1099		50.1139		50.1179		
66/56	55 - 59		50.1100		50.1140		50.1180		
70/60	59 - 63		50.1101		50.1141		50.1181		
74/64	63 - 67		50.1102		50.1142		50.1182		
78/68	67 - 71		50.1103		50.1143		50.1183		
82/72	71 - 75		50.1104		50.1144		50.1184		
86/76	75 - 79		50.1105		50.1145		50.1185		
95/80	79 - 84		50.1106		50.1146		50.1186		
100/85	84 - 89		50.1107		50.1147		50.1187		
110/90	89 - 94		50.1108		50.1148		50.1188		
115/95	94 - 99		50.1109		50.1149		50.1189		
120/100	99 - 104		50.1110		50.1150		50.1190		

INSTALLATION INSTRUCTIONS FOR NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM

NOFIRNO® MULTI-FILLER SLEEVES



Filler sleeves are not split lengthwise

Operating temperatures:
-50 °C up to +180 °C

NOFIRNO® filler sleeves are supplied in multi-sets of 6, 8, 10 and 12 sleeves, depending on the outer dimensions of the sleeves. Single sleeves or smaller sets of sleeves can be torn off easily. To tear off sleeves from the multi-set, the procedure is to do this backwards/forwards and not sideways. This is because of the strength of the intermediate rubber parts.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM

NOFIRNO® MULTI-FILLER SLEEVES



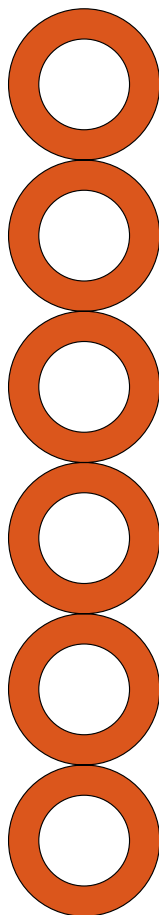
NOFIRNO® Filler sleeve 10/4 multi 12

art. no. 50.0301 for 60 mm length
art. no. 50.0361 for 80 mm length
art. no. 50.0311 for 110 mm length
art. no. 50.0351 for 130 mm length
art. no. 50.0321 for 140 mm length
art. no. 50.0331 for 160 mm length
art. no. 50.0341 for 210 mm length



NOFIRNO® Filler sleeve 15/8 multi 8

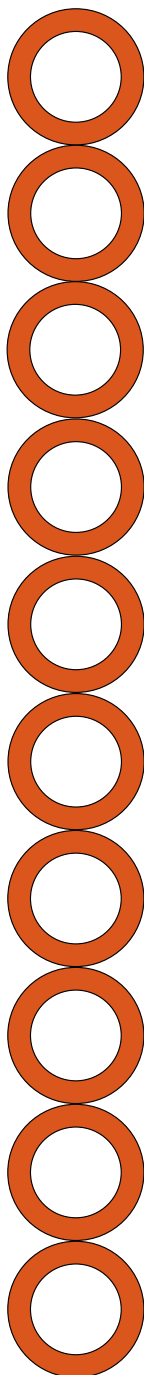
art. no. 50.0302 for 60 mm length
art. no. 50.0362 for 80 mm length
art. no. 50.0312 for 110 mm length
art. no. 50.0352 for 130 mm length
art. no. 50.0322 for 140 mm length
art. no. 50.0332 for 160 mm length
art. no. 50.0342 for 210 mm length



NOFIRNO® Filler sleeve 20/12 multi 6

art. no. 50.0303 for 60 mm length
art. no. 50.0363 for 80 mm length
art. no. 50.0313 for 110 mm length
art. no. 50.0353 for 130 mm length
art. no. 50.0323 for 140 mm length
art. no. 50.0333 for 160 mm length
art. no. 50.0343 for 210 mm length

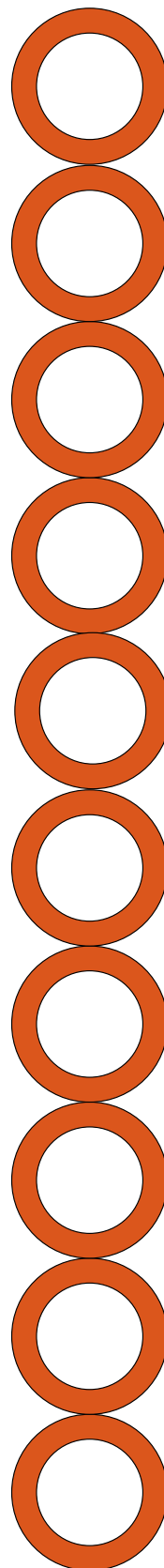
to be used for smaller conduit openings



to be used for larger conduit openings

NOFIRNO® Filler sleeve 18/12 multi 10

art. no. 80.5050 for 60 mm length
art. no. 80.5056 for 80 mm length
art. no. 80.5051 for 110 mm length
art. no. 80.5055 for 130 mm length
art. no. 80.5052 for 140 mm length
art. no. 80.5053 for 160 mm length
art. no. 80.5054 for 210 mm length



to be used for larger conduit openings

NOFIRNO® Filler sleeve 22/15 multi 10

art. no. 80.5070 for 60 mm length
art. no. 80.5076 for 80 mm length
art. no. 80.5071 for 110 mm length
art. no. 80.5075 for 130 mm length
art. no. 80.5072 for 140 mm length
art. no. 80.5073 for 160 mm length
art. no. 80.5074 for 210 mm length

Filler sleeves are supplied non-split

Operating temperatures:
-50 °C up to +180 °C



a product developed and manufactured
by BEELE Engineering bv/Netherlands
website: www.Fissiccoating.com

FISSIC®

FISSIC® is a fire retardant coating on the basis of an APEO-free water-based polymer emulsion without the addition of VOC containing solvents.

FISSIC® has been tested successfully on flame spread characteristics and toxicity and is classed as "not capable of producing excessive quantity of smoke or toxic product". MED certificate 39278/A0 EC issued by Bureau Veritas.

FISSIC® is fire proof and salt water resistance (even after fire). KIWA Netherlands report 20150421HN01.

FISSIC® is gas tight 30 mBar.

FISSIC® is water impermeable. KIWA Netherlands report 20160203TW01

FISSIC® resistance to diesel & petrol. KIWA Netherlands report 20160224TW01

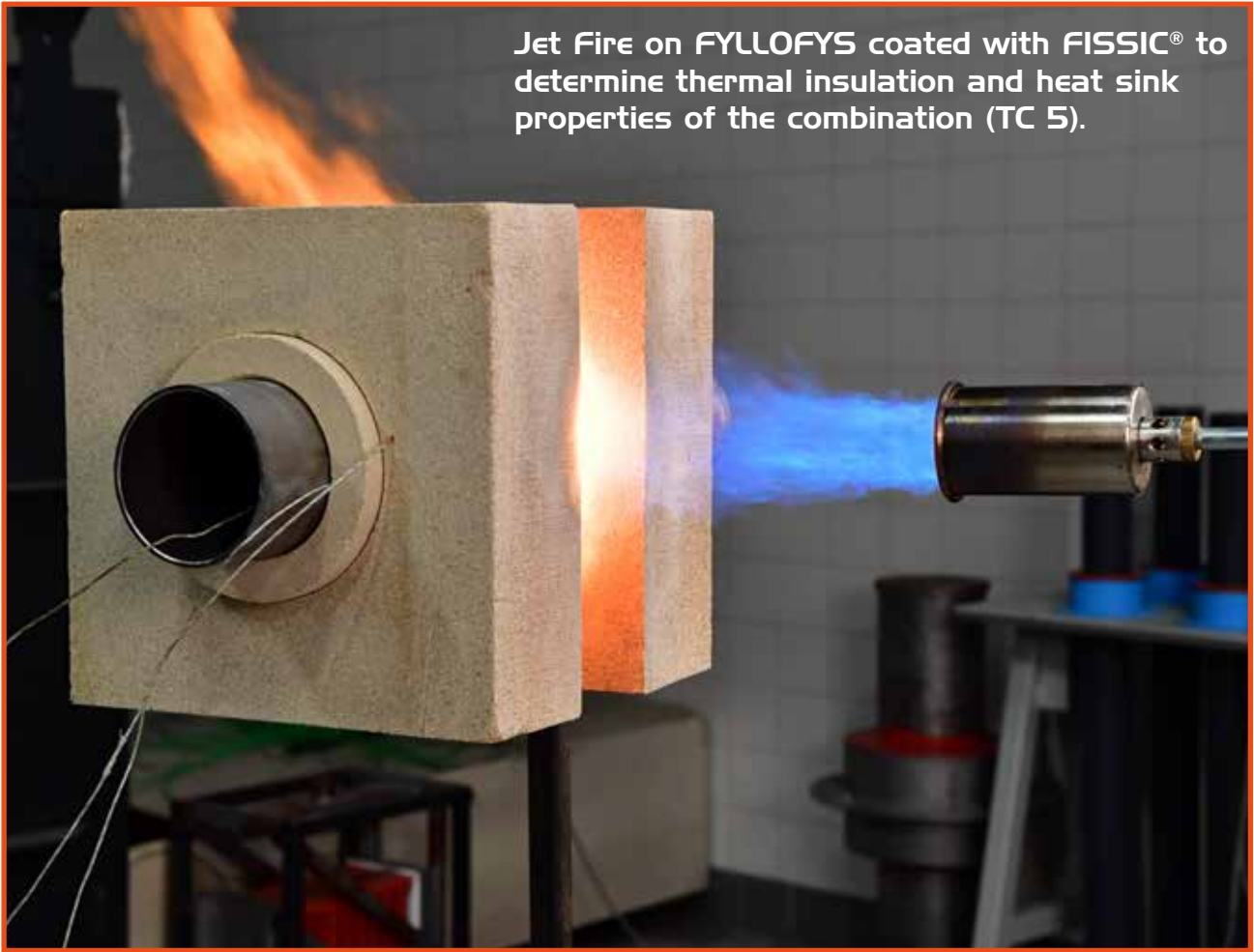
FISSIC® prevents "CUI - corrosion underneath insulation"

FISSIC® successfully SBI tested according to EN 13823:2010 for B-1s-d0 class rating

FISSIC® successfully tested according to ISO 1716 for A2-1s-d0 noncombustible

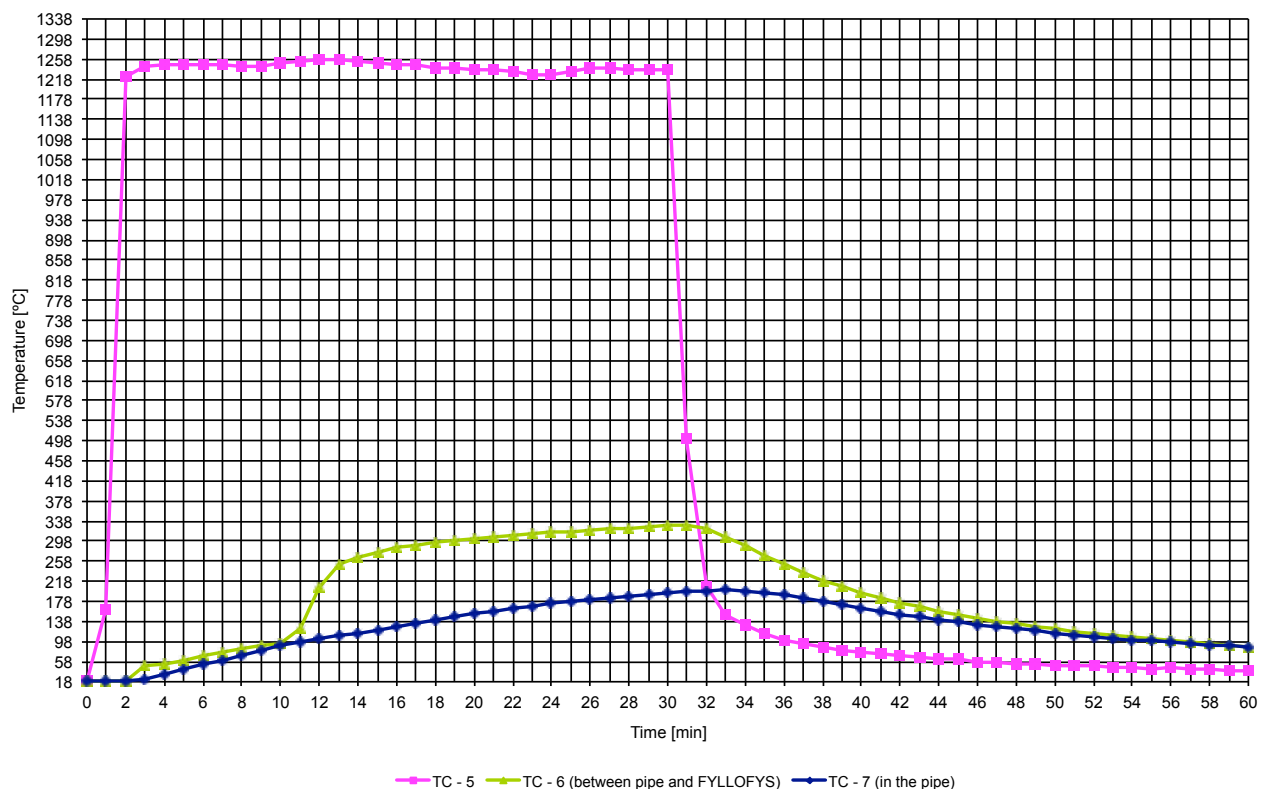
FISSIC® adhesion 3.84 MPa according to ISO 4624:08-2003. KIWA report P 10498a

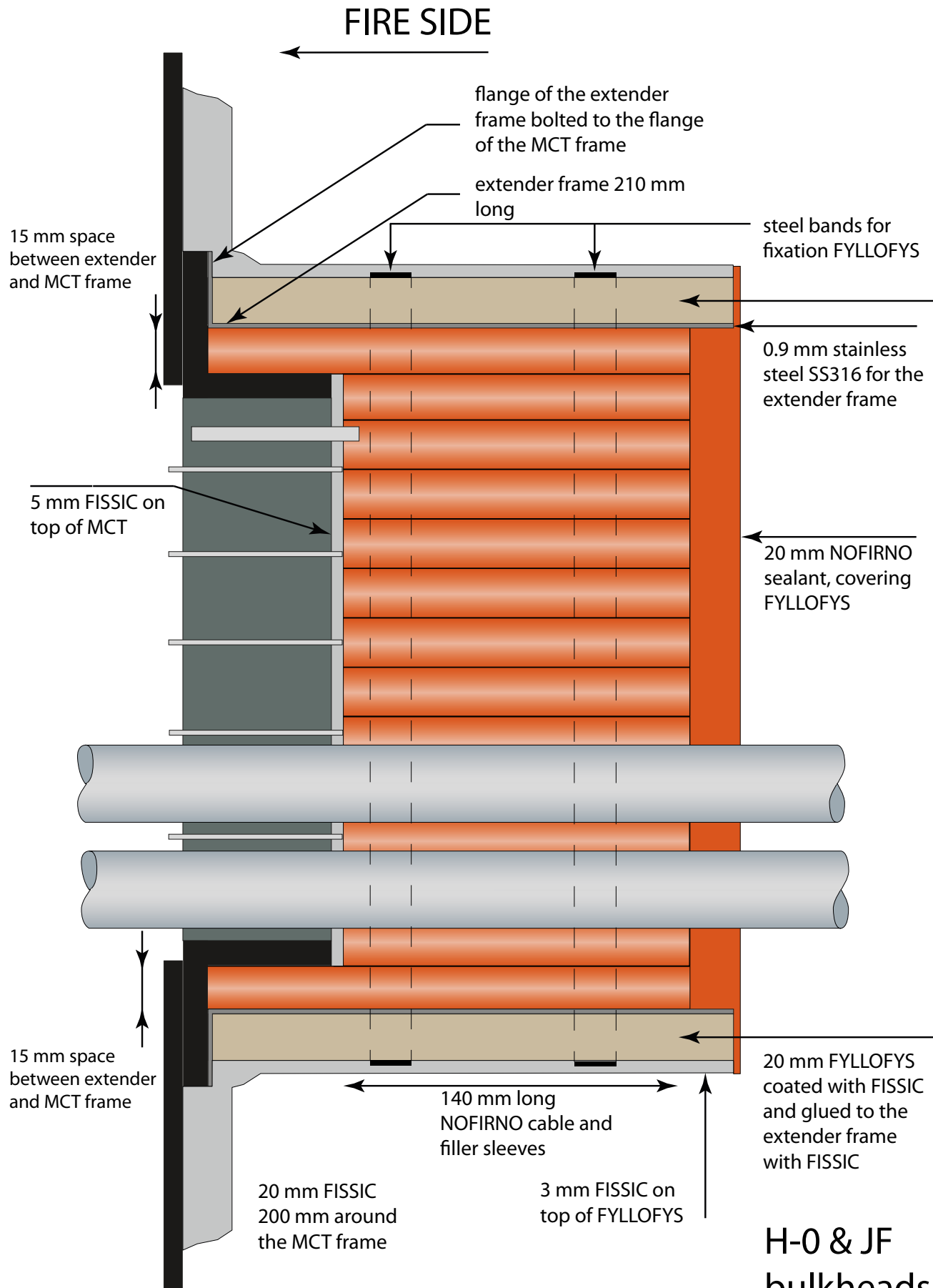
Jet Fire on FYLLOFYS coated with FISSIC® to determine thermal insulation and heat sink properties of the combination (TC 5).



JET FIRE TEST

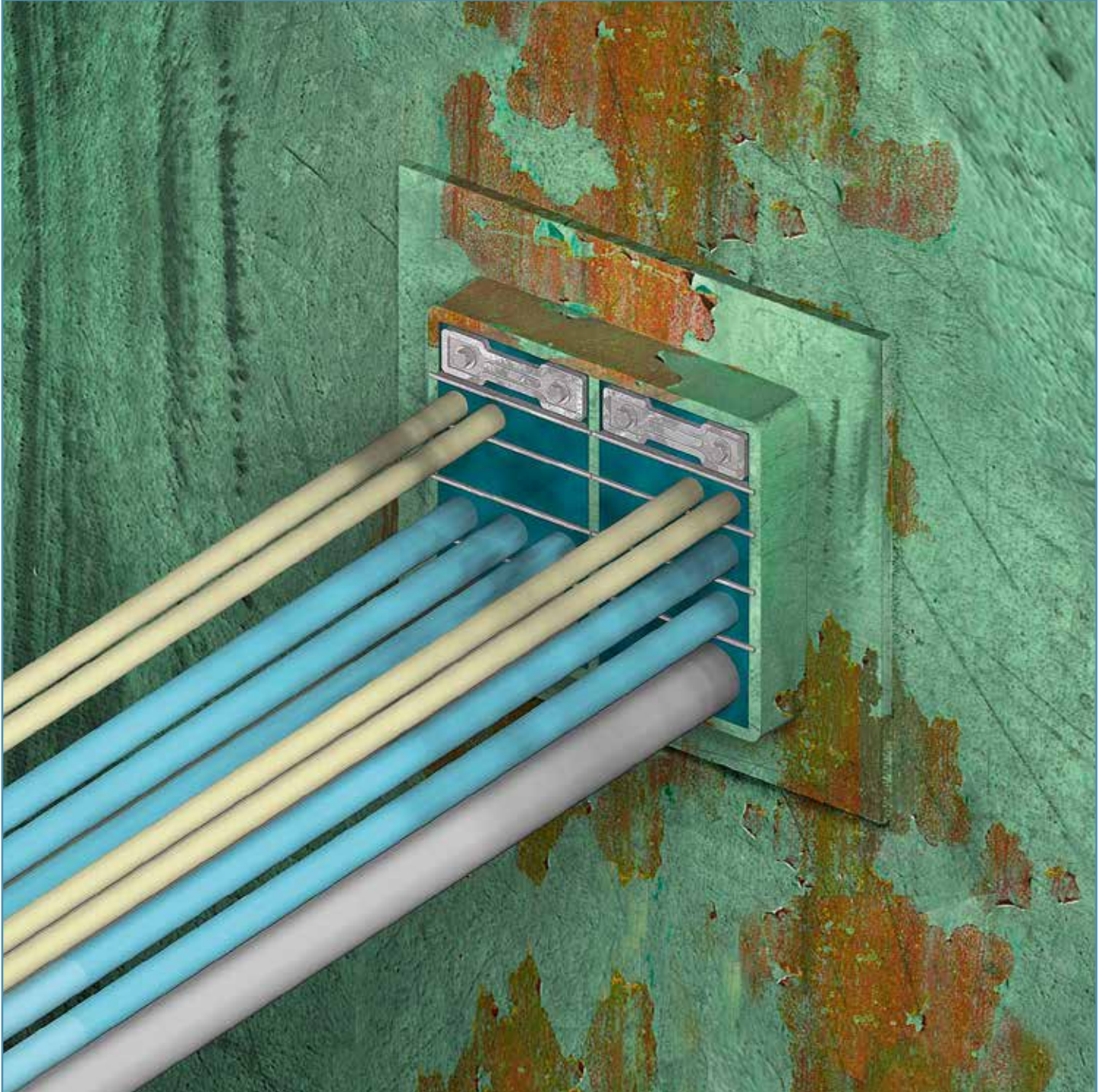
TEMPERATURES





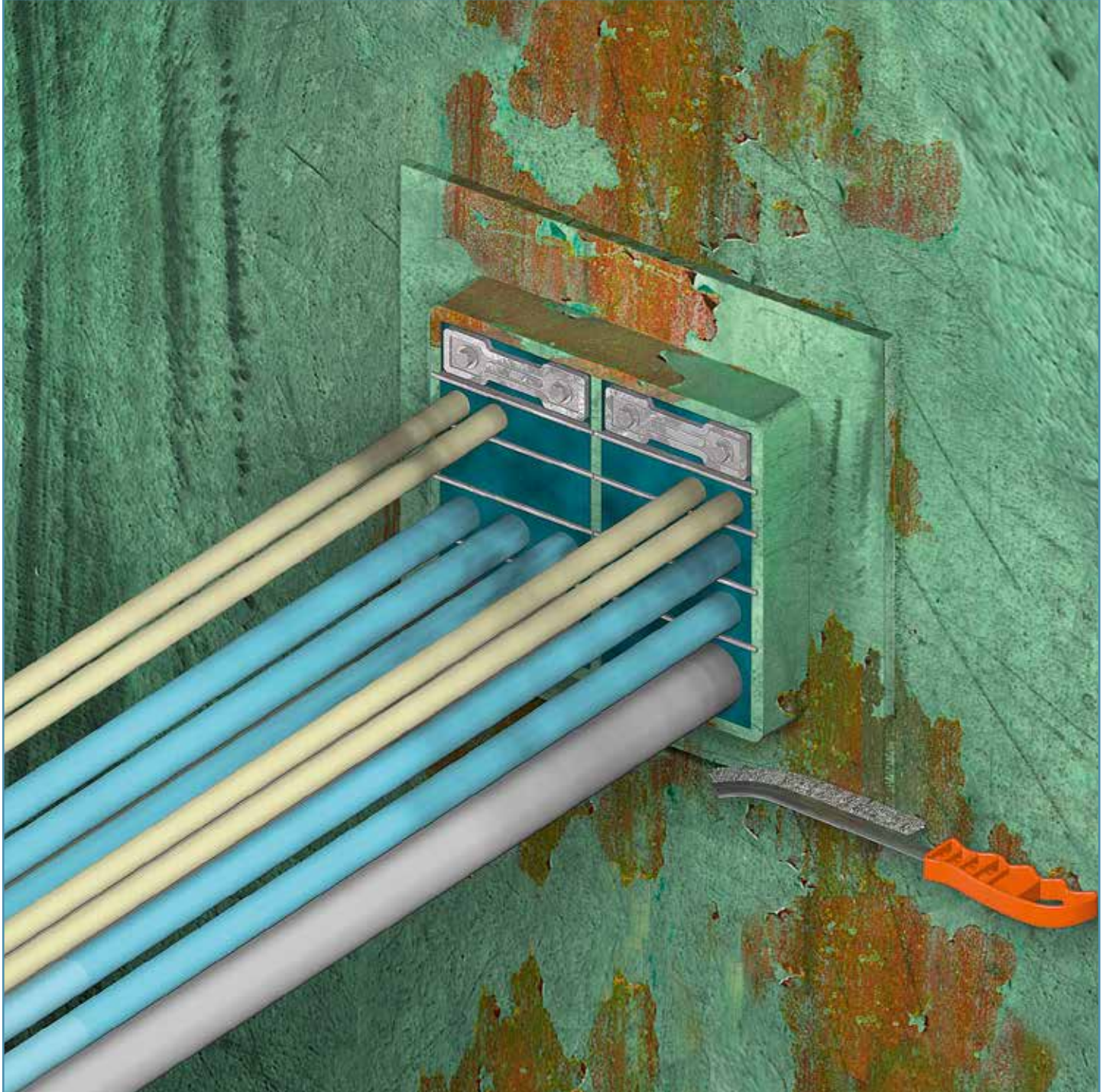
**H-0 & JF
bulkheads
and decks**

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



In installations where existing multi-cable transits have to be upgraded to a higher level of Fire rating whereby dismantling or removal of the existing system is impossible or unwanted, a special design of the NOFIRNO sealing system has been developed. This system is specially developed for exposure at the fire side of the partition for highest ratings like H-O and Jet Fire.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



Before application of the NOFIRNO®/FISSIC® system, the existing system and transit has to be cleaned from rust and dirt or oil residues. Sand blasting, if possible, is preferred in case of substantial corrosion or pollution.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



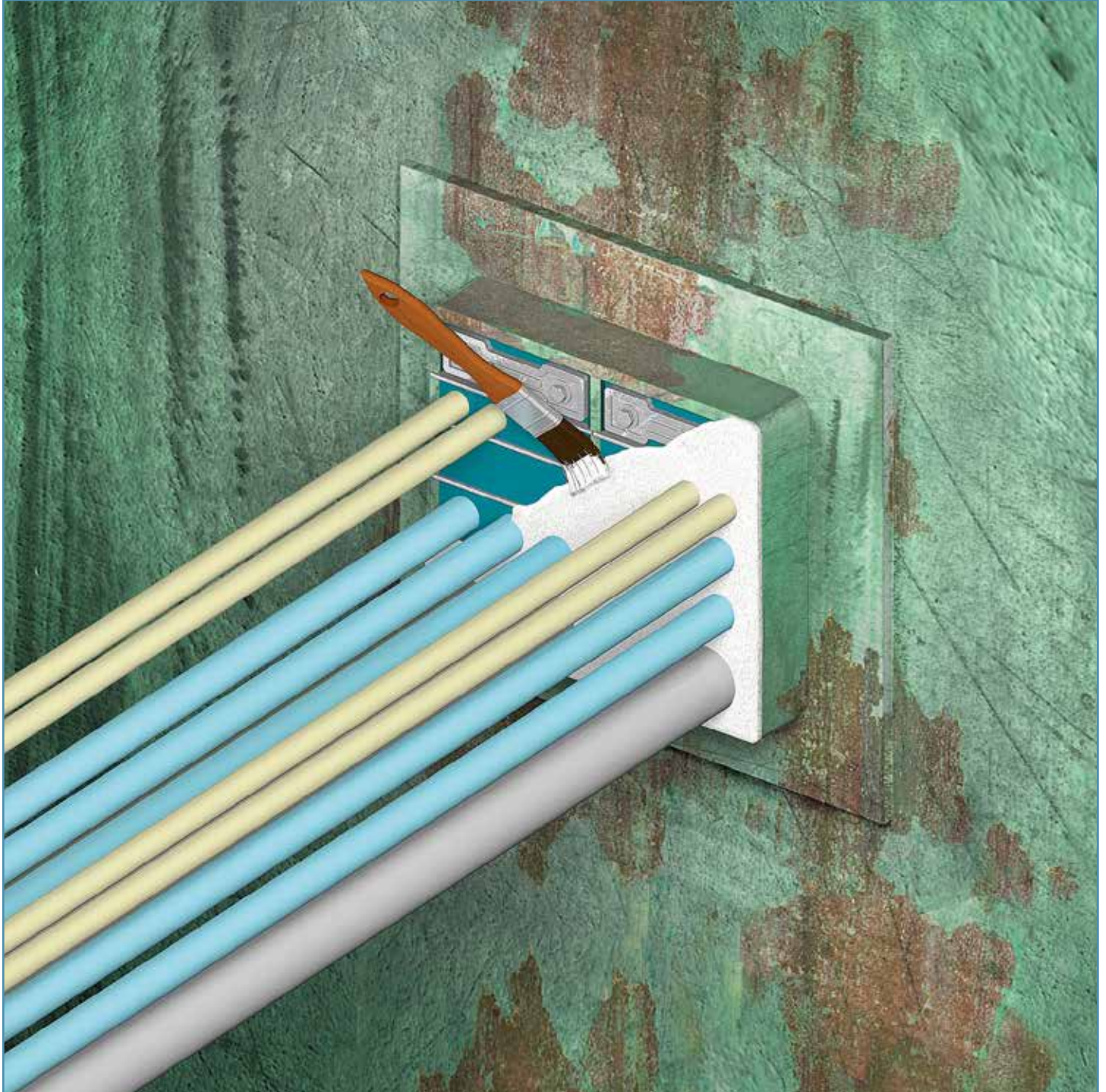
Cleaning of the deck/bulkhead 200 mm around the existing transit is necessary for the application of the FISSIC® coating. FISSIC® coating offers a high degree of thermal insulation and is needed to prevent radiation heat of the uninsulated partition to ignite the ducted cables.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



Also the cables and the surface of the existing sealing system have to be cleaned thoroughly.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



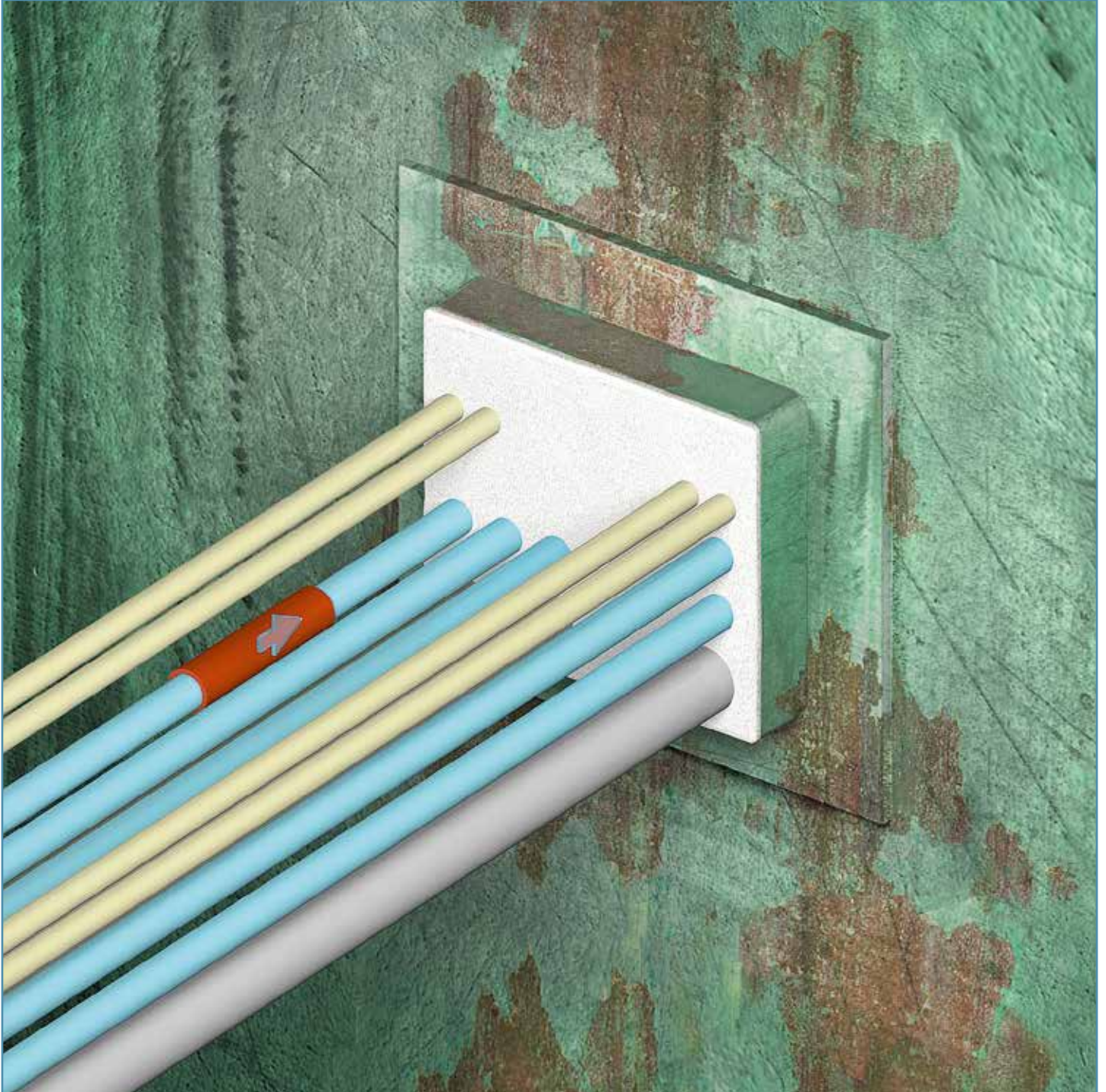
Then the existing sealing system is covered with a 5 mm thick layer of the the FISSIC® coating. Once dried the coating prevents any hot smoke or degassing of the existing system to penetrate into the NOFIRNO® system.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



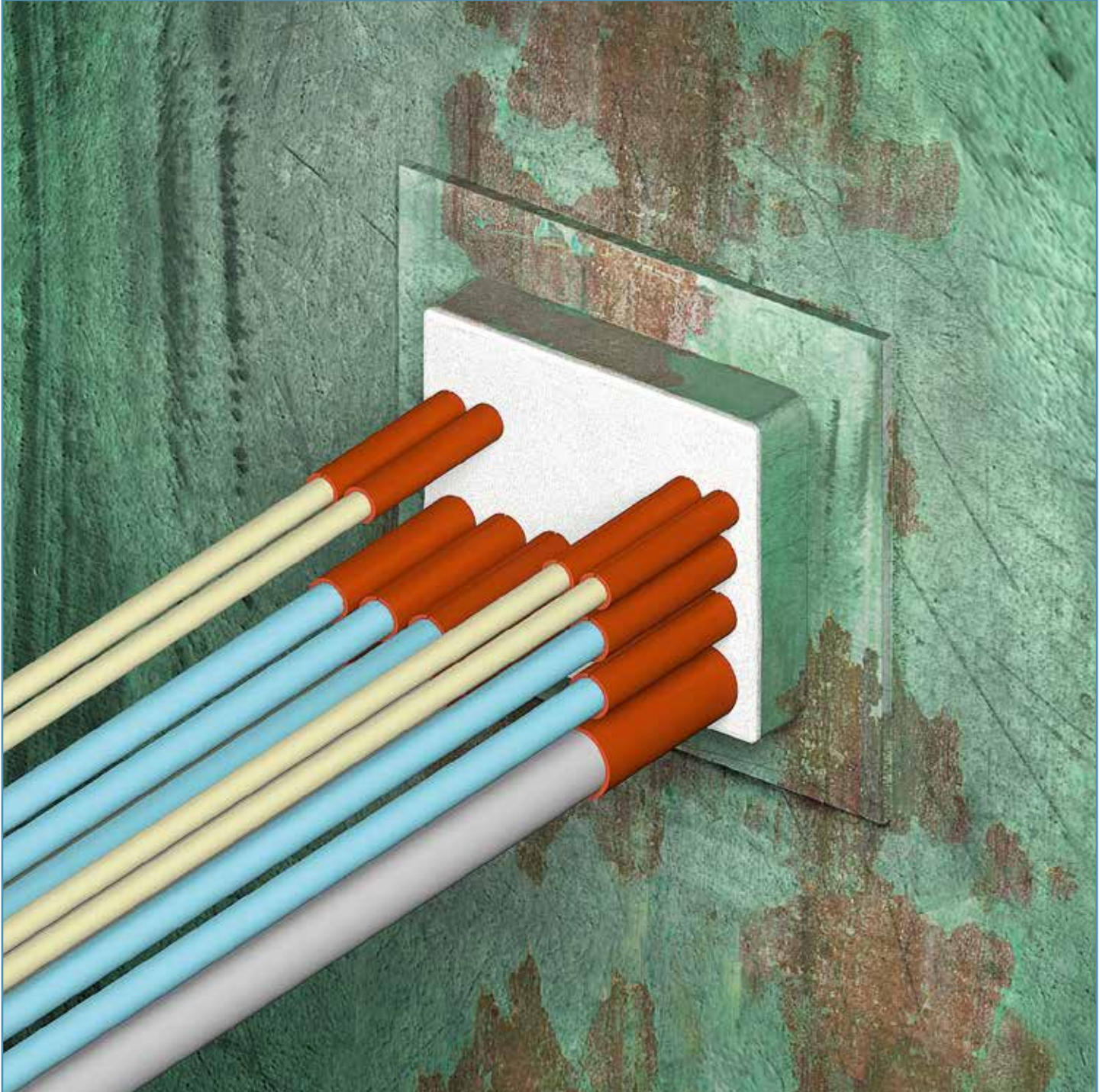
It is advisable to apply the coating in between the cables as well to obtain, as far as possible, a gas tight FISSIC® layer on top of the existing system.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



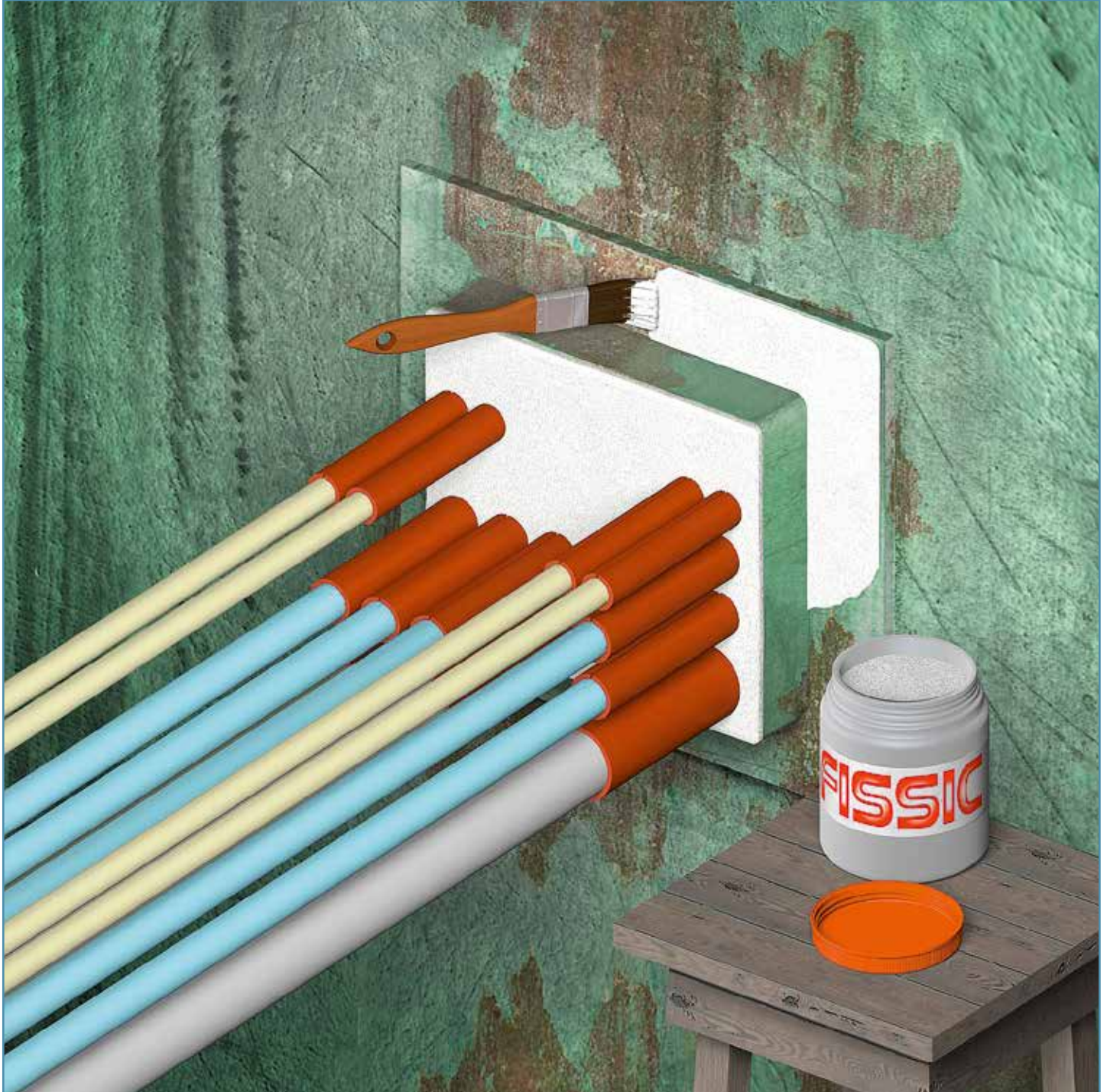
NOFIRNO® cable sleeves, slit lengthwise, with a length of 140 mm are placed around the ducted cables. NOFIRNO® rubber is very endothermic and will insulate the cables from each other, specifically the ones with heavy copper conductors.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



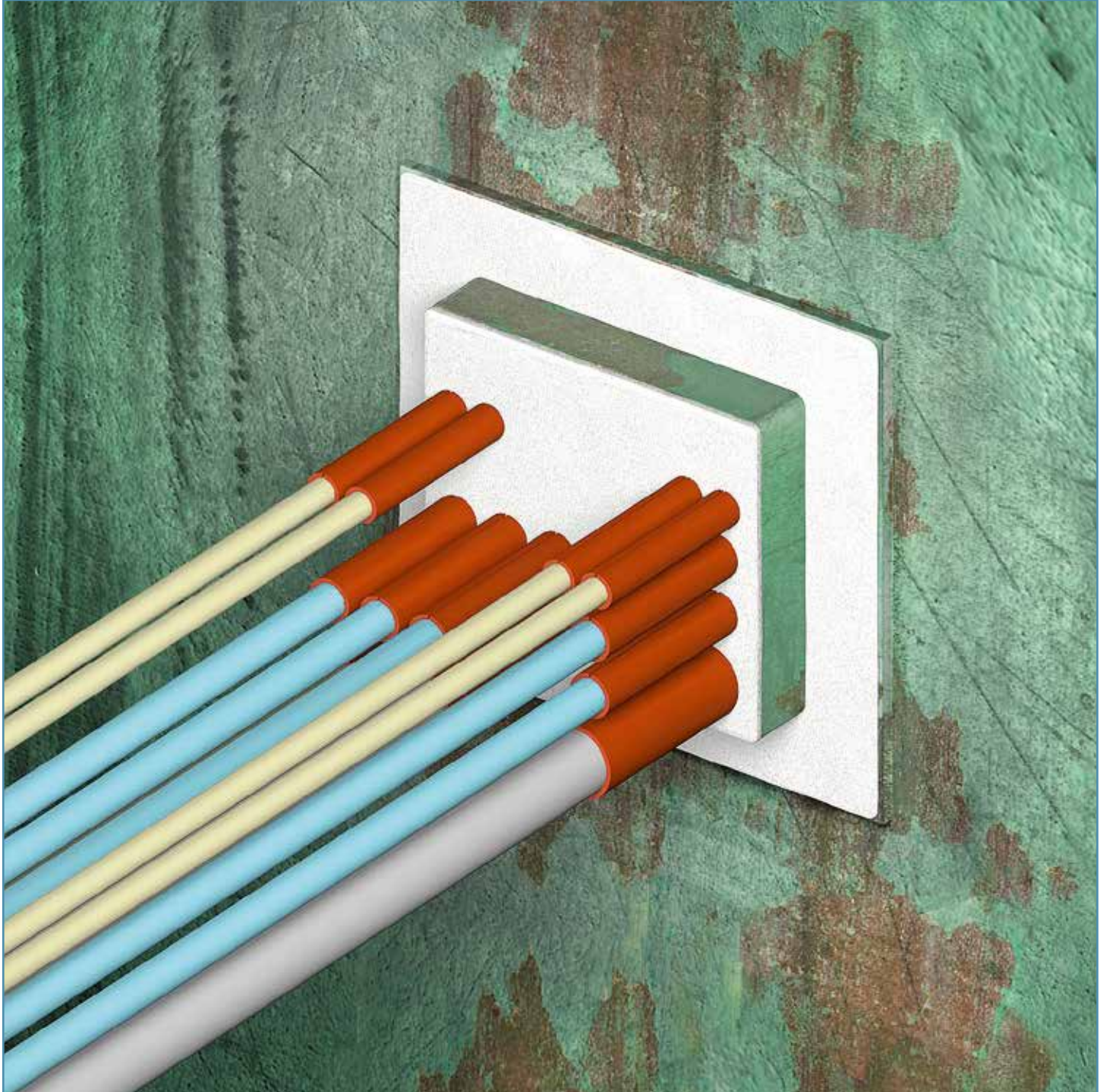
It is advisable to do the sleeving of the cables before the extender casing is going to be placed.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



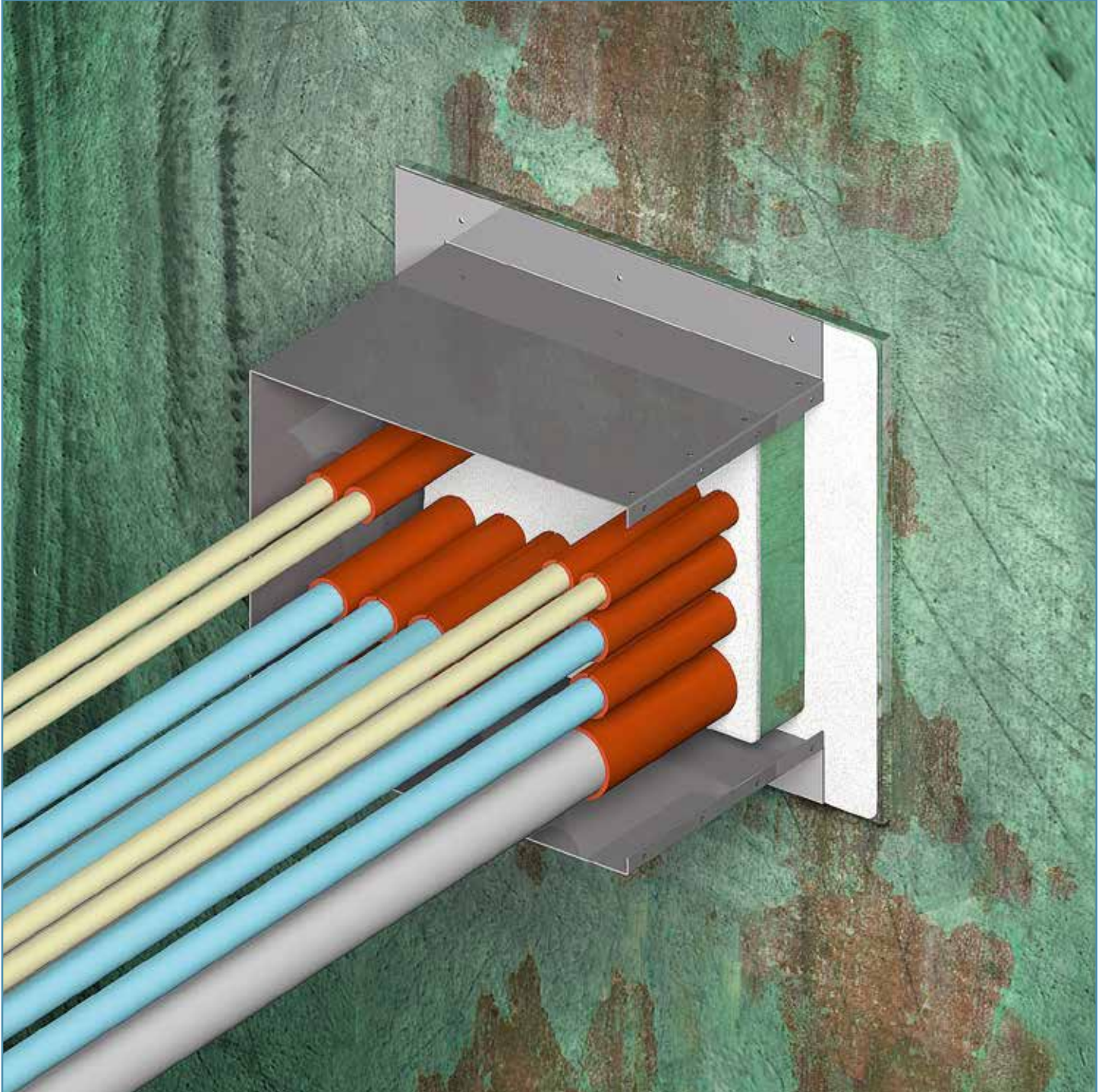
A layer of FISSIC® coating is applied on the flange of the existing transit frame to glue the extender frame to the flange. The objective is to create a tight seal to prevent, in case of fire, hot gases to escape underneath the flange of the extender frame. Besides, the FISSIC® coating prevents corrosion between the extender frame and the steel frame of the existing sealing system.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



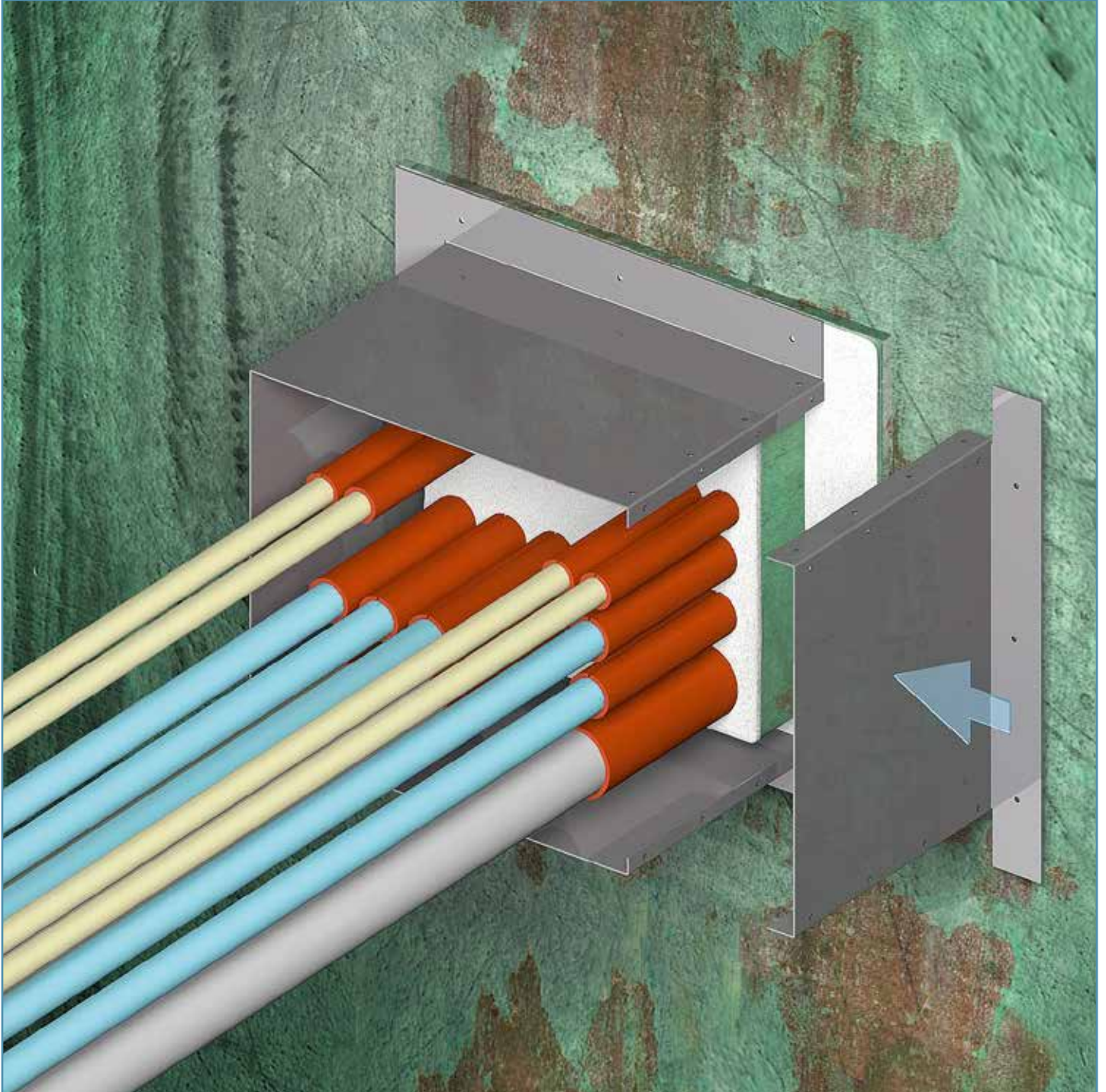
The coating should still be wet when the extender frame is placed. Due to the fast drying time of the FISSIC® coating the time for placing the extender frame is reasonably short.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



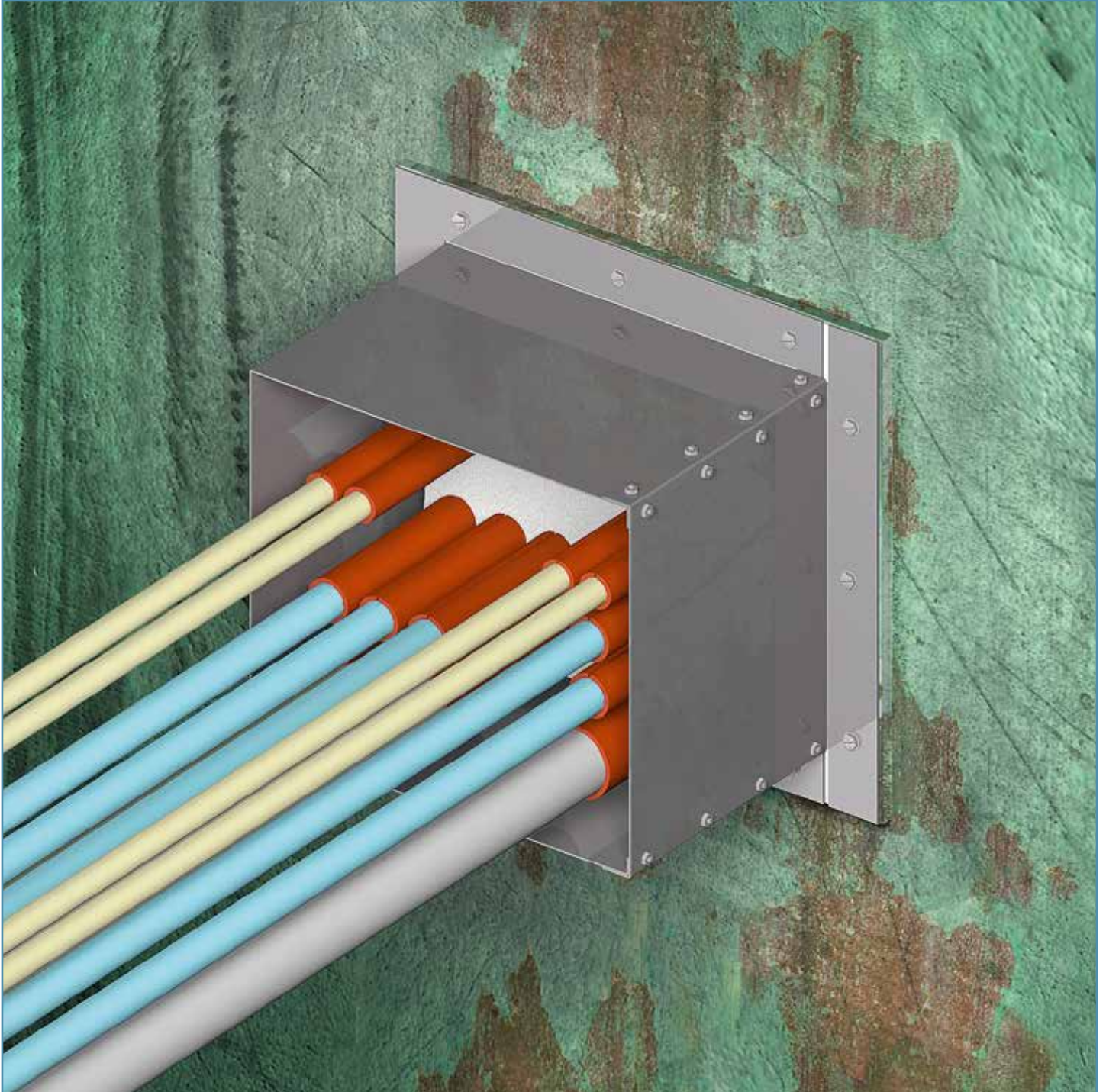
The extender frame, fitting around the existing transit frame, is made of thin stainless steel plate to enable construction at a site workshop
There should be a gap of about 15 mm between the existing frame and the extender frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



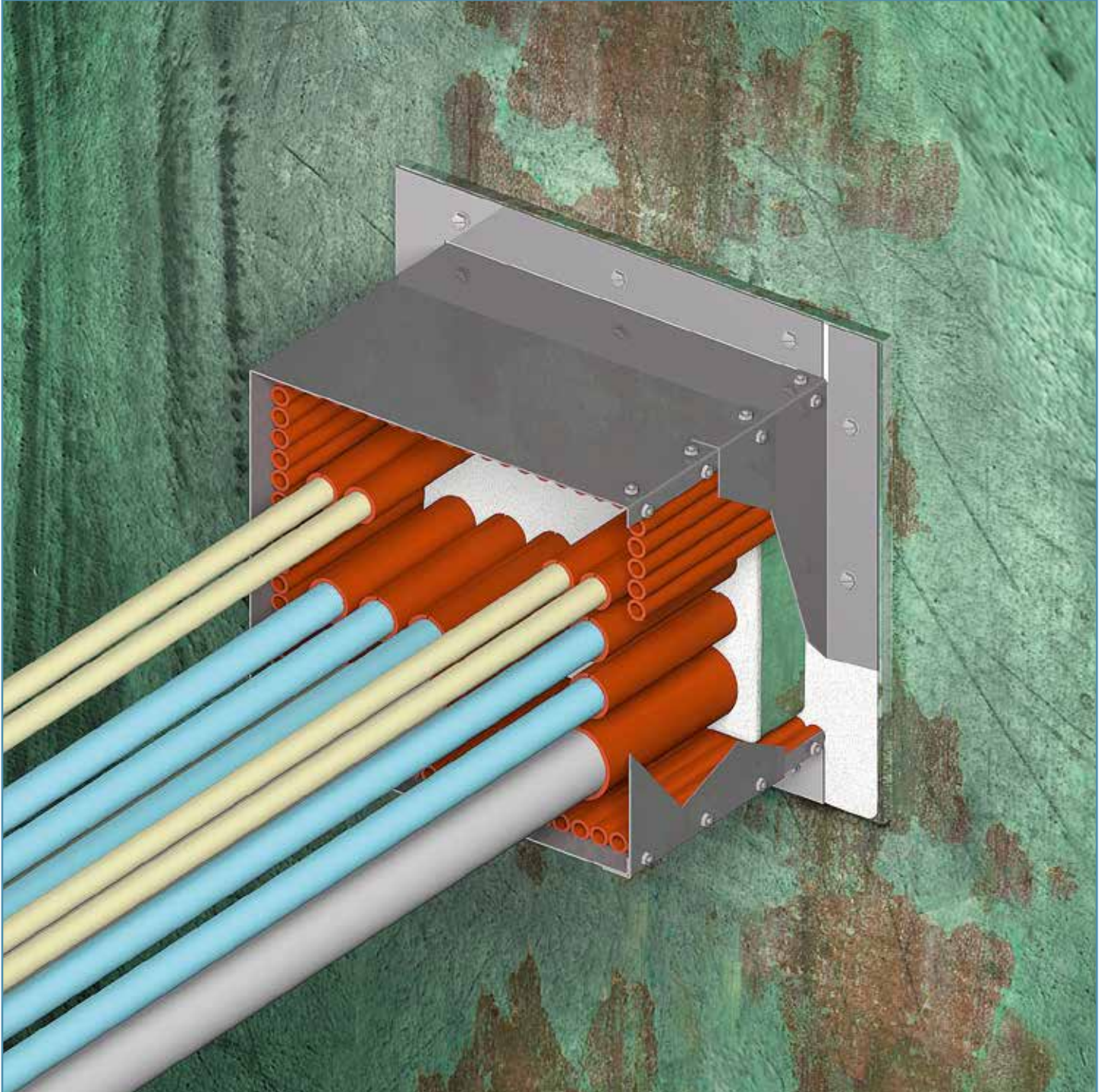
The closure is then placed.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



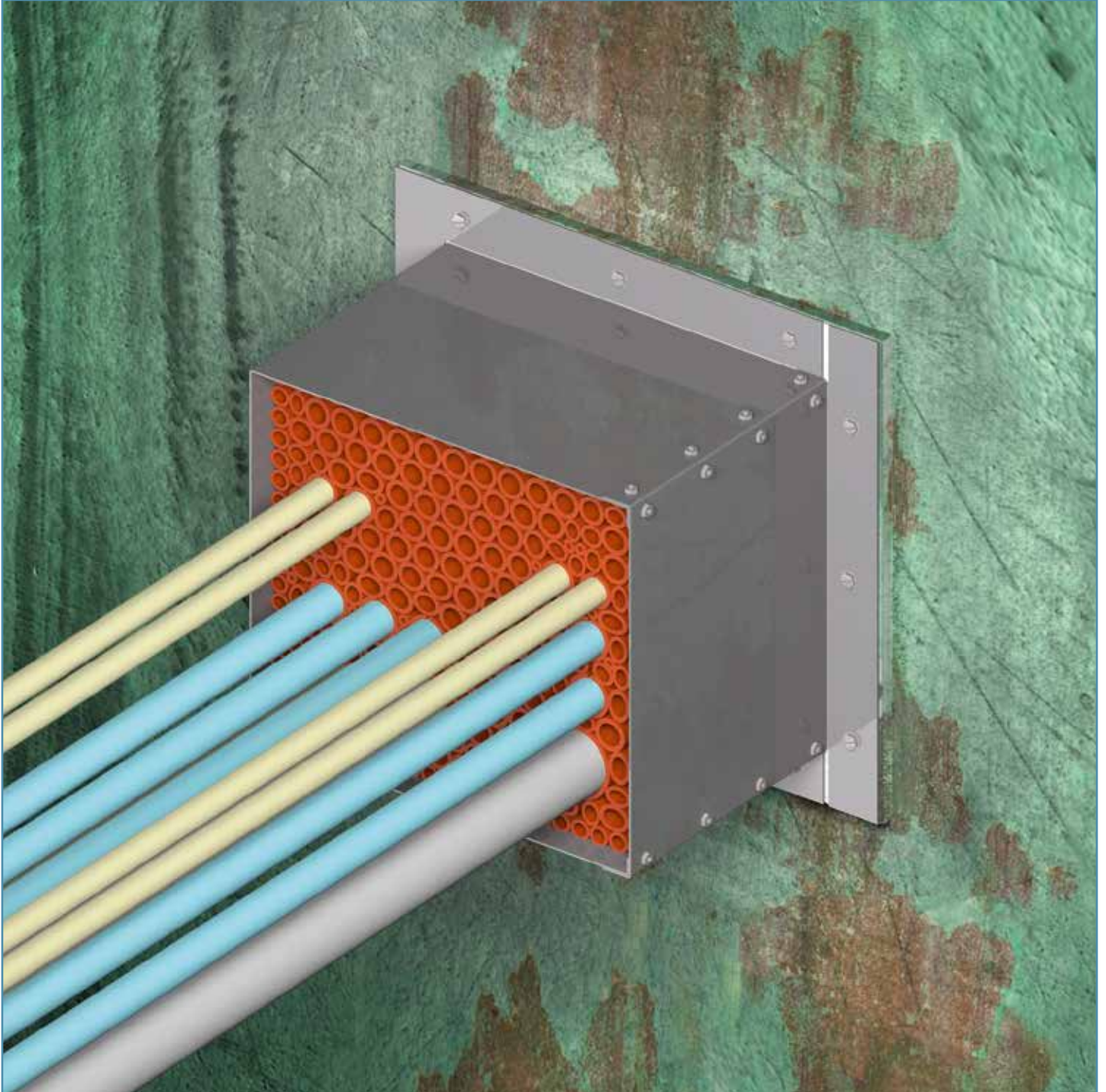
The two parts of the extender frame are bolted together and the assembled extender frame is then bolted on the flange of the existing transit.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



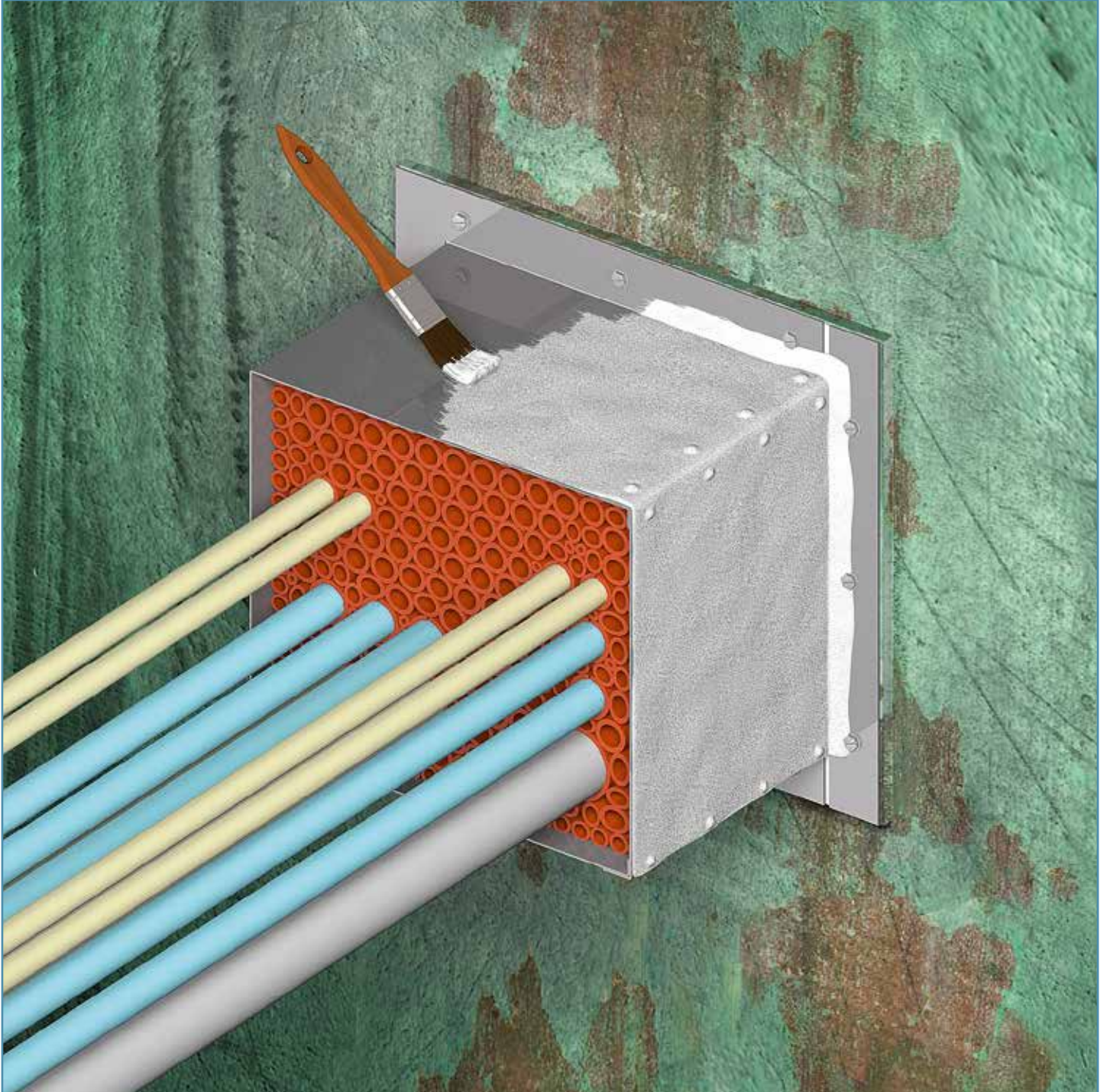
NOFIRNO® Filler sleeves 1 5/8" with a length of 210 mm are installed all around in the gap between the existing and the extender frame. The objective is to offer sufficient thermal insulation to protect in case of fire the cables positioned very close to the external wall of the existing system to extreme heat.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



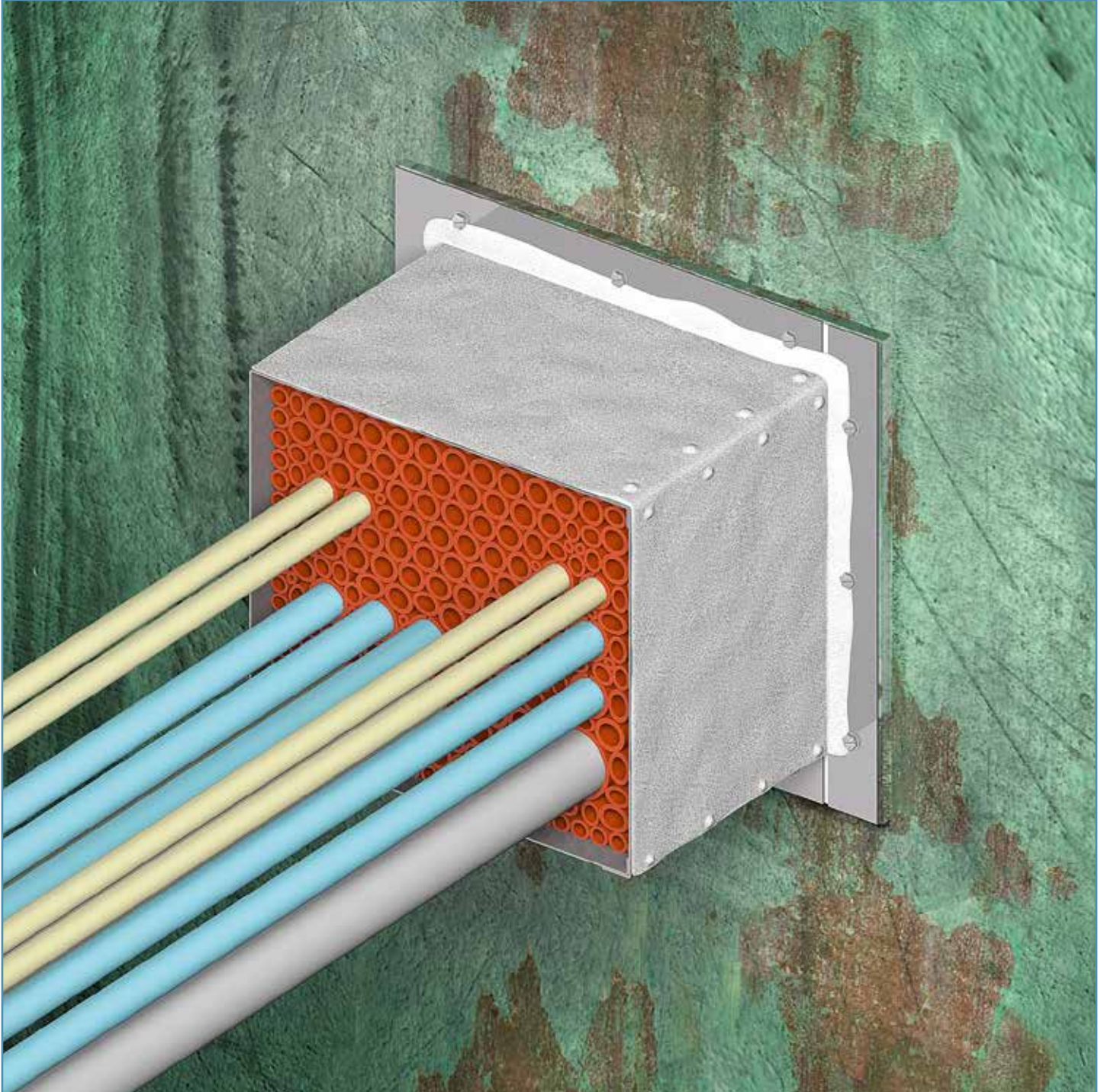
With a combination of NOFIRNO® Filler sleeves sizes 15/8, 18/12 and 22/15 the free spaces inside the extender frame are filled.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



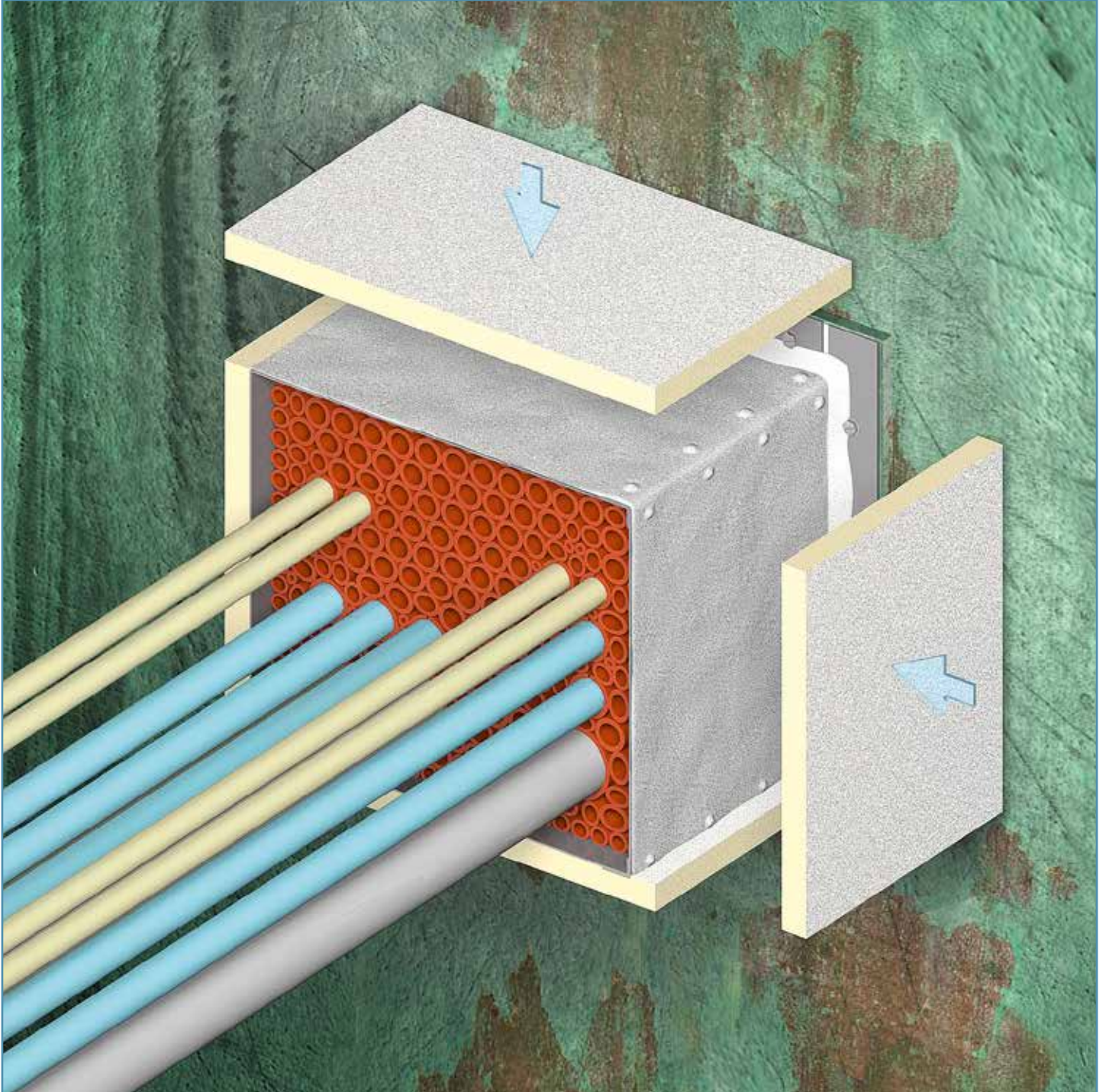
The extender frame is coated all around with FISSIC® to prepare for gluing the FYLLOFYS® thermal insulation plates on the extender frame and partly on the flange.
For gluing purposes the FISSIC® coating has to be wet when the FYLLOFYS® plates are placed.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



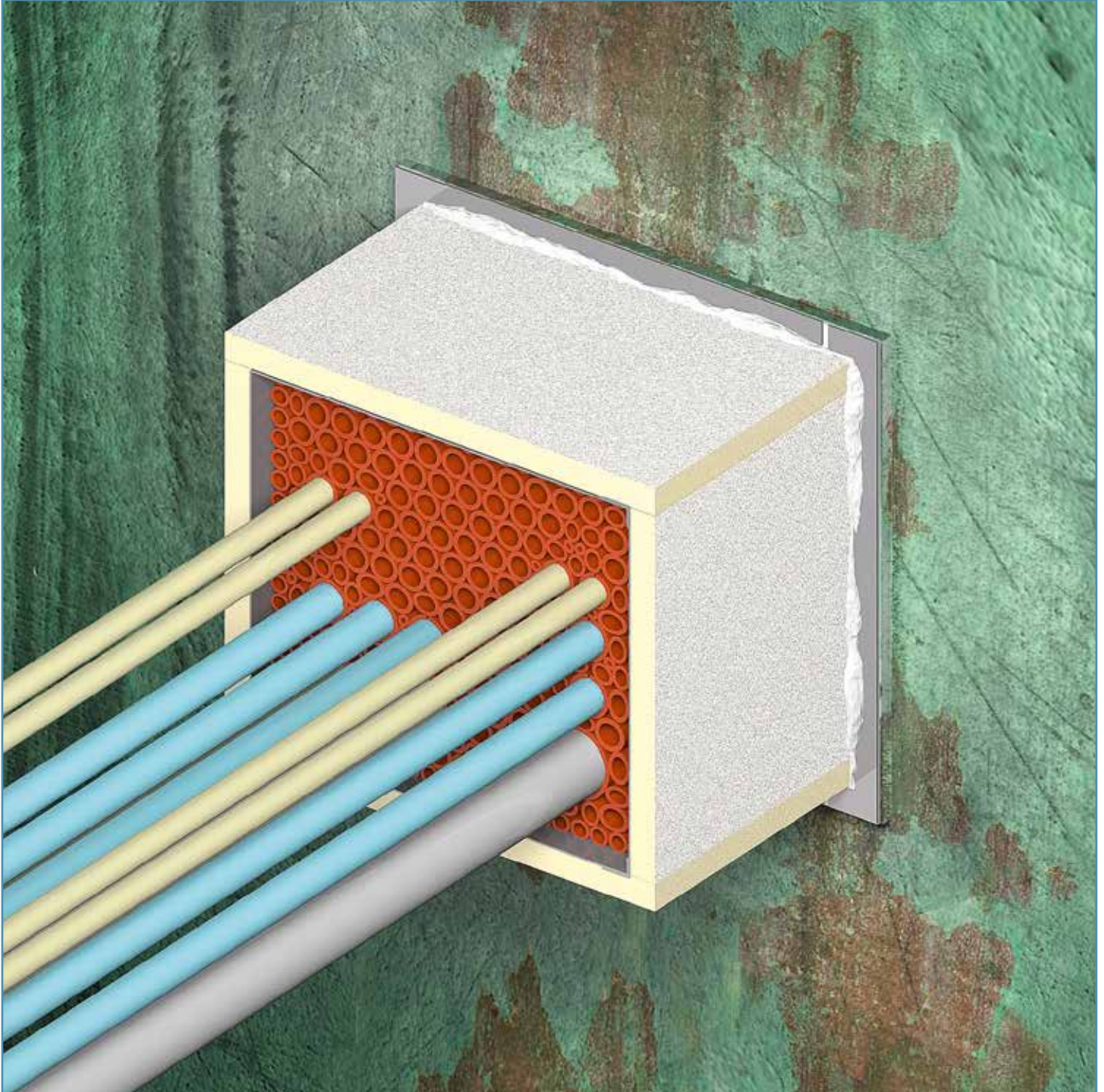
FISSIC® applied all around the extender frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



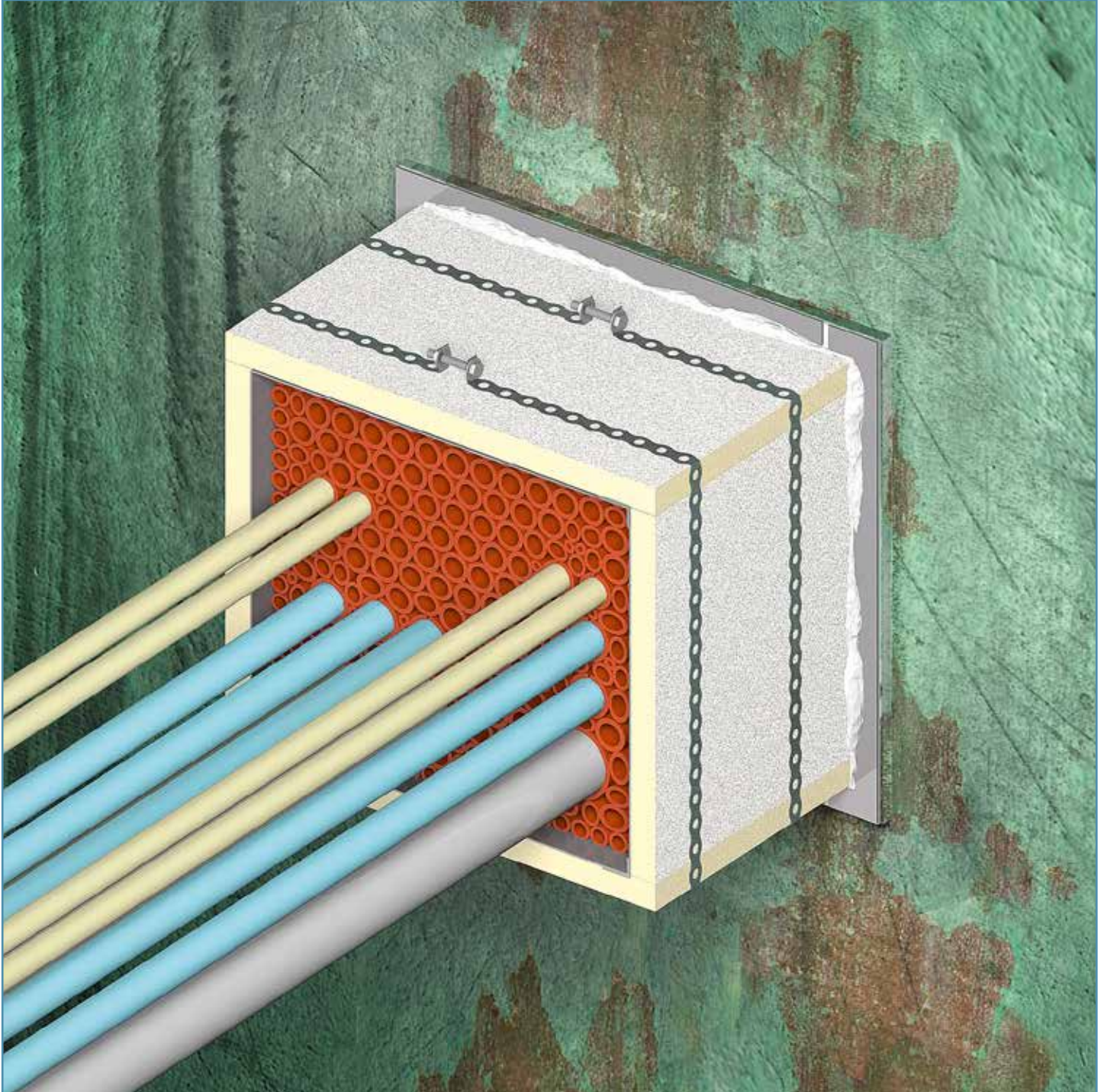
FYLLOFYS® plates should be cut to size before installation. FYLLOFYS® plates are already coated with FISSIC®. The FYLLOFYS® plates are pressed onto the wet FISSIC® coating.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



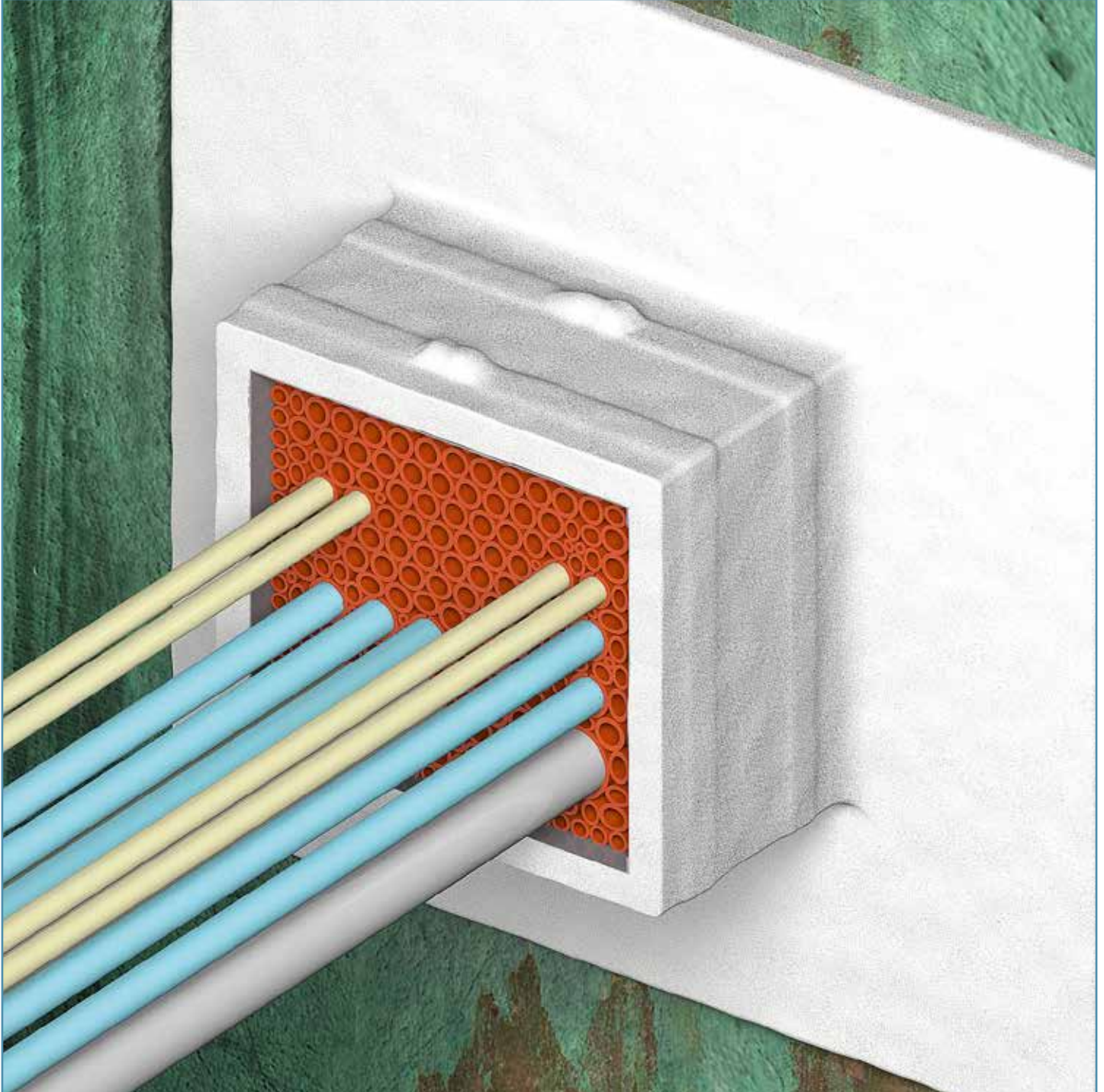
The FYLLOFYS® plates are 20 mm thick for this type of application in this way offering sufficient thermal insulation to prevent the thin stainless steel plating of the extender frame to get substantially deformed by fire exposure.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



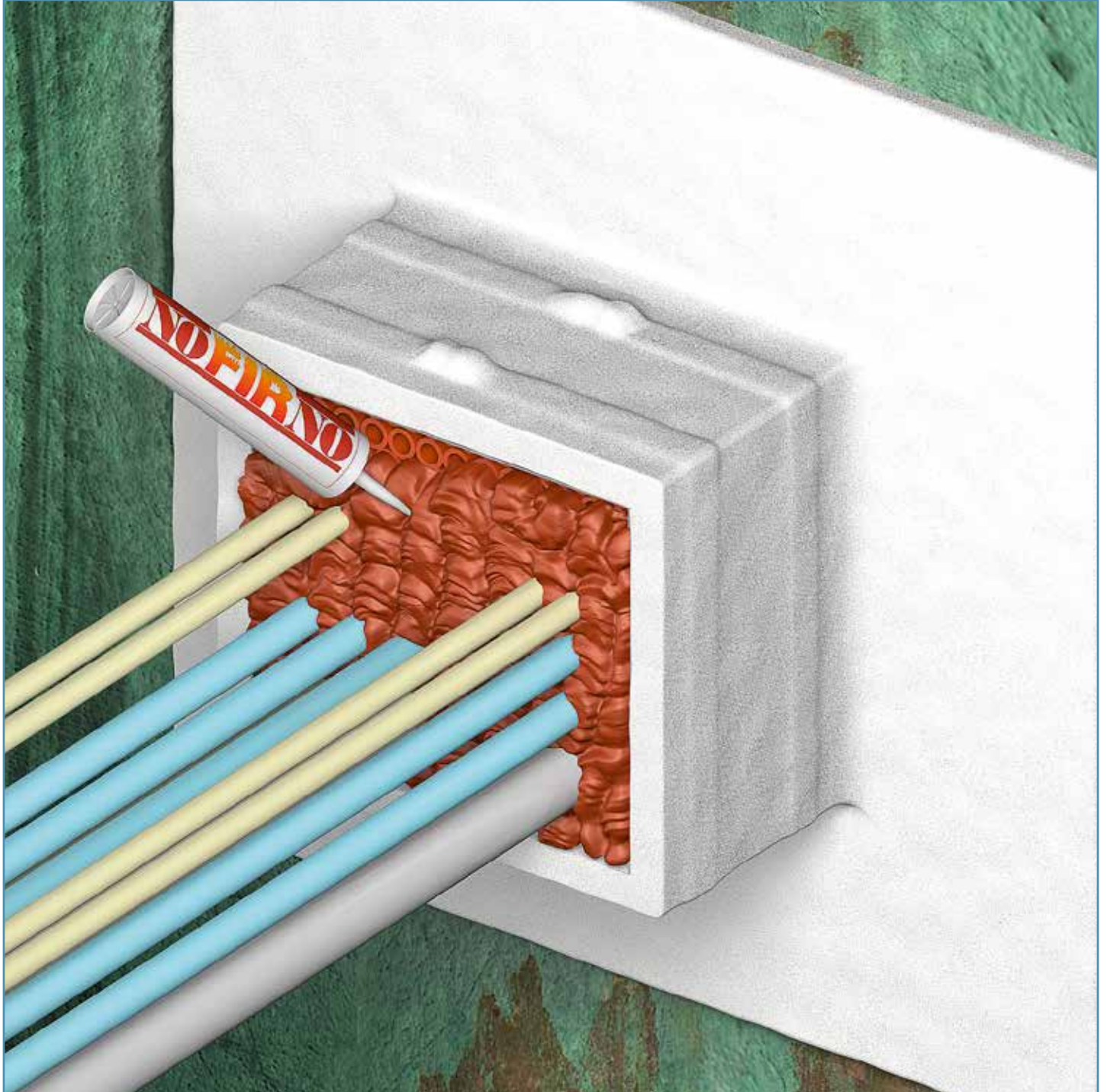
Steel bands are placed around the the FYLLOFYS® plates because the thin stainless steel plating will not be strong enough to cope with the expansion occurring inside the sealing system under fire exposure.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



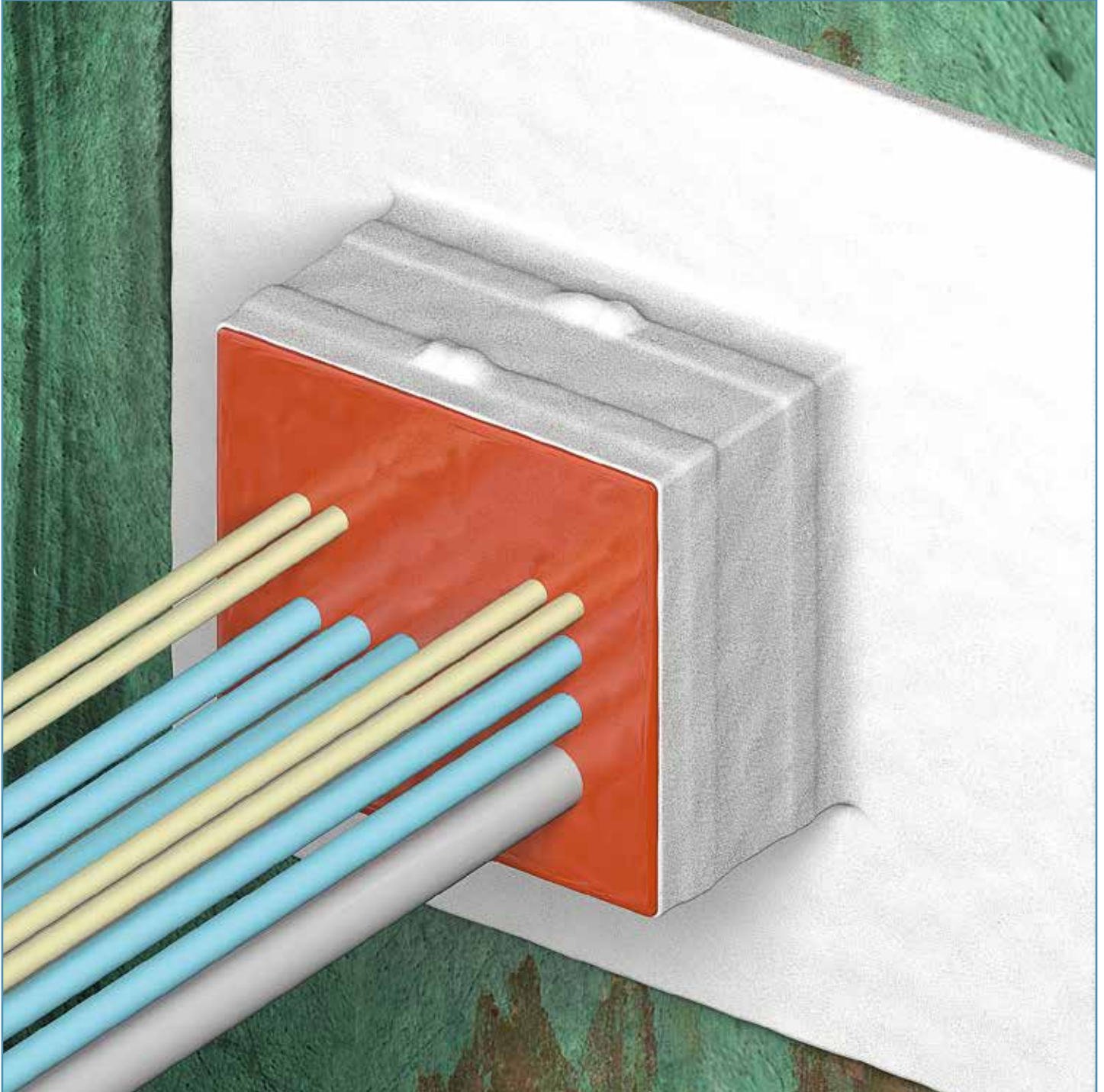
Finally 3 mm FISSIC® coating is applied all over the FYLLOFYS® plates and the steel bands. To prevent excessive (radiation) heat close to the existing sealing system at the unexposed side a 20 mm thick layer of FISSIC® coating should be applied 200 mm around the existing cable transit system at the exposed side.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



A 20 mm layer of NOFIRNO® sealant is applied to seal the penetration.

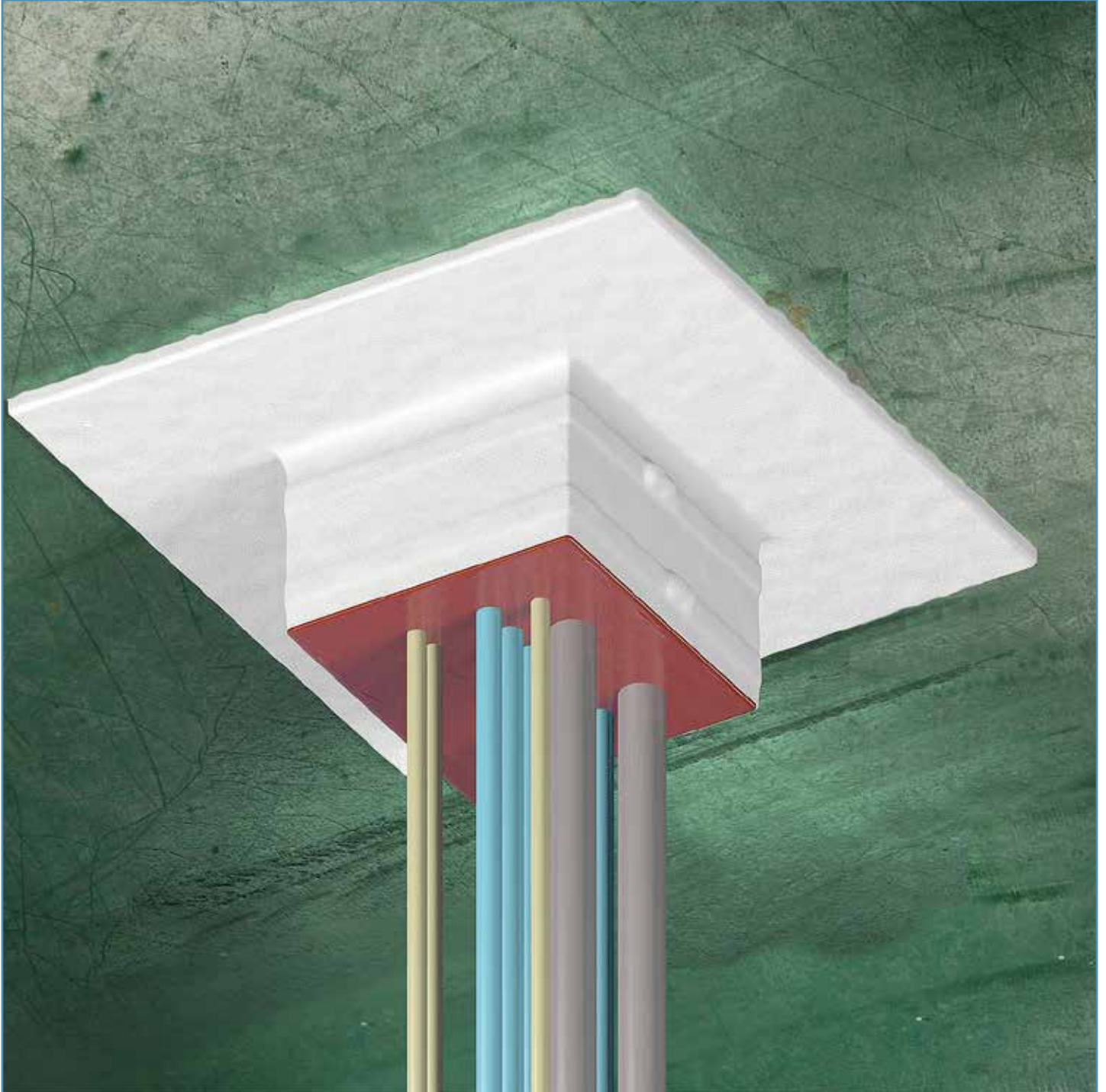
INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



The front side of the FYLLOFYS® plates is covered with ca. 5 mm sealant.

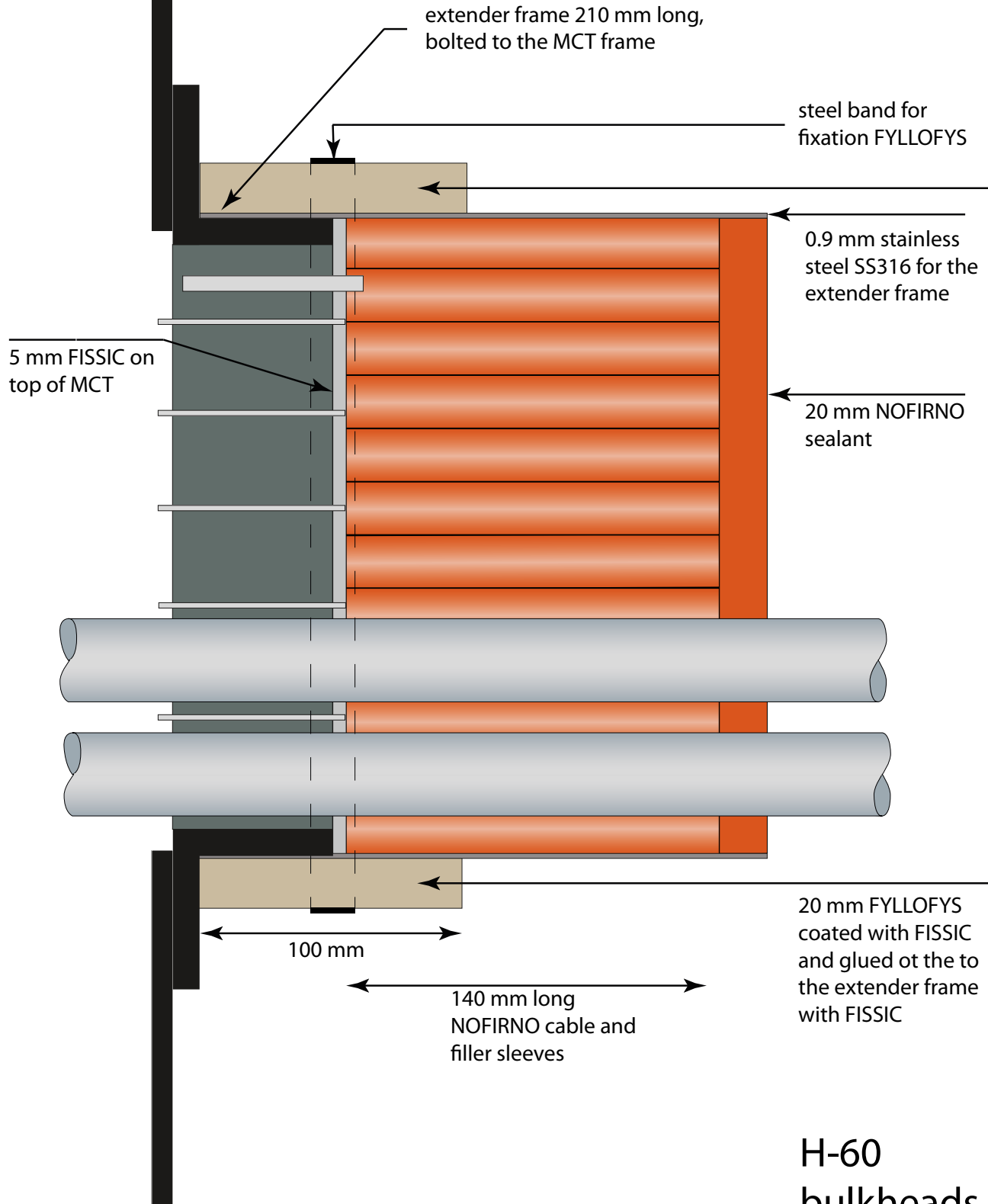


INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-O AND JET FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



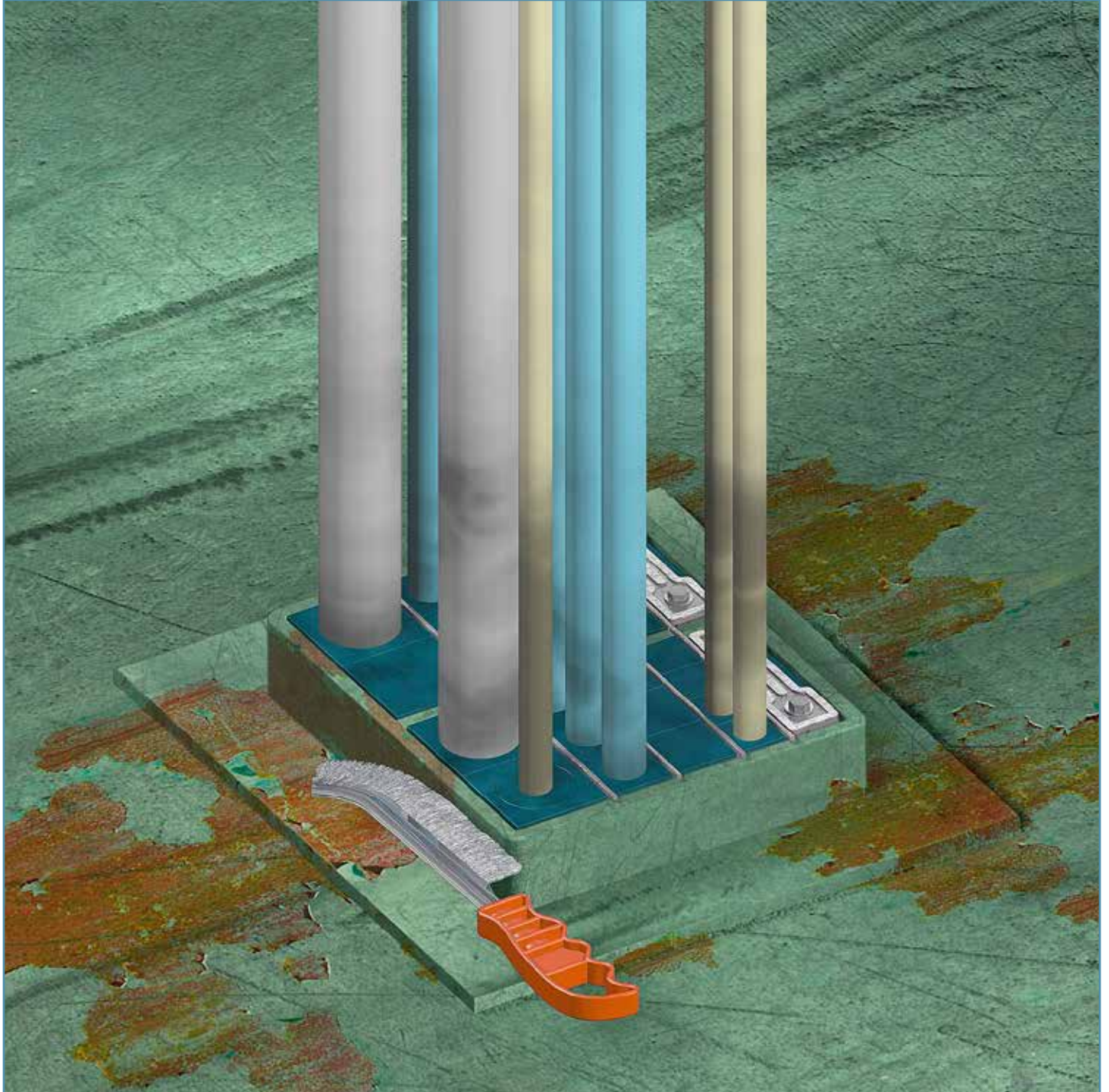
The NOFIRNO®/FISSIC® upgrading system can also be used for existing systems below deck. The system has been tested at the exposed side of the deck and bulkhead both for H-O and Jet Fire exposure.

FIRE SIDE
→



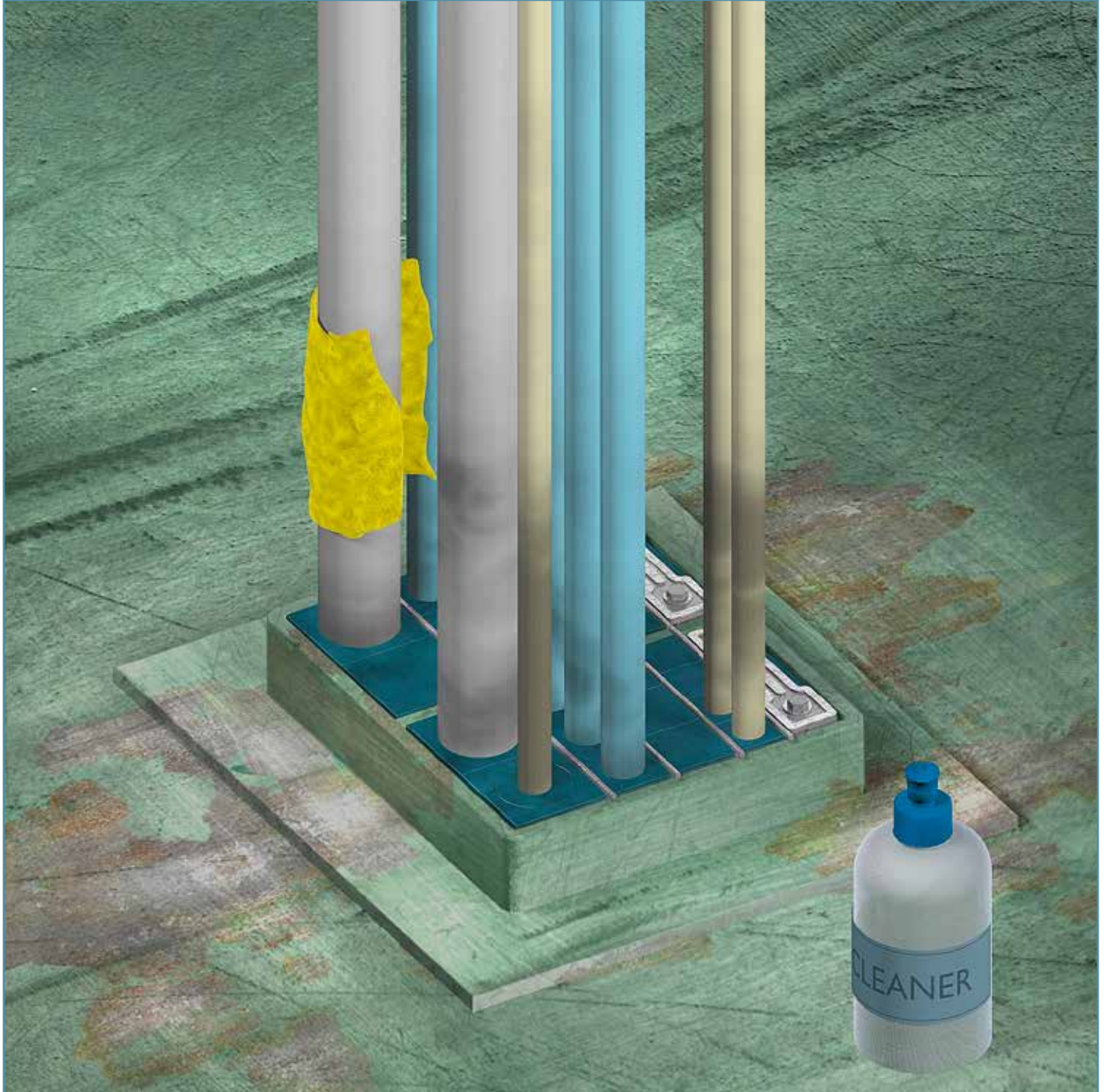
H-60
bulkheads
and decks

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



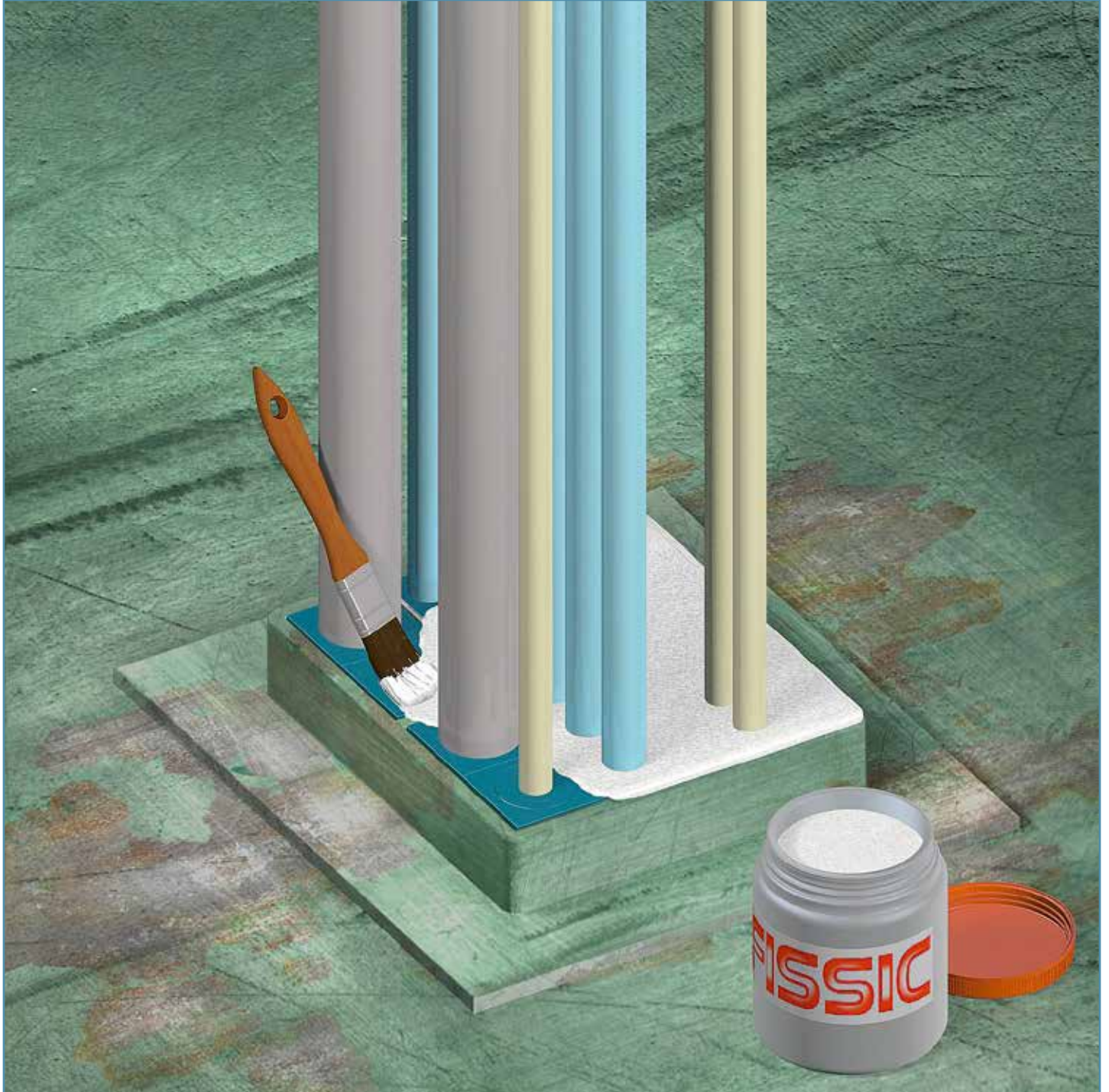
The NOFIRNO®/FISSIC® system has been tested at the unexposed side of H-0 and at the exposed side of insulated H-60 class partitions without the use of FYLLOFYS® thermal insulating plates. For H-60 class with the system at the unexposed the same system is used only FYLLOFYS® plates are applied to avoid a temperature rise of 180 °C on the casing 25 mm above the partition.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



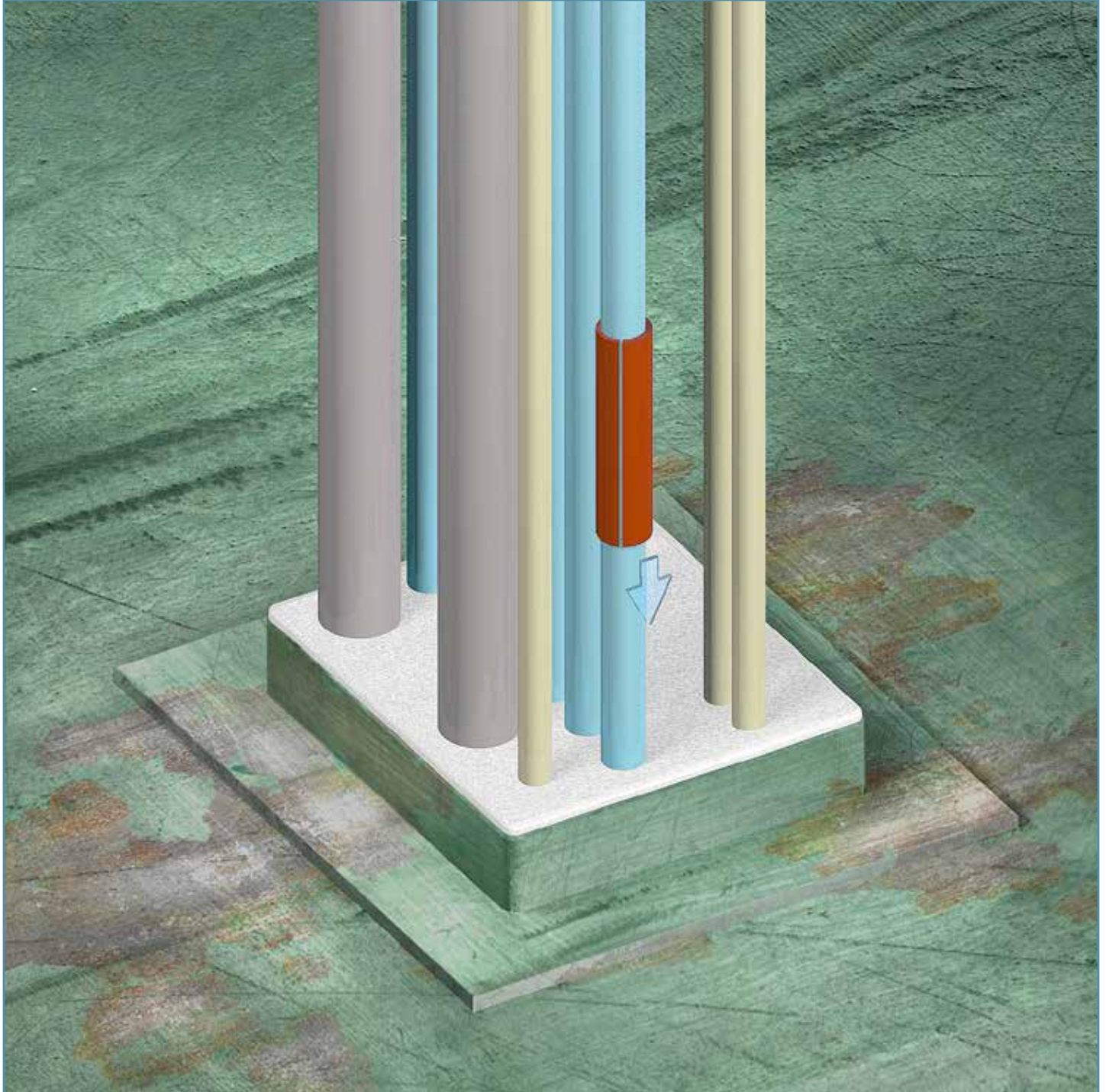
Cleaning the cables and the surface of the existing system.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



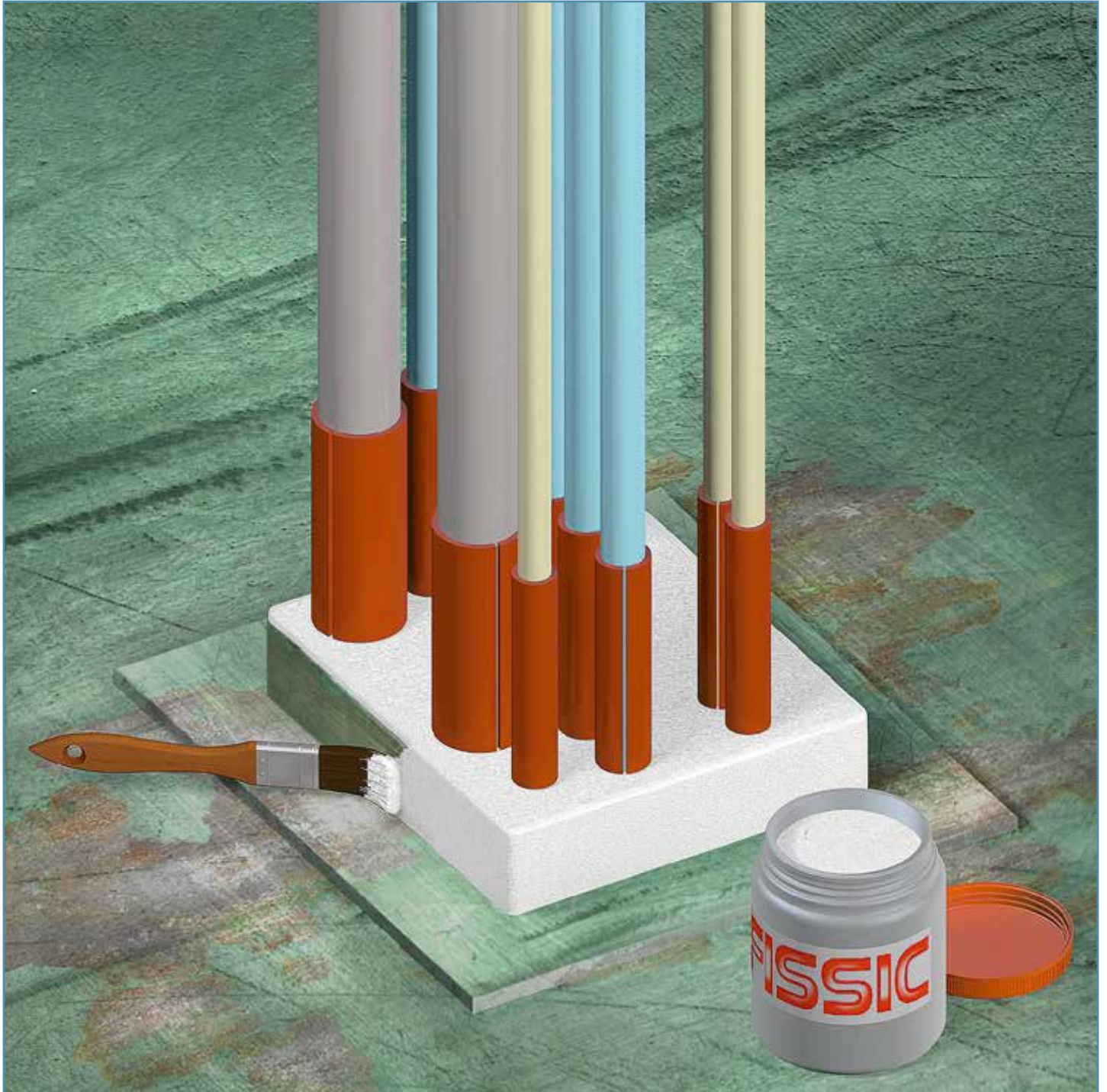
Applying a 5 mm thick layer of FISSIC® coating on top of the existing system.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



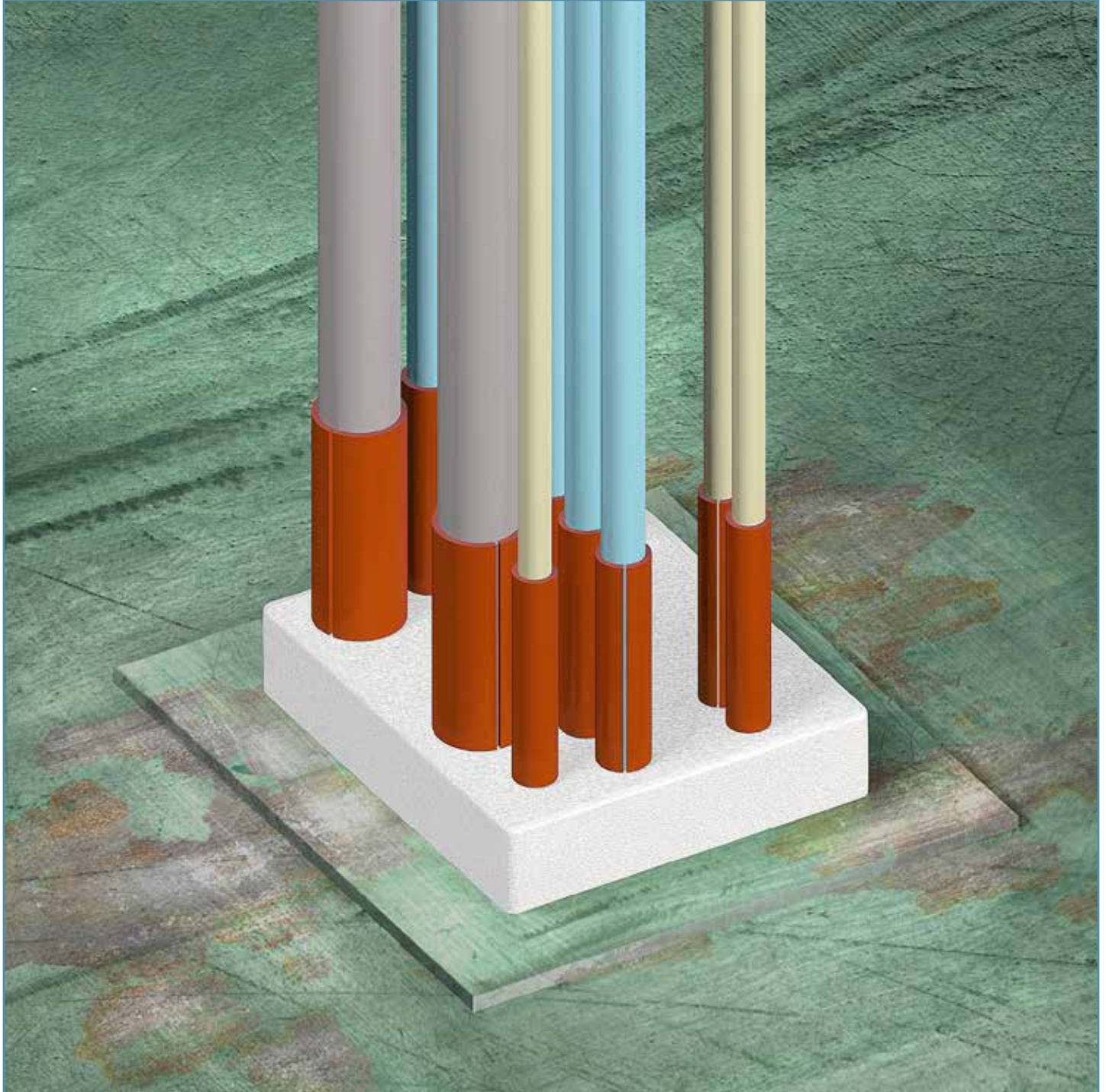
NOFIRNO® sleeves are applied around the ducted cables.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



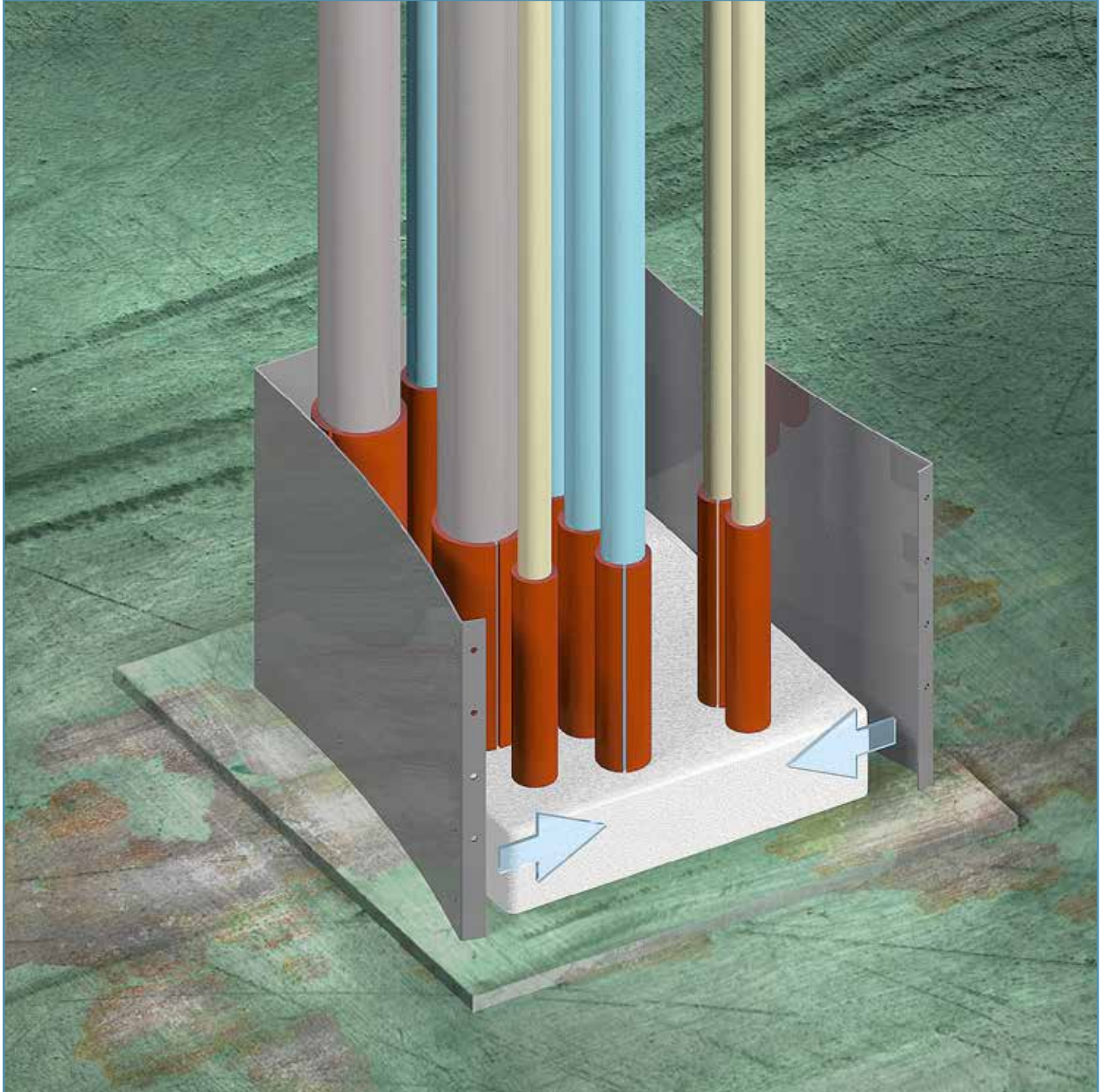
Applying FISSIC® around the existing transit to glue to extender frame against the wall of the existing transit.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



This installation is a bit different from the installation of the NOFIRNO®/FISSIC® system developed for full exposure to the fire. The extender frame will be fixed directly to the existing transit frame.

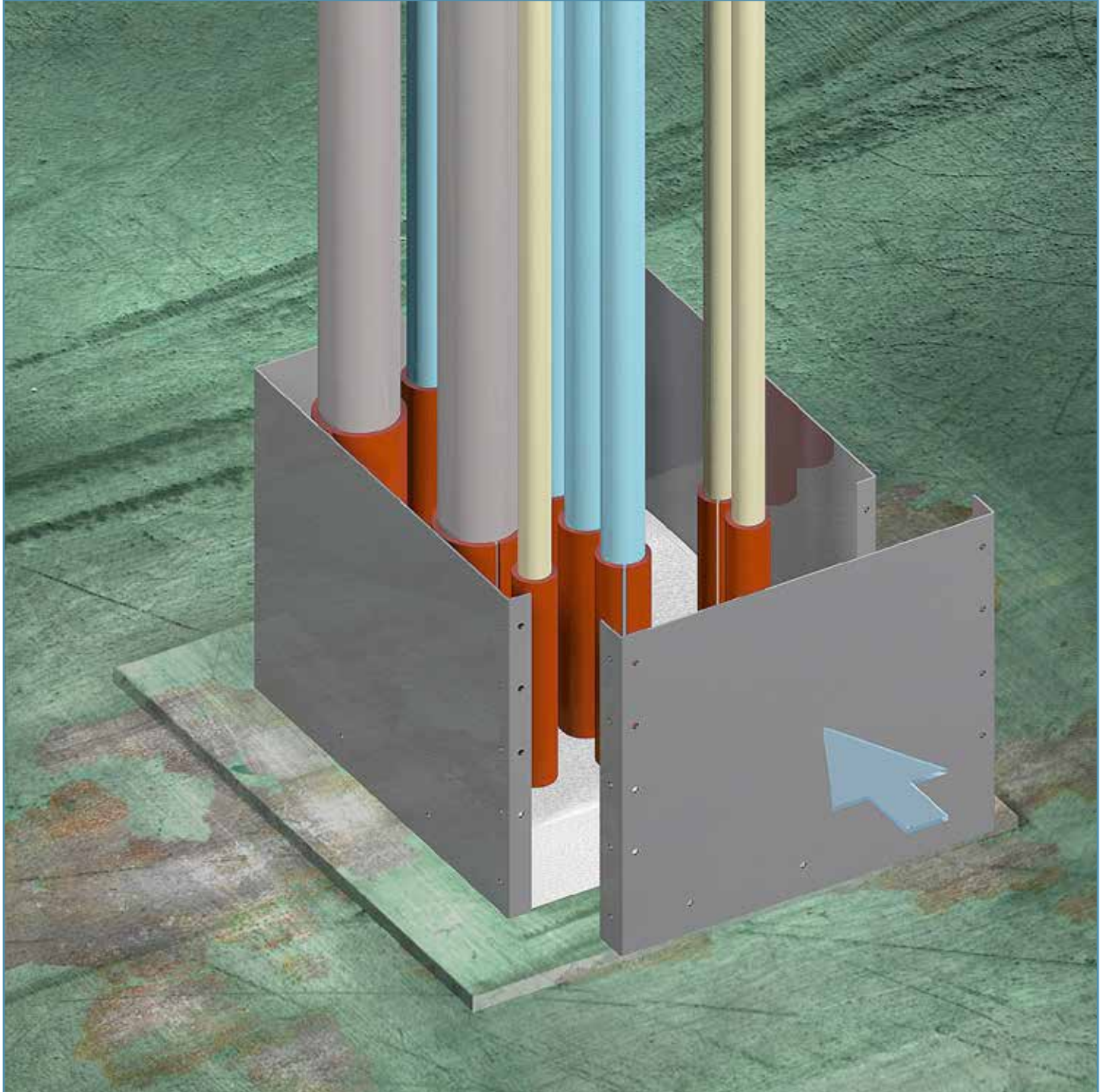
INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



The extender frame has no flanges.

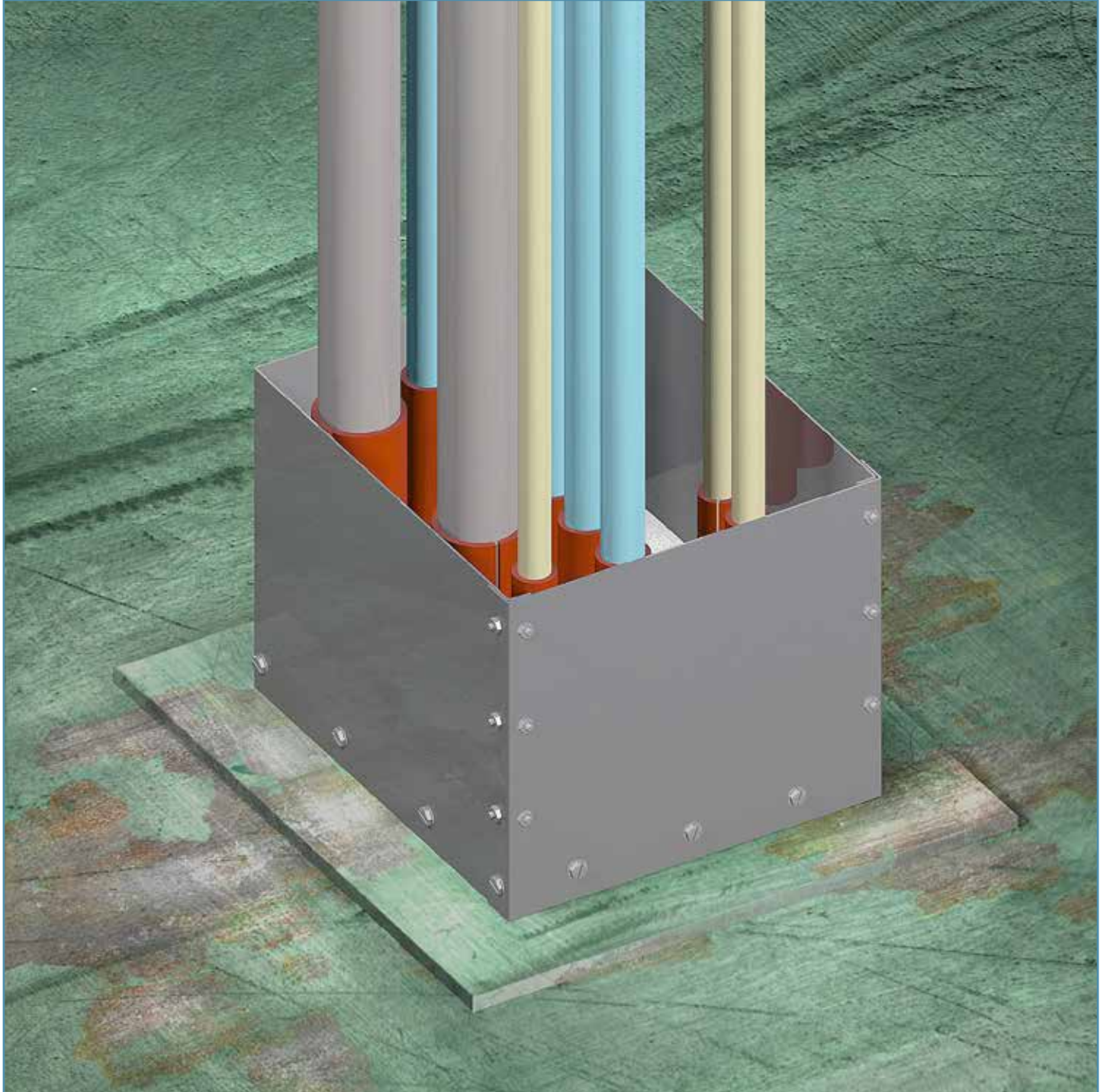
Note: to obtain sufficient tightness between the extender frame and the wall of the existing transit frame the FISSIC® coating should be wet when the extender frame is placed.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



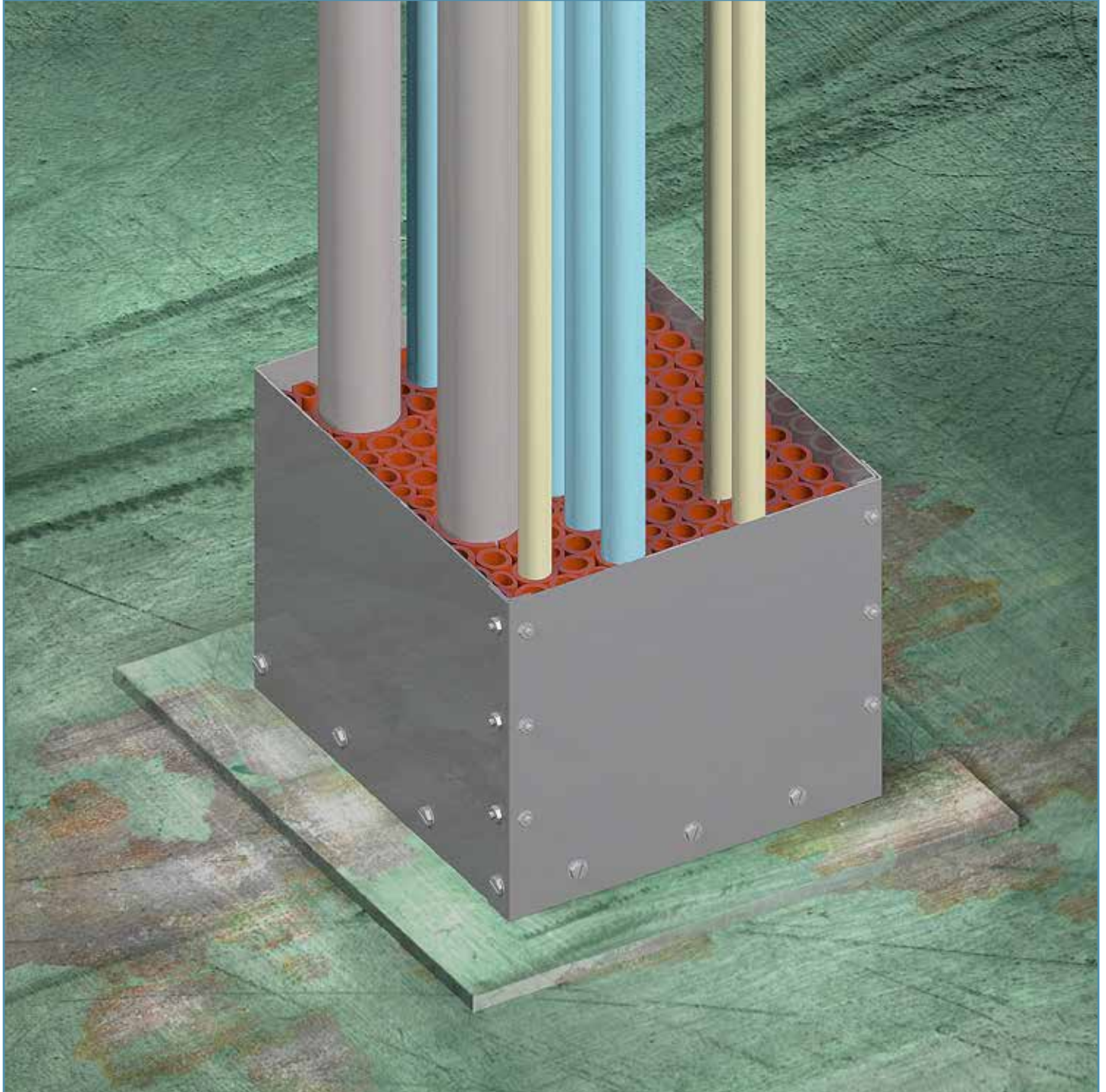
The closure has also no flange.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



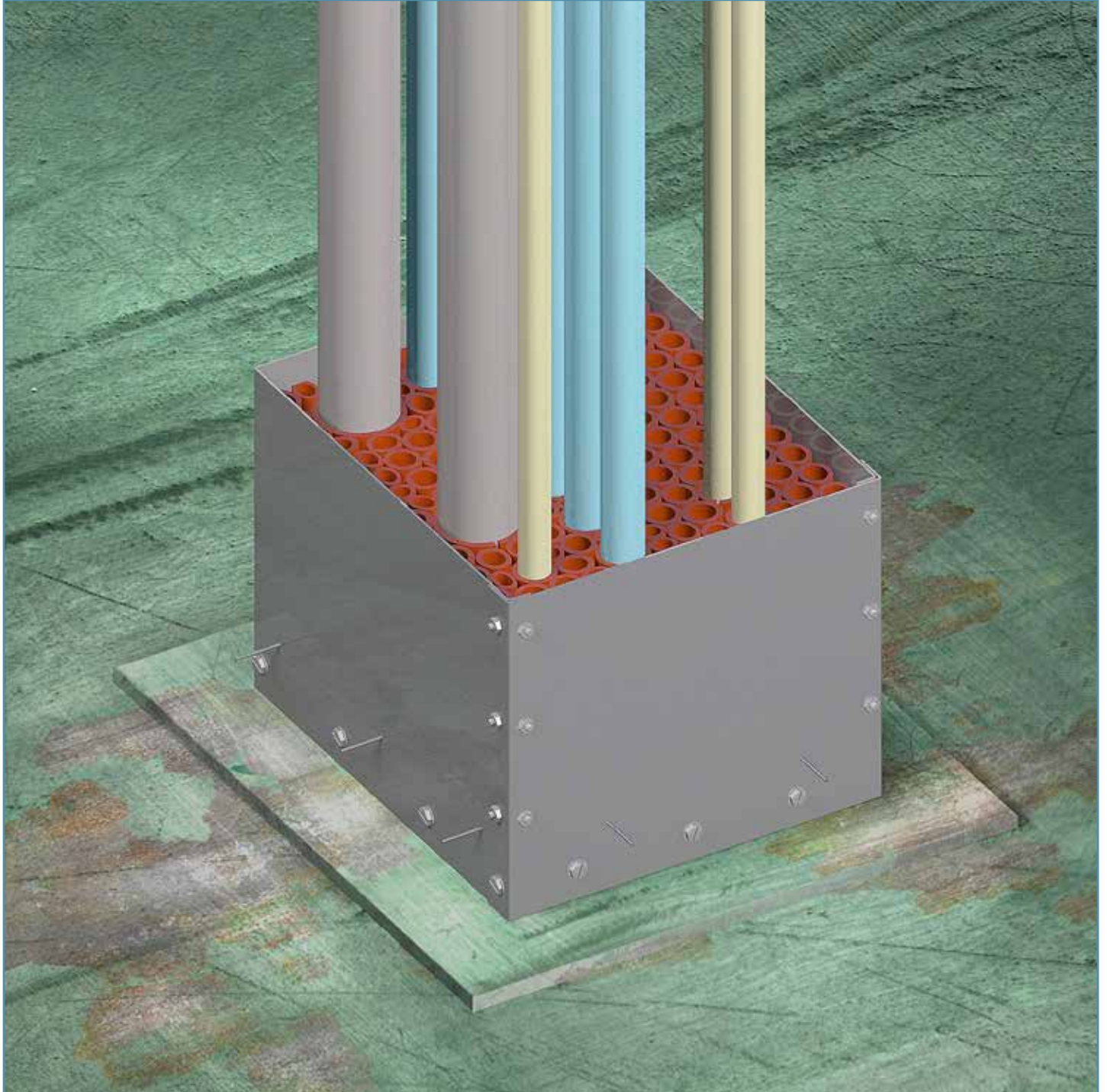
The two parts of the extender frame are bolted together and the extender frame is then bolted to the existing transit frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



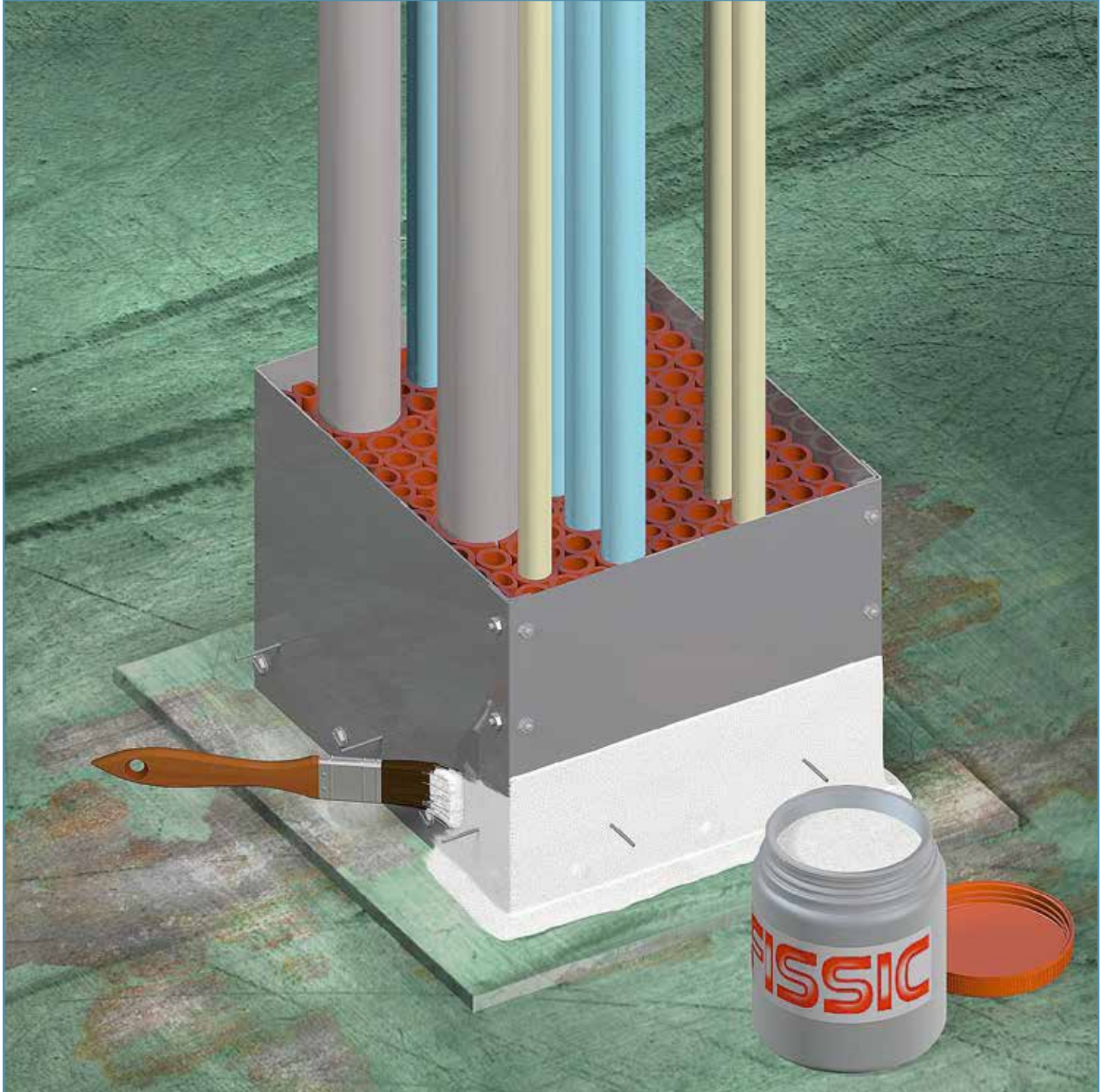
With a combination of NOFIRNO® Filler sleeves sizes 15/8, 18/12 and 22/15 the free spaces inside the extender frame are filled.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



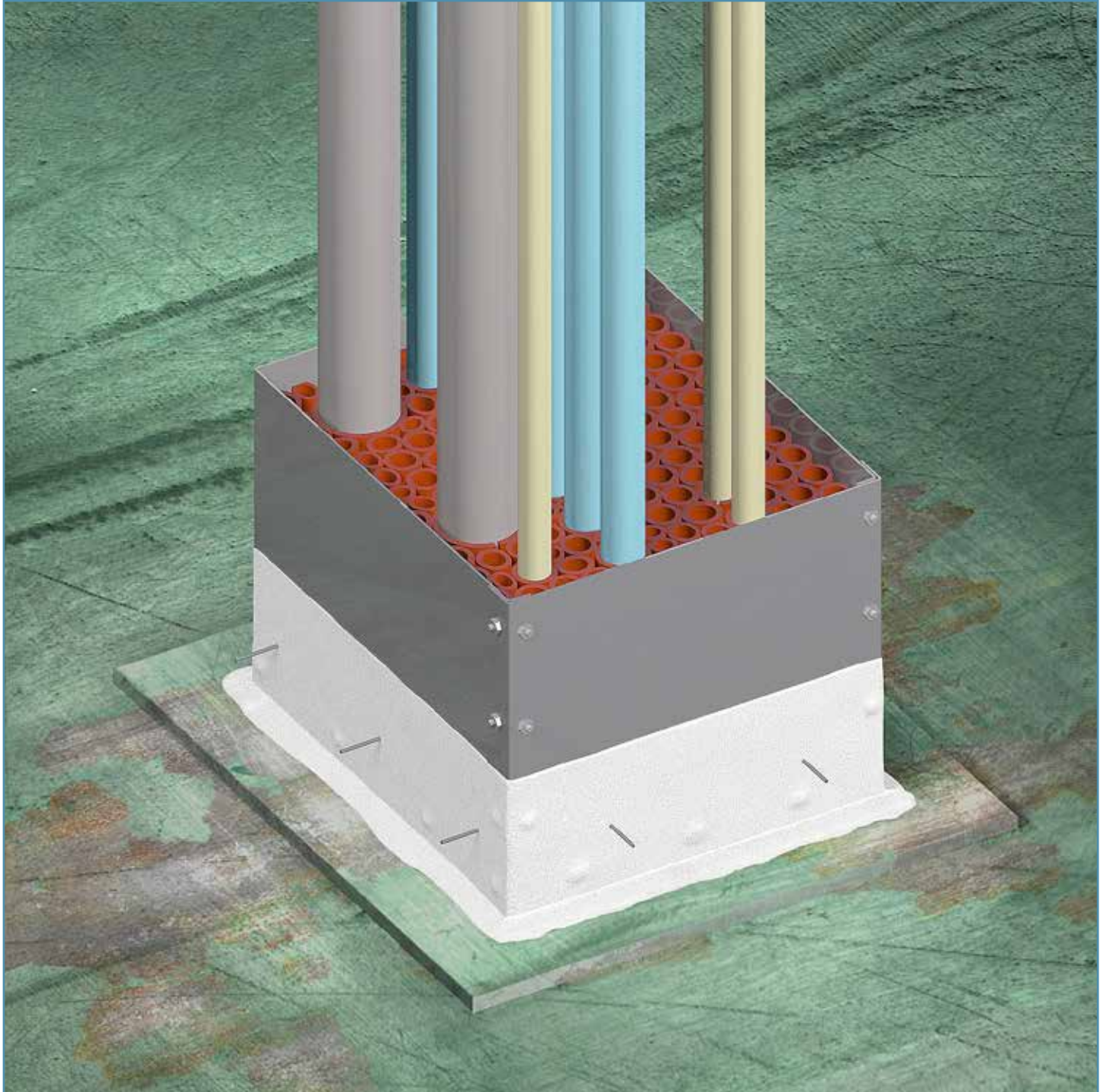
To attach the FYLLOFYS® plates around the extender frame, pins as generally used for fixing mineral wool insulation, are fixed on the extender frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



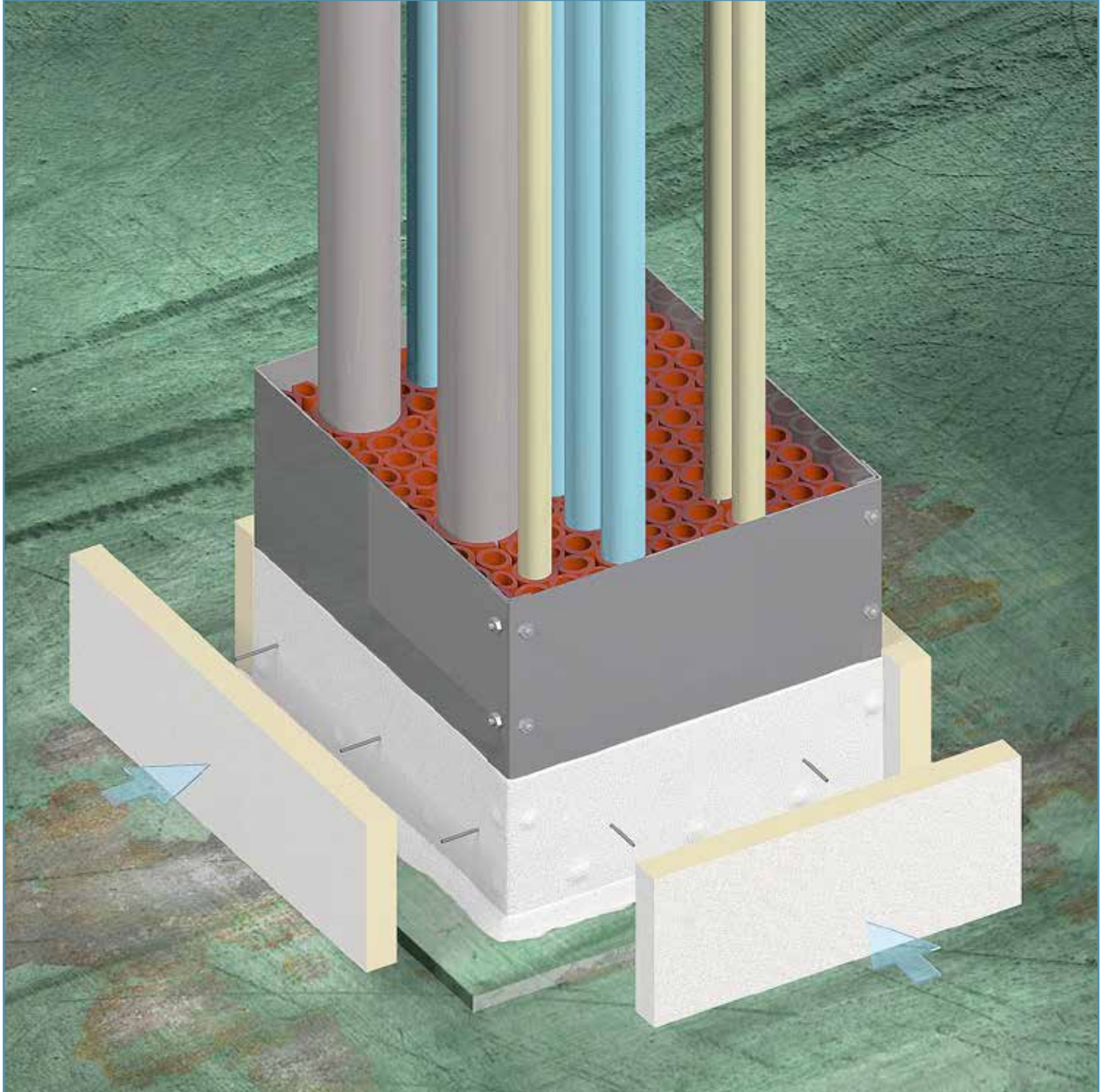
FISSIC® coating is applied to glue the FYLLOFYSS® thermal insulation plates against the extender frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



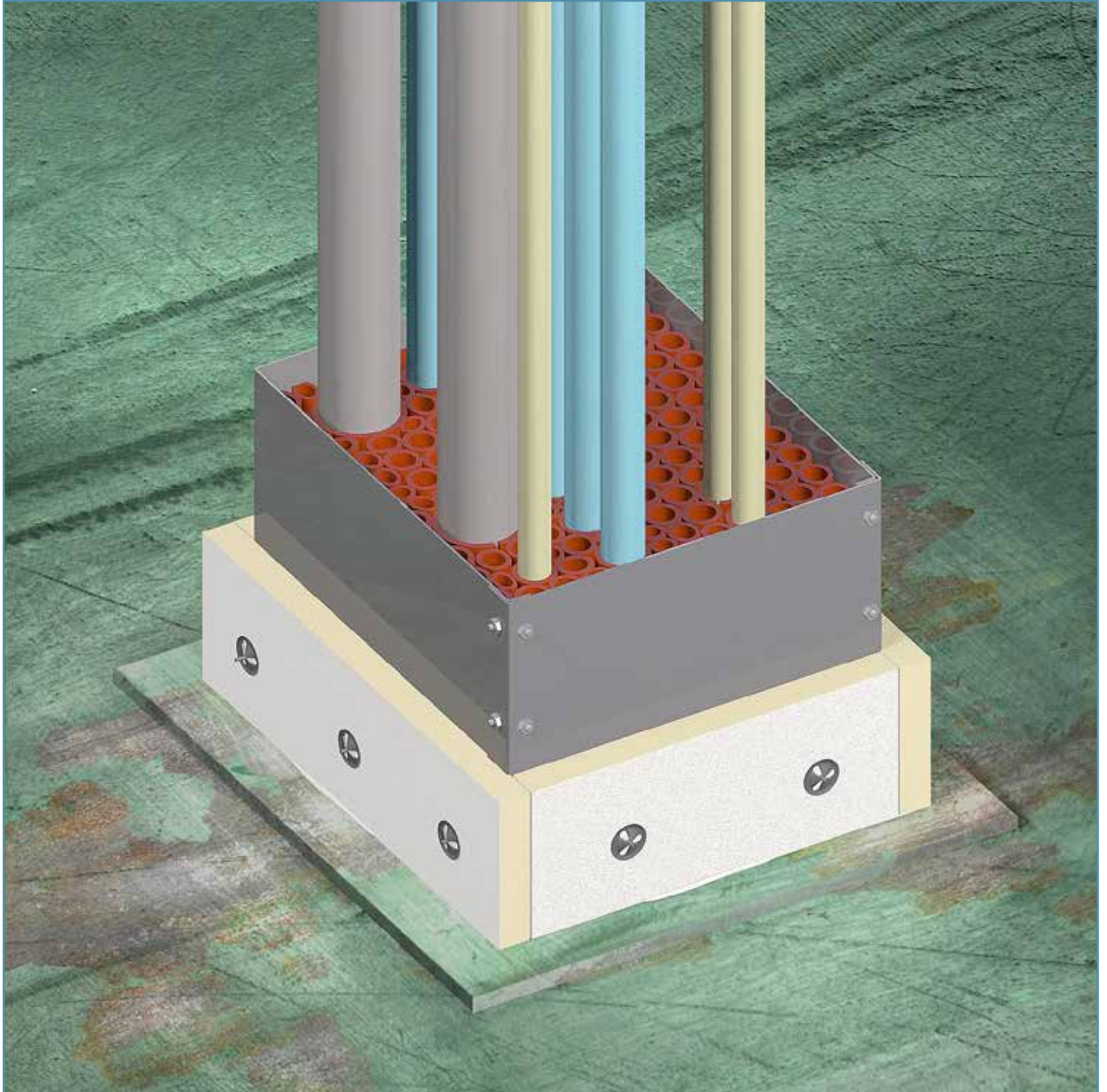
The coating has to be wet when placing the FYLLOFYS® plates.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



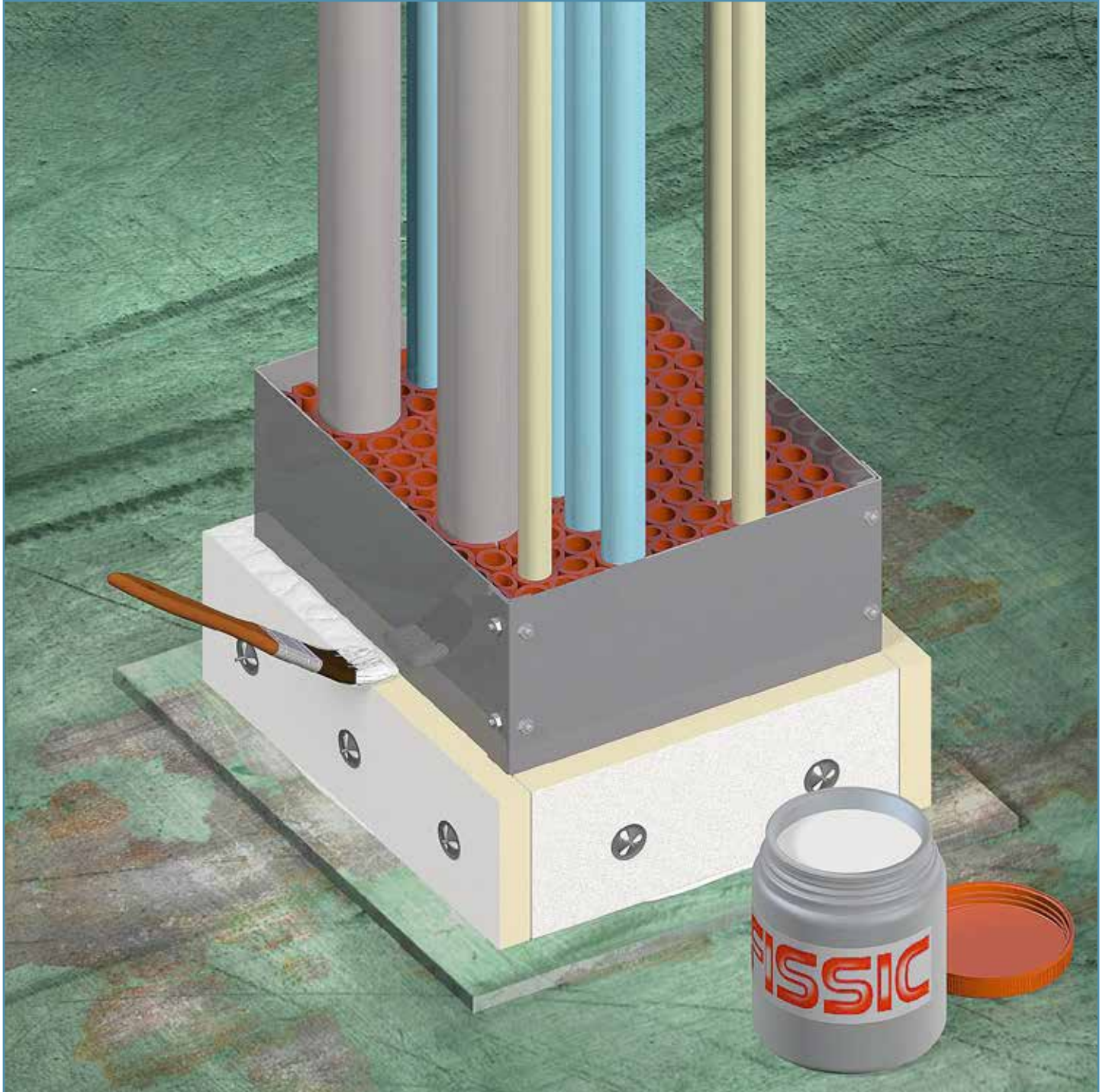
The FYLLOFYS® plates are only 100 mm high and should be cut to size on beforehand.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



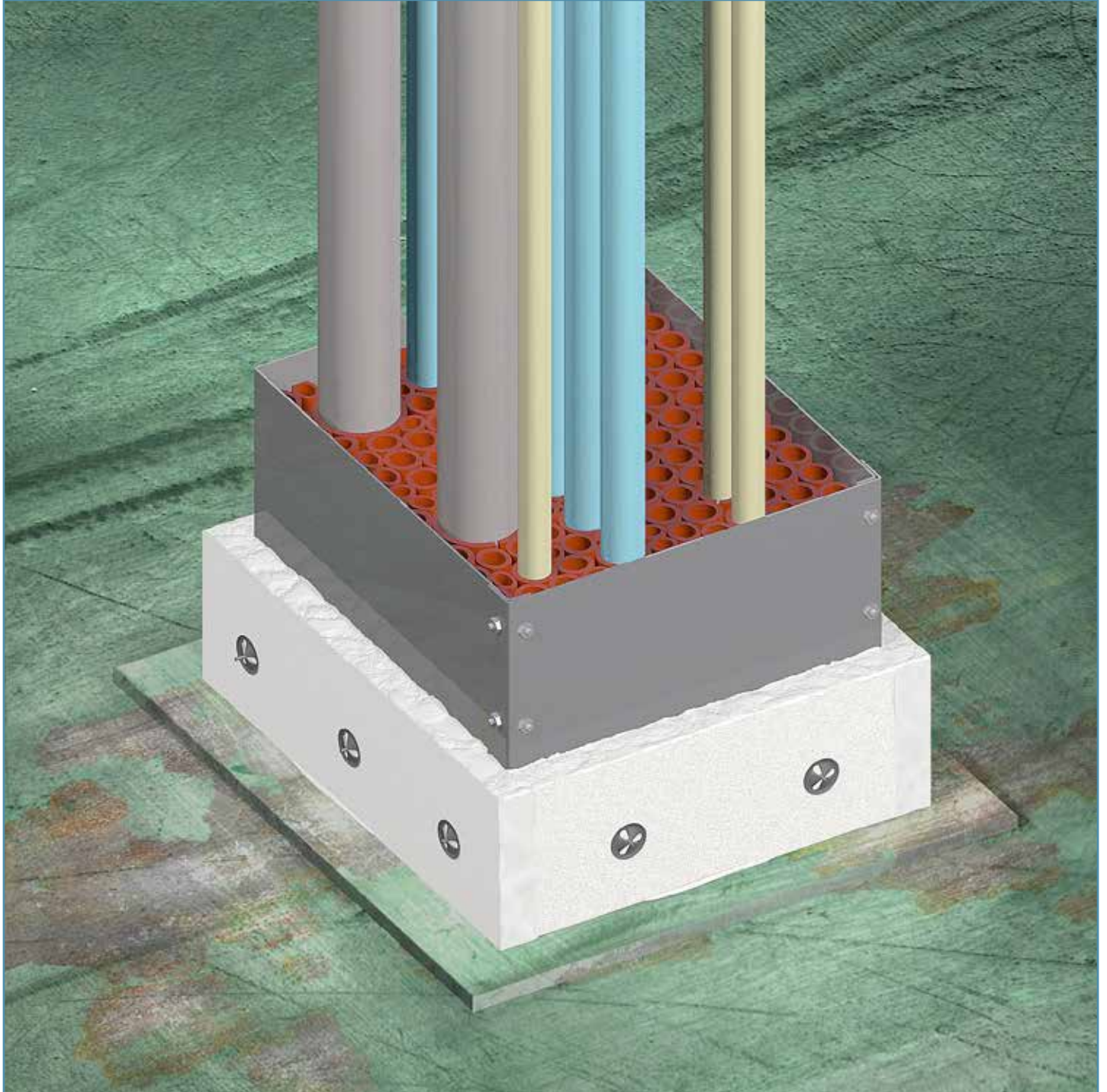
The discs are placed over the pins to attach the FYLLOFYS® plates.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



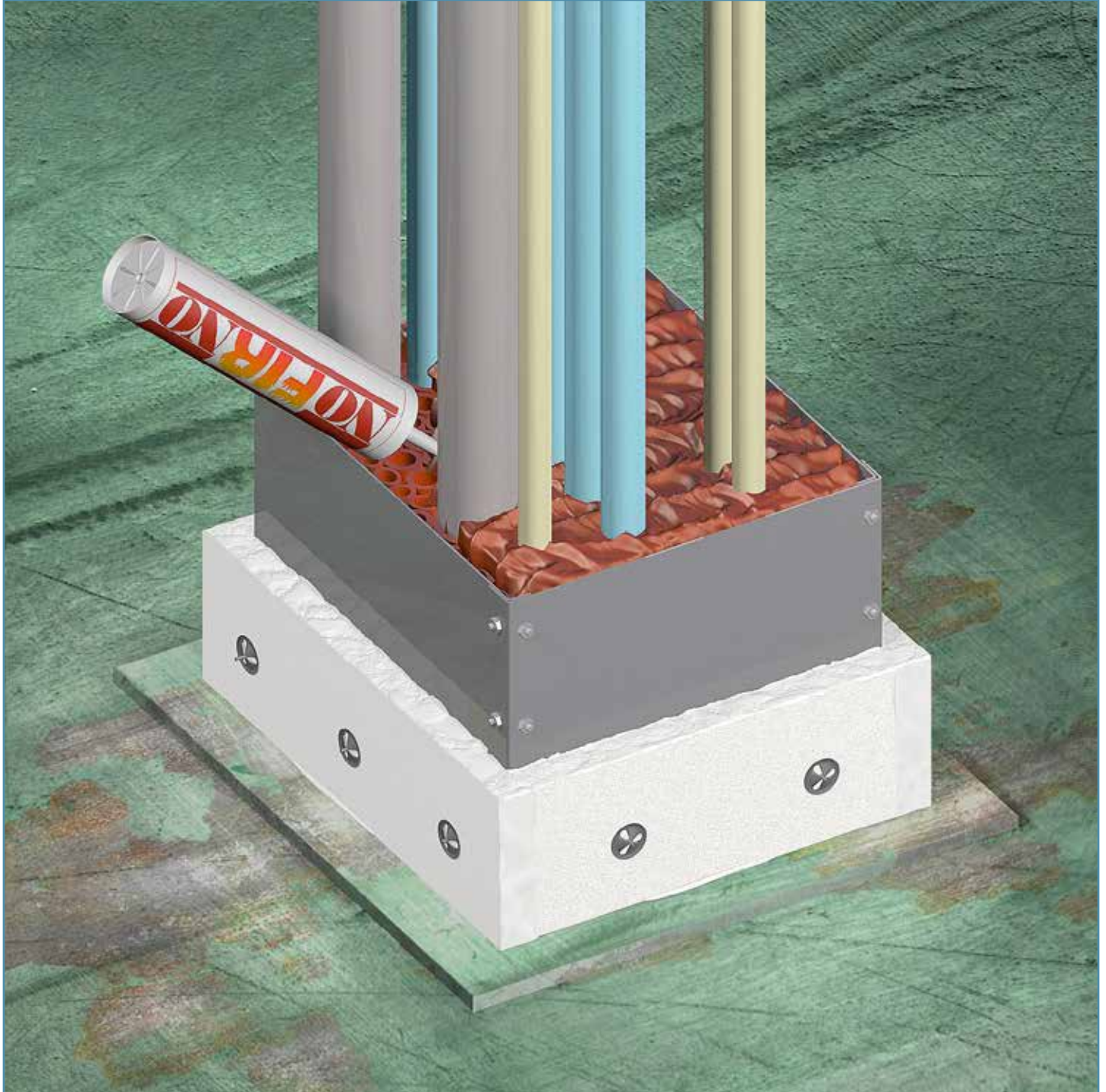
It is important to coat the edges of the cut FYLLOFYSS® plates to protect against moisture absorption.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



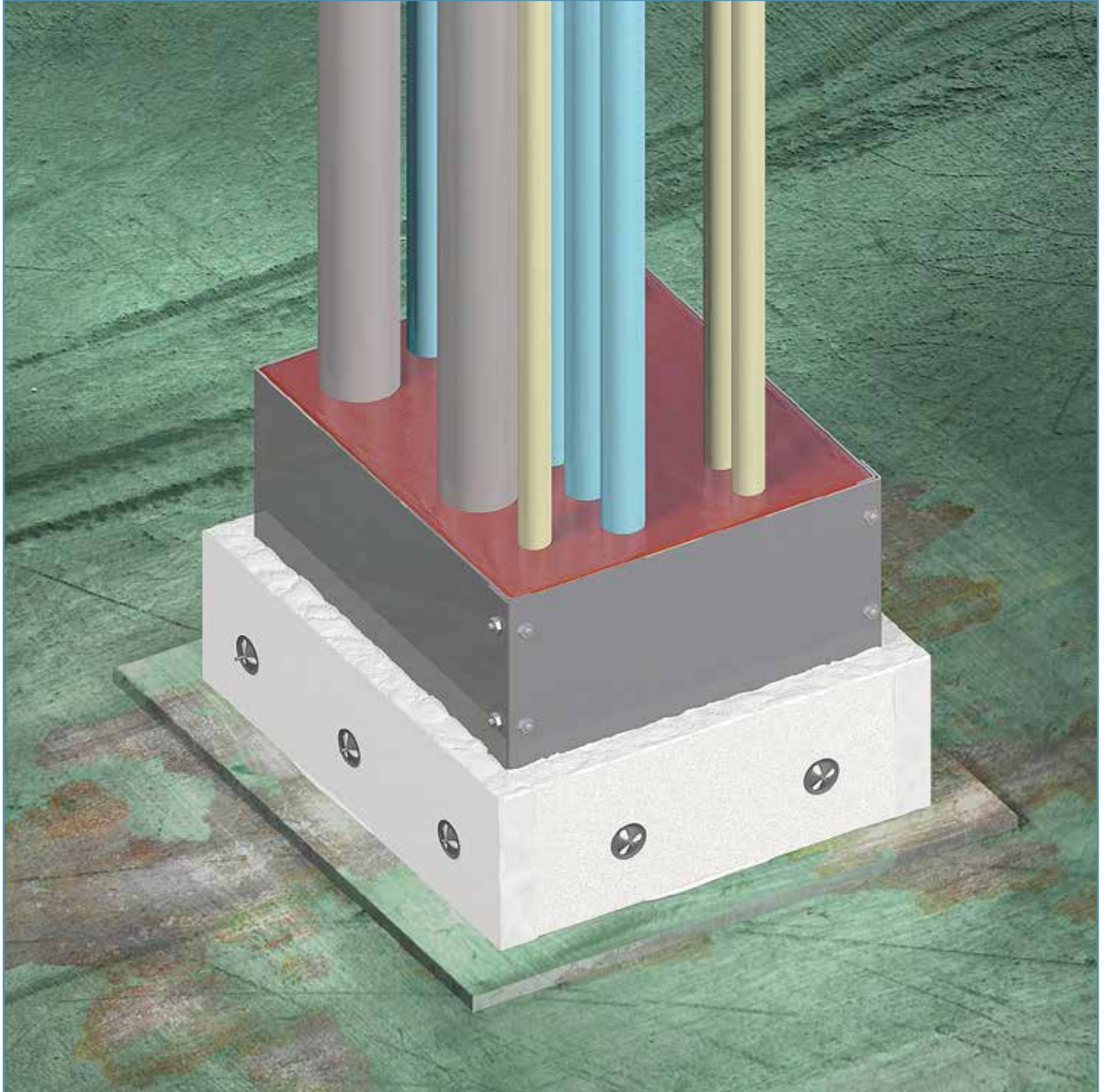
The finished thermal insulation around the extender frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



Then the sealing system is finished by applying the sealant.

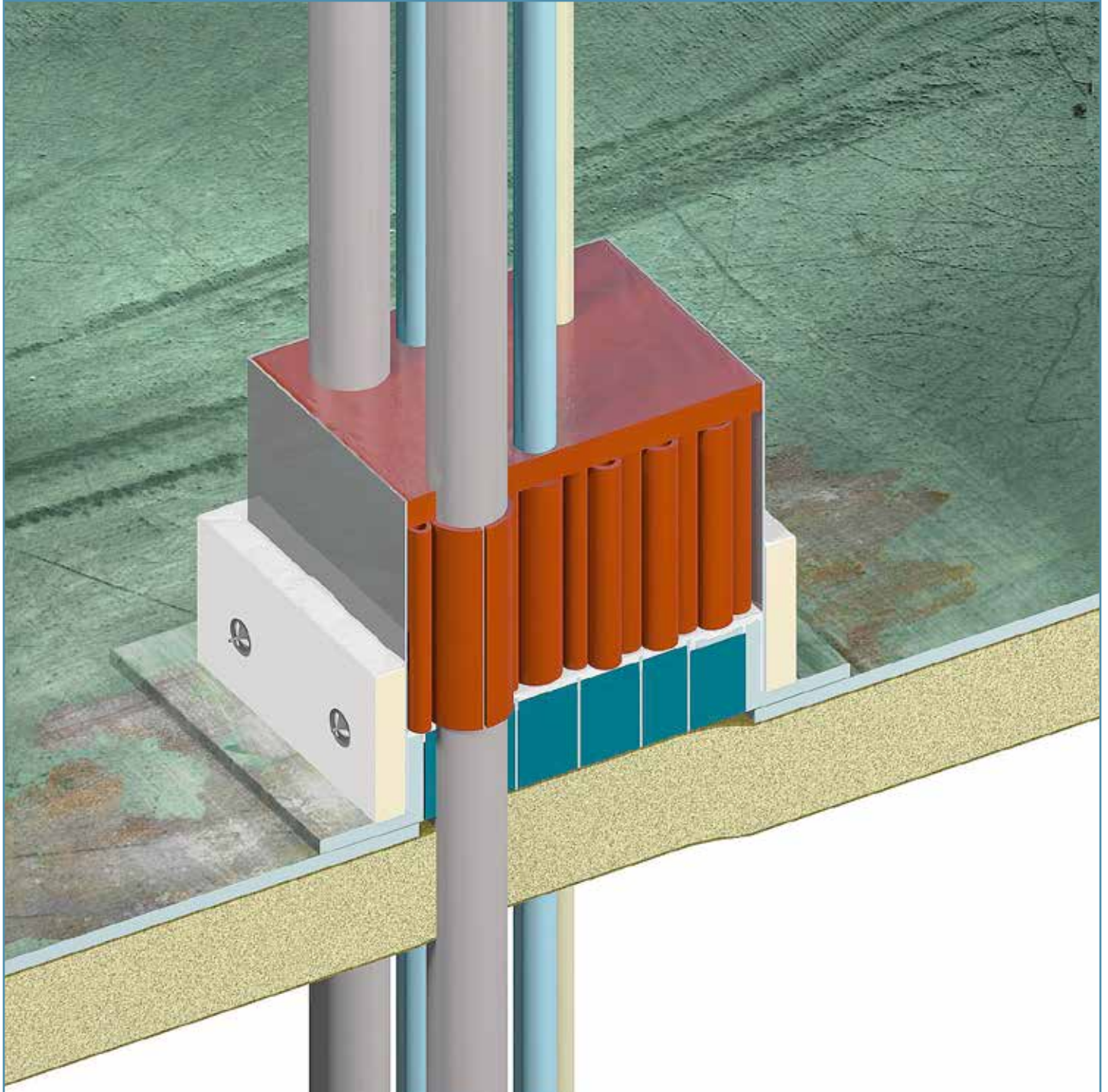
INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



The finished H-60 transit at the unexposed side of the deck.

Note: although the system is tested without FYLLOFYS® plates for H-0 transits at the unexposed side, it is recommended to apply the FYLLOFYS® plates also for H-0 to obtain optimum performance.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® H-60 FIRE CLASS FOR EXISTING MULTI-CABLE TRANSITS



The H-60 system with the H-class insulation at the exposed side.
The NOFIRNO®/FISSIC® system is also tested at the exposed side of H-60 class partitions. In this case the extender frame should be totally insulated with the used H-class insulation. FYLLOFYS® is then not needed.

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



#CONDUCTION



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® CONDUCTION® 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®

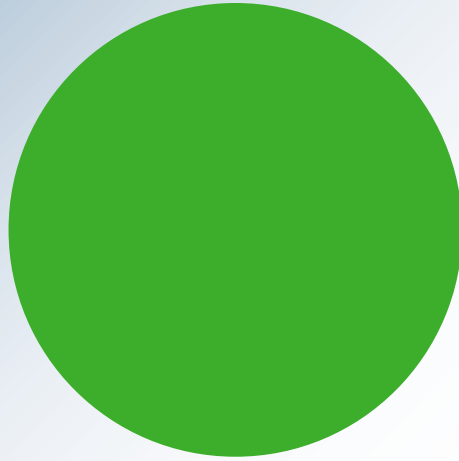
- System technology based on RISE®.
- Even easier installation.
- Even higher pressure ratings.
- Jet Fire tested for harshest applications.
- A-O and H-O up to A-60 and H-I20.
- **Breakthrough - bundled cable sets approved.**
- The system of choice for highest fire ratings and harshest environment!

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 45 YEARS**



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