

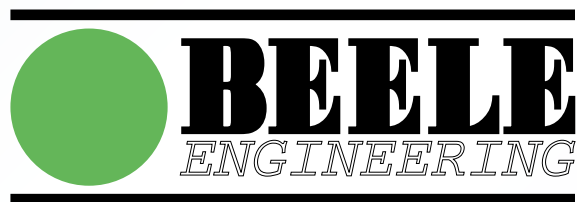
INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS

AQUASTOP

NO FIRNO



**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**

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Research & Development

: BEELE Engineering BV, Aalten, the Netherlands.

Note

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brochure code

: installation AQUASTOP-NOFIRNO

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



It is self-evident that water leakages must be prevented under all circumstances. After all, leaking water means not only a nuisance but in most cases damage as well. Although no exact figures are known, it is safe to say that the corrosion damage caused every year by leaking cable and pipe entries runs into hundreds of millions of dollars. Therefore, a great deal of effort goes into minimizing the effects of water leakage. Preventing leaking conduits is an absolute must.

We have the products and systems for it, however

Leaking conduits are a problem in many buildings/installations when ducting pipes underground. Attempts are made to stop the water leakage, but most often without any success. We can see the effects of leaks almost daily around us. However, we generally forget that a corrosion process is slowly but surely affecting the structure and equipment concerned. The corrosion damage caused by such conduits can be substantial. Secondary drawbacks are that moist spaces are generally accompanied by a mouldy atmosphere, fungus growth and a proliferation of vermin.

BEELE Engineering has developed three solutions to stop the water leakage in buildings and installations:

- 1) in case the ground water can be pumped away outside the building, the contents of the existing conduit sealing system can be removed and the regular NOFIRNO® system can be applied in the wall opening.
- 2) in case the existing sealing system cannot be removed and the leakage occurs only during heavy rainfall, for cable and small bore pipe penetrations the NOFIRNO® system can be applied against the wall by making use of the split, modular frames at the time there is no leakage.
- 3) in most cases, however, it is impossible to work outside the building and the repair work has to be carried out under leaking conditions. In this case it is better to leave as much of the existing material in place and make space available for the application of the mouldable AQUASTOP® rubber and the NOFIRNO® sealant.

To obtain mechanical stability and tightness over an extended service life, the AQUASTOP® filling is finished with a layer of NOFIRNO® sealant.



For existing, leaking conduits in buildings and installations as described under 3), the AQUASTOP® mouldable rubber has been developed by the engineers of BEELE Engineering. The AQUASTOP® mouldable rubber is made of a silicone polymer to offer the market an inert material which does not pollute the ground water.

The rubber is very sticky and can be applied on wet surfaces. The rubber can be moulded by hand in the shape required for the repair work.



INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



The AQUASTOP® - NOFIRNO® transit sealing system for leaking cable and pipe conduits is composed of NOFIRNO® insert (cable) sleeves in 29 different sizes, NOFIRNO® (multi-) filler sleeves in 5 different sizes, NOFIRNO® sealant and AQUASTOP® mouldable rubber.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



The tools needed for the installation are a spatula (or knife) to cut the mouldable rubber, flat nose pliers to adjust the set of fillers, a filler set adjuster, a dryer for the concrete and the possible wet surface of the mouldable rubber, cloths for cleaning and compression of the sealant layer, a cable cleaner, wet soap, a bucket with water and a professional sealant dispenser.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS

PRODUCT INFORMATION SEALANT

01) colour	blue grey
02) specific gravity	1.40 ± 0.03 g/cm ³
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 50.0106



terracotta

white

black

blue grey

article number 50.0102



on request, depending on quantity
article number 50.0104



on request, depending on quantity
article number 50.0105



article number 50.0106



INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS

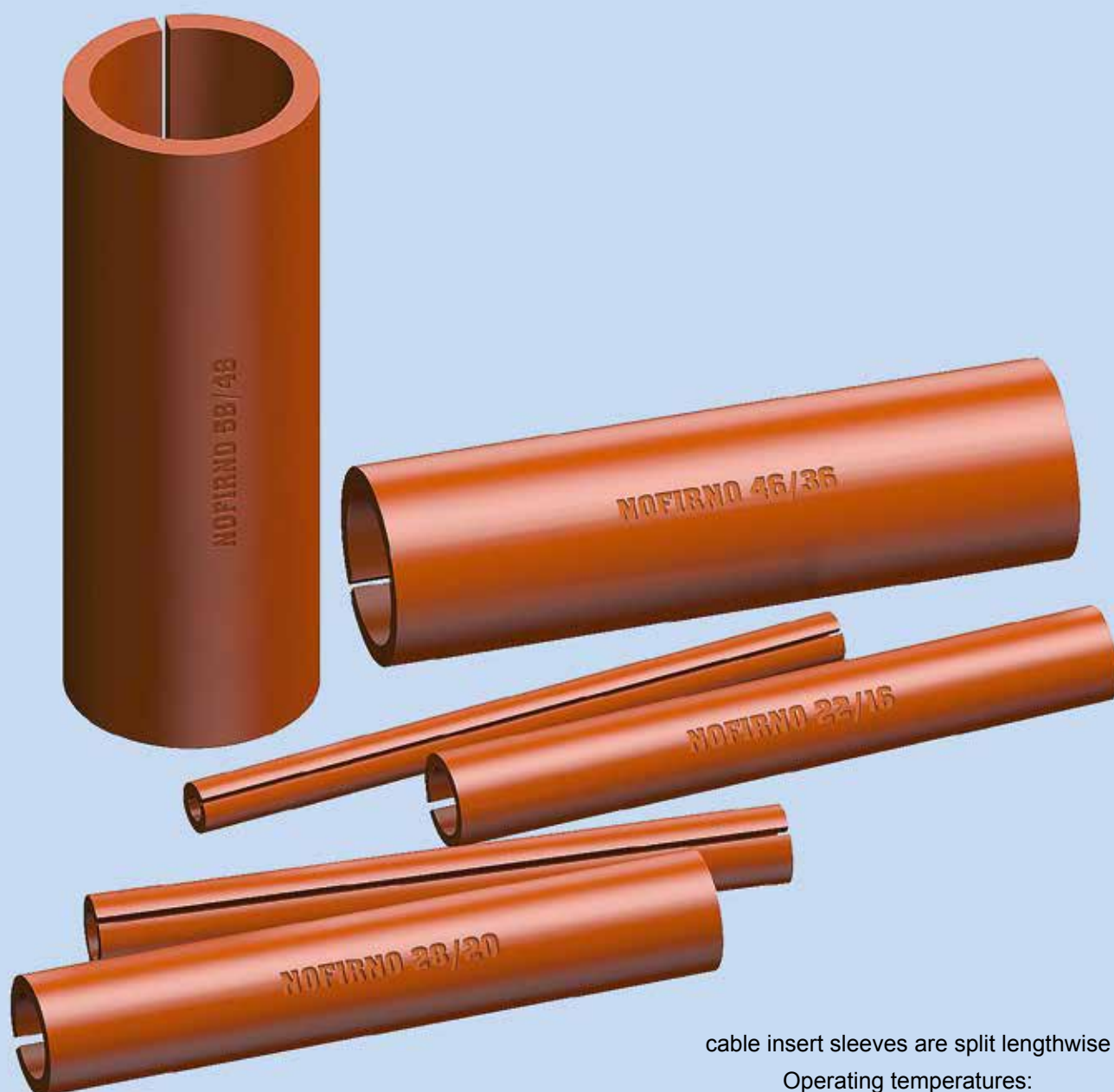


The AQUASTOP® mouldable rubber is made of a silicone polymer and is delivered in strips 40 mm wide. The rolls of AQUASTOP® mouldable rubber are packed in polyethylene sheets. With a spatula or a knife the strips can be cut very easily to required lengths.

AQUASTOP® rubber is soft and very well kneadable and can be smeared out on wet surfaces. AQUASTOP® rubber does not age and can be stored for a very long time.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS

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, 110, 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 AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS

NOFIRNO® CABLE INSERT SLEEVES

NOFIRNO® sleeve	cable diameter	sleeve length	article number	NOFIRNO® sleeve	cable diameter	sleeve length	article number	NOFIRNO® sleeve	cable diameter	sleeve length	article number
12/6	5 - 7	60	50.1000	12/6	5 - 7	110	50.1040	12/6	5 - 7	140	50.1080
14/8	7 - 9	60	50.1001	14/8	7 - 9	110	50.1041	14/8	7 - 9	140	50.1081
16/10	9 - 11	60	50.1002	16/10	9 - 11	110	50.1042	16/10	9 - 11	140	50.1082
18/12	11 - 13	60	50.1003	18/12	11 - 13	110	50.1043	18/12	11 - 13	140	50.1083
20/14	13 - 15	60	50.1004	20/14	13 - 15	110	50.1044	20/14	13 - 15	140	50.1084
22/16	15 - 17	60	50.1005	22/16	15 - 17	110	50.1045	22/16	15 - 17	140	50.1085
26/18	17 - 19	60	50.1006	26/18	17 - 19	110	50.1046	26/18	17 - 19	140	50.1086
28/20	19 - 21	60	50.1007	28/20	19 - 21	110	50.1047	28/20	19 - 21	140	50.1087
30/22	21 - 23	60	50.1008	30/22	21 - 23	110	50.1048	30/22	21 - 23	140	50.1088
32/24	23 - 25	60	50.1009	32/24	23 - 25	110	50.1049	32/24	23 - 25	140	50.1089
34/26	25 - 27	60	50.1010	34/26	25 - 27	110	50.1050	34/26	25 - 27	140	50.1090
36/28	27 - 29	60	50.1011	36/28	27 - 29	110	50.1051	36/28	27 - 29	140	50.1091
38/30	29 - 32	60	50.1012	38/30	29 - 32	110	50.1052	38/30	29 - 32	140	50.1092
42/33	32 - 35	60	50.1013	42/33	32 - 35	110	50.1053	42/33	32 - 35	140	50.1093
46/36	35 - 38	60	50.1014	46/36	35 - 38	110	50.1054	46/36	35 - 38	140	50.1094
49/39	38 - 41	60	50.1015	49/39	38 - 41	110	50.1055	49/39	38 - 41	140	50.1095
52/42	41 - 44	60	50.1016	52/42	41 - 44	110	50.1056	52/42	41 - 44	140	50.1096
55/45	44 - 47	60	50.1017	55/45	44 - 47	110	50.1057	55/45	44 - 47	140	50.1097
58/48	47 - 51	60	50.1018	58/48	47 - 51	110	50.1058	58/48	47 - 51	140	50.1098
62/52	51 - 55	60	50.1019	62/52	51 - 55	110	50.1059	62/52	51 - 55	140	50.1099
66/56	55 - 59	60	50.1020	66/56	55 - 59	110	50.1060	66/56	55 - 59	140	50.1100
70/60	59 - 63	60	50.1021	70/60	59 - 63	110	50.1061	70/60	59 - 63	140	50.1101
74/64	63 - 67	60	50.1022	74/64	63 - 67	110	50.1062	74/64	63 - 67	140	50.1102
78/68	67 - 71	60	50.1023	78/68	67 - 71	110	50.1063	78/68	67 - 71	140	50.1103
82/72	71 - 75	60	50.1024	82/72	71 - 75	110	50.1064	82/72	71 - 75	140	50.1104
86/76	75 - 79	60	50.1025	86/76	75 - 79	110	50.1065	86/76	75 - 79	140	50.1105
95/80	79 - 84	60	50.1026	95/80	79 - 84	110	50.1066	95/80	79 - 84	140	50.1106
100/85	84 - 89	60	50.1027	100/85	84 - 89	110	50.1067	100/85	84 - 89	140	50.1107
110/90	89 - 94	60	50.1028	110/90	89 - 94	110	50.1068	110/90	89 - 94	140	50.1108

12/6	5 - 7	160	50.1120	12/6	5 - 7	210	50.1160
14/8	7 - 9	160	50.1121	14/8	7 - 9	210	50.1161
16/10	9 - 11	160	50.1122	16/10	9 - 11	210	50.1162
18/12	11 - 13	160	50.1123	18/12	11 - 13	210	50.1163
20/14	13 - 15	160	50.1124	20/14	13 - 15	210	50.1164
22/16	15 - 17	160	50.1125	22/16	15 - 17	210	50.1165
26/18	17 - 19	160	50.1126	26/18	17 - 19	210	50.1166
28/20	19 - 21	160	50.1127	28/20	19 - 21	210	50.1167
30/22	21 - 23	160	50.1128	30/22	21 - 23	210	50.1168
32/24	23 - 25	160	50.1129	32/24	23 - 25	210	50.1169
34/26	25 - 27	160	50.1130	34/26	25 - 27	210	50.1170
36/28	27 - 29	160	50.1131	36/28	27 - 29	210	50.1171
38/30	29 - 32	160	50.1132	38/30	29 - 32	210	50.1172
42/33	32 - 35	160	50.1133	42/33	32 - 35	210	50.1173
46/36	35 - 38	160	50.1134	46/36	35 - 38	210	50.1174
49/39	38 - 41	160	50.1135	49/39	38 - 41	210	50.1175
52/42	41 - 44	160	50.1136	52/42	41 - 44	210	50.1176
55/45	44 - 47	160	50.1137	55/45	44 - 47	210	50.1177
58/48	47 - 51	160	50.1138	58/48	47 - 51	210	50.1178
62/52	51 - 55	160	50.1139	62/52	51 - 55	210	50.1179
66/56	55 - 59	160	50.1140	66/56	55 - 59	210	50.1180
70/60	59 - 63	160	50.1141	70/60	59 - 63	210	50.1181
74/64	63 - 67	160	50.1142	74/64	63 - 67	210	50.1182
78/68	67 - 71	160	50.1143	78/68	67 - 71	210	50.1183
82/72	71 - 75	160	50.1144	82/72	71 - 75	210	50.1184
86/76	75 - 79	160	50.1145	86/76	75 - 79	210	50.1185
95/80	79 - 84	160	50.1146	95/80	79 - 84	210	50.1186
100/85	84 - 89	160	50.1147	100/85	84 - 89	210	50.1187
110/90	89 - 94	160	50.1148	110/90	89 - 94	210	50.1188



INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS

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 and 10 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 AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS

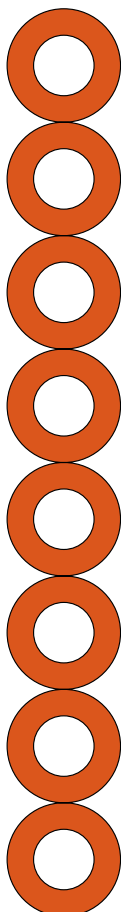
NOFIRNO® MULTI-FILLER SLEEVES



NOFIRNO® multi-filler sleeve 10/4

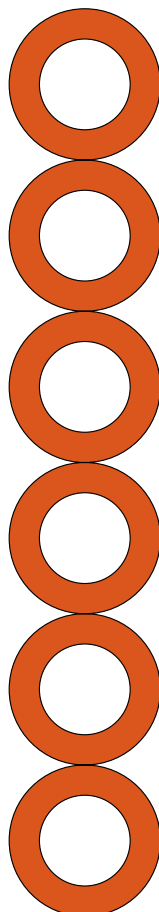
art. no. 50.0301 for 60 mm length
art. no. 50.0311 for 110 mm length
art. no. 50.0321 for 140 mm length
art. no. 50.0331 for 160 mm length
art. no. 50.0341 for 210 mm length

to be used for smaller conduit openings



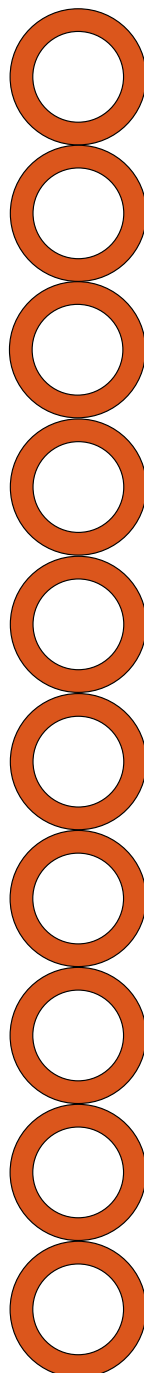
NOFIRNO® multi-filler sleeve 15/8

art. no. 50.0302 for 60 mm length
art. no. 50.0312 for 110 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® multi-filler sleeve 20/12

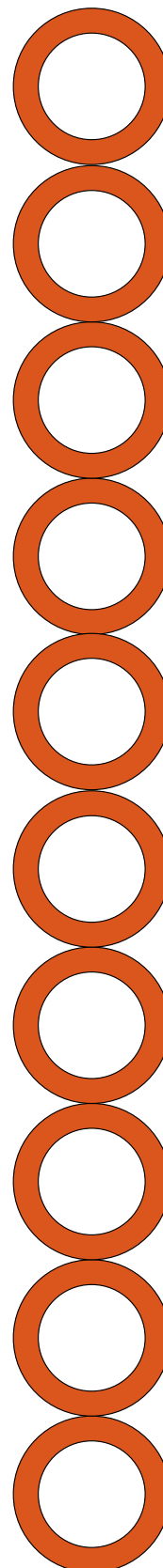
art. no. 50.0303 for 60 mm length
art. no. 50.0313 for 110 mm length
art. no. 50.0323 for 140 mm length
art. no. 50.0333 for 160 mm length
art. no. 50.0343 for 210 mm length



NOFIRNO® multi-filler sleeve 18/12

art. no. 80.5050 for 60 mm length
art. no. 80.5051 for 110 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® multi-filler sleeve 22/15

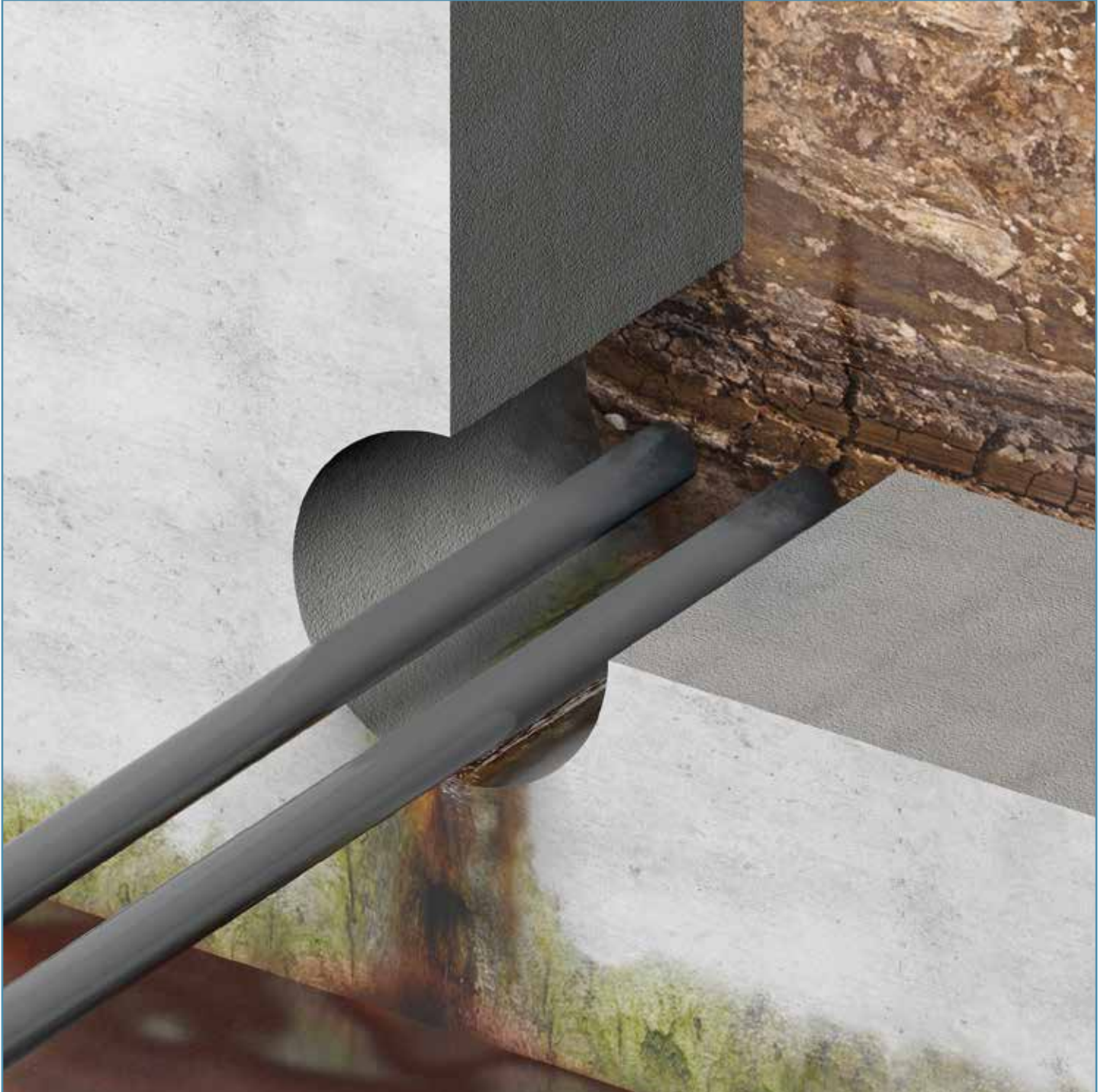
art. no. 80.5070 for 60 mm length
art. no. 80.5071 for 110 mm length
art. no. 80.5072 for 140 mm length
art. no. 80.5073 for 160 mm length
art. no. 80.5074 for 210 mm length

to be used for larger conduit openings

filler sleeves are supplied non-split

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

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



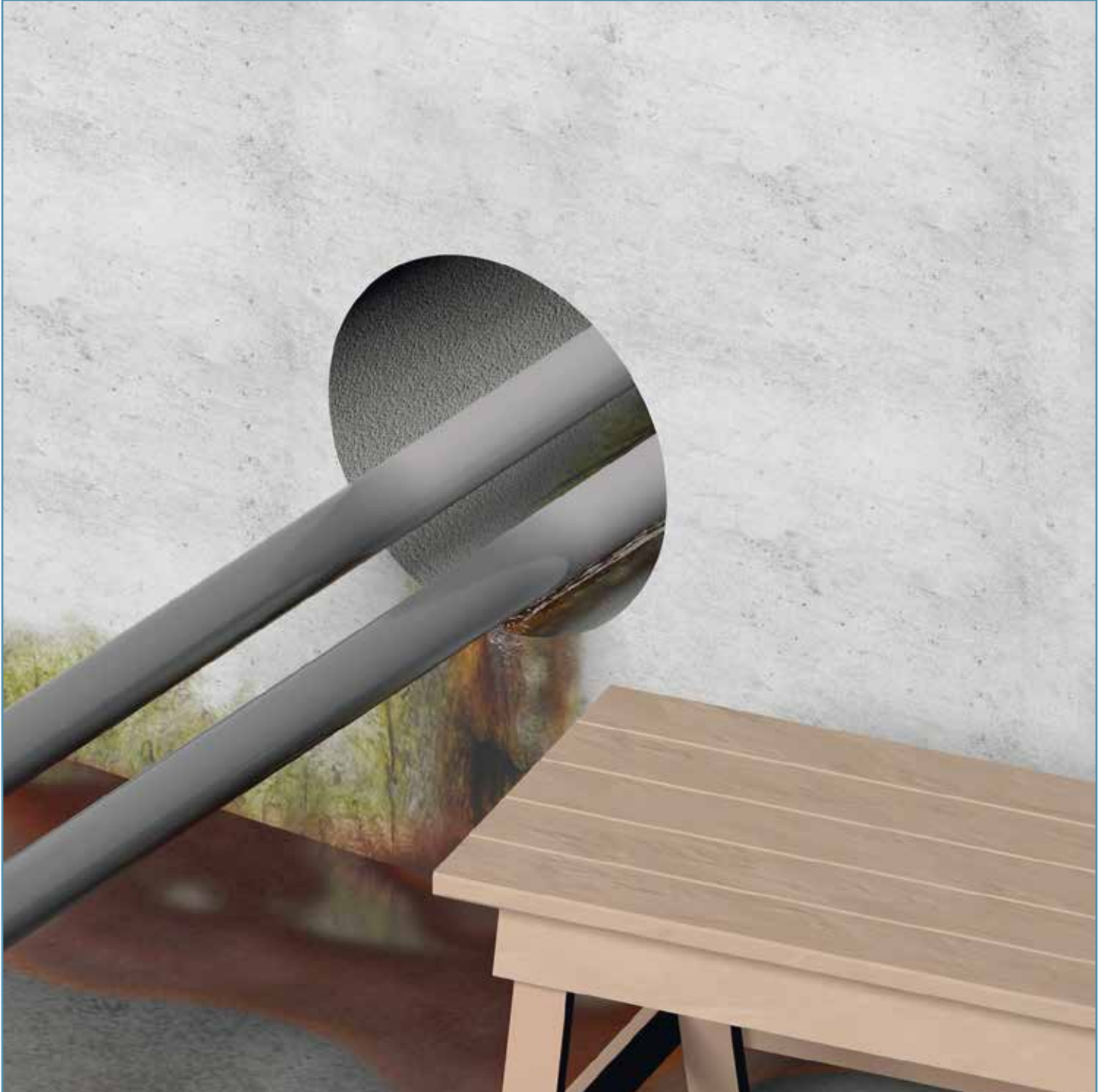
The AQUASTOP® - NOFIRNO® transit sealing system for leaking cable and pipe conduits is specially developed to seal leaking conduits where it is impossible to stop the water flow. In such cases, adhesion of materials to the wet surfaces is very problematic. By making use of the AQUASTOP® rubber, which adheres very well to wet surfaces, the water flow can be stopped and final sealing of the conduit opening can be achieved with the NOFIRNO® sealant.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



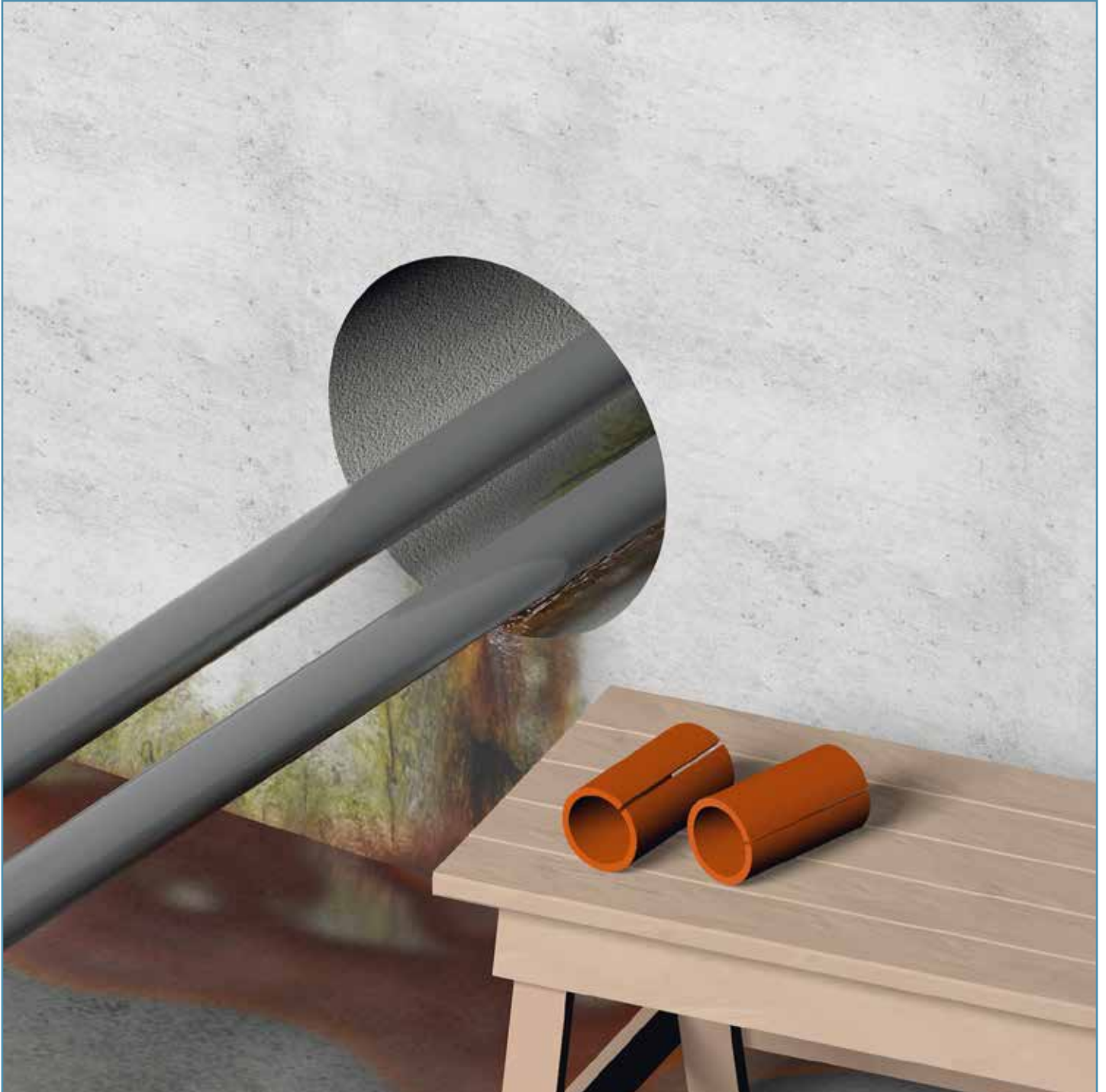
Clean and dry the ducted cables thoroughly. Any moisture, dirt or oil residues will have a negative impact on the adhesive properties of the AQUASTOP® mouldable rubber and the NOFIRNO® sealant to be applied after filling the conduit opening.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



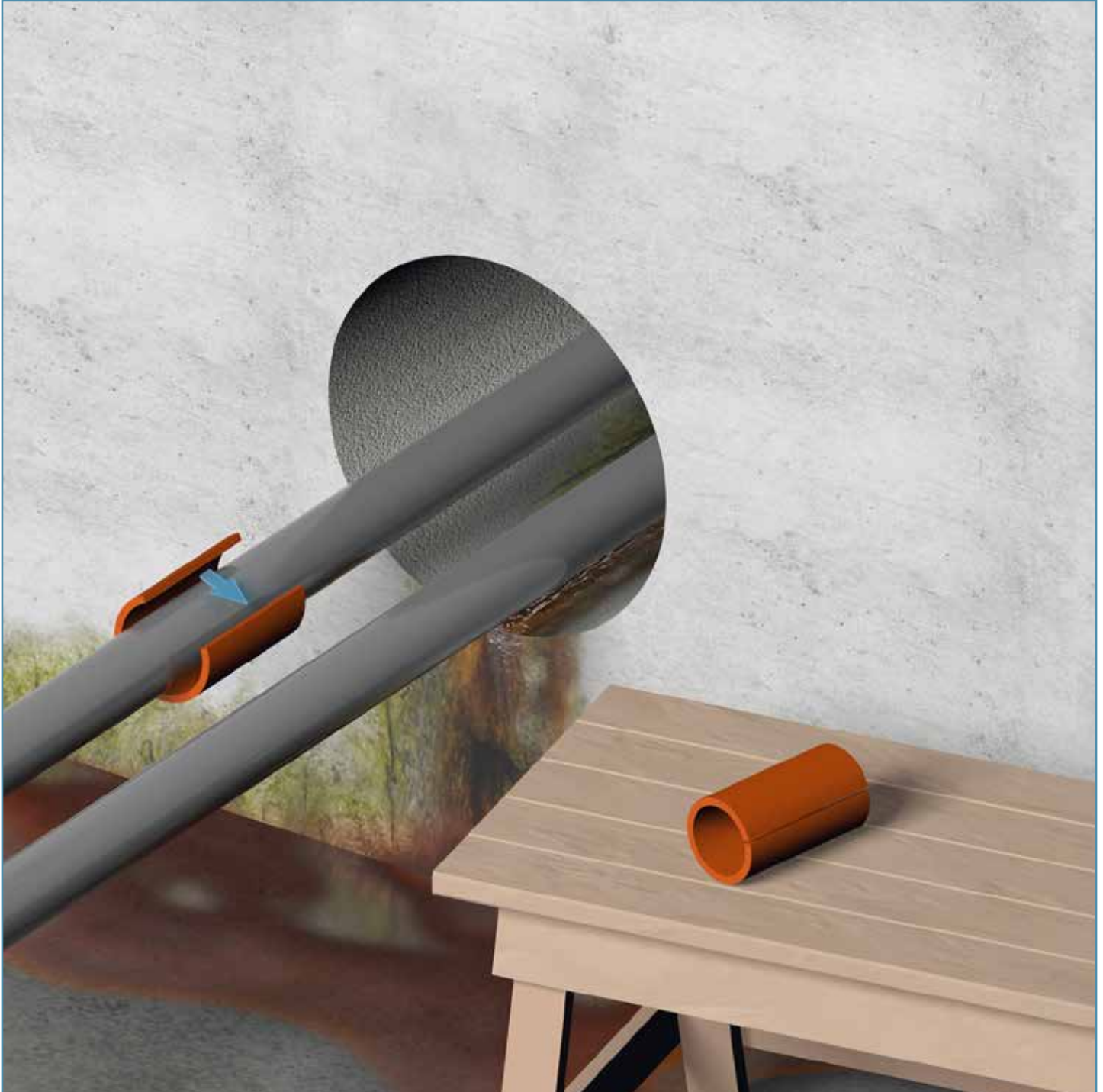
The cables have to be cleaned at the spot where the AQUASTOP® mouldable rubber and the NOFIRNO® sealant are to be applied in a later stage. This means 40 mm at the front of the conduit opening. If feasible, it is of course better to clean the cables over their full length inside the conduit opening.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



NOFIRNO® cable insert sleeves are used to separate the cables inside the conduit opening. The length of the sleeves is minimum 60 mm. It is advisable to use longer sleeves (when possible) to obtain higher pressure ratings.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



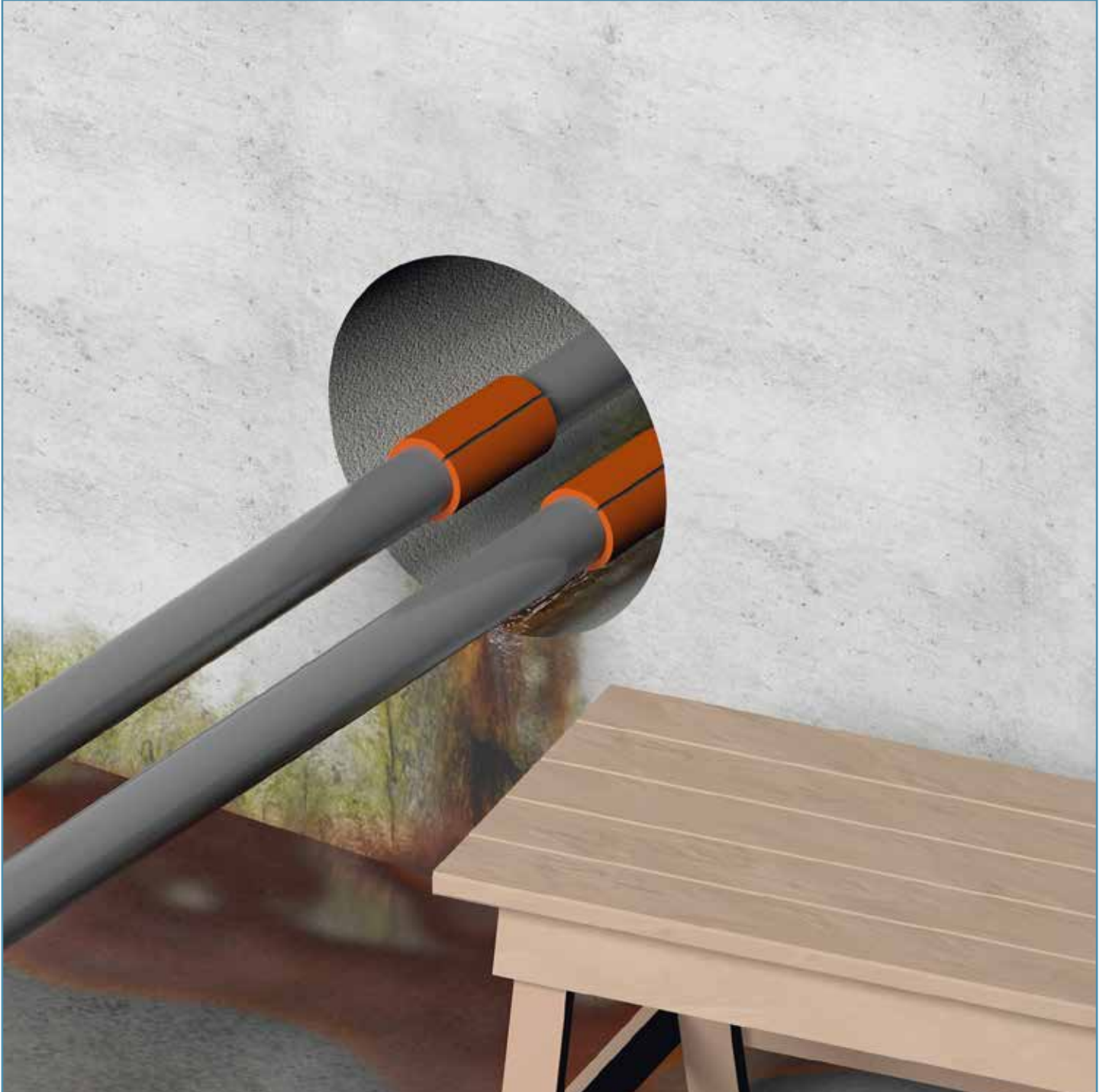
The NOFIRNO® cable insert sleeves are split lengthwise. A precise fit of the NOFIRNO® cable insert sleeves around the cables is not required, however it is advisable to select the sleeves on the basis of the cable diameters as listed on page 7.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



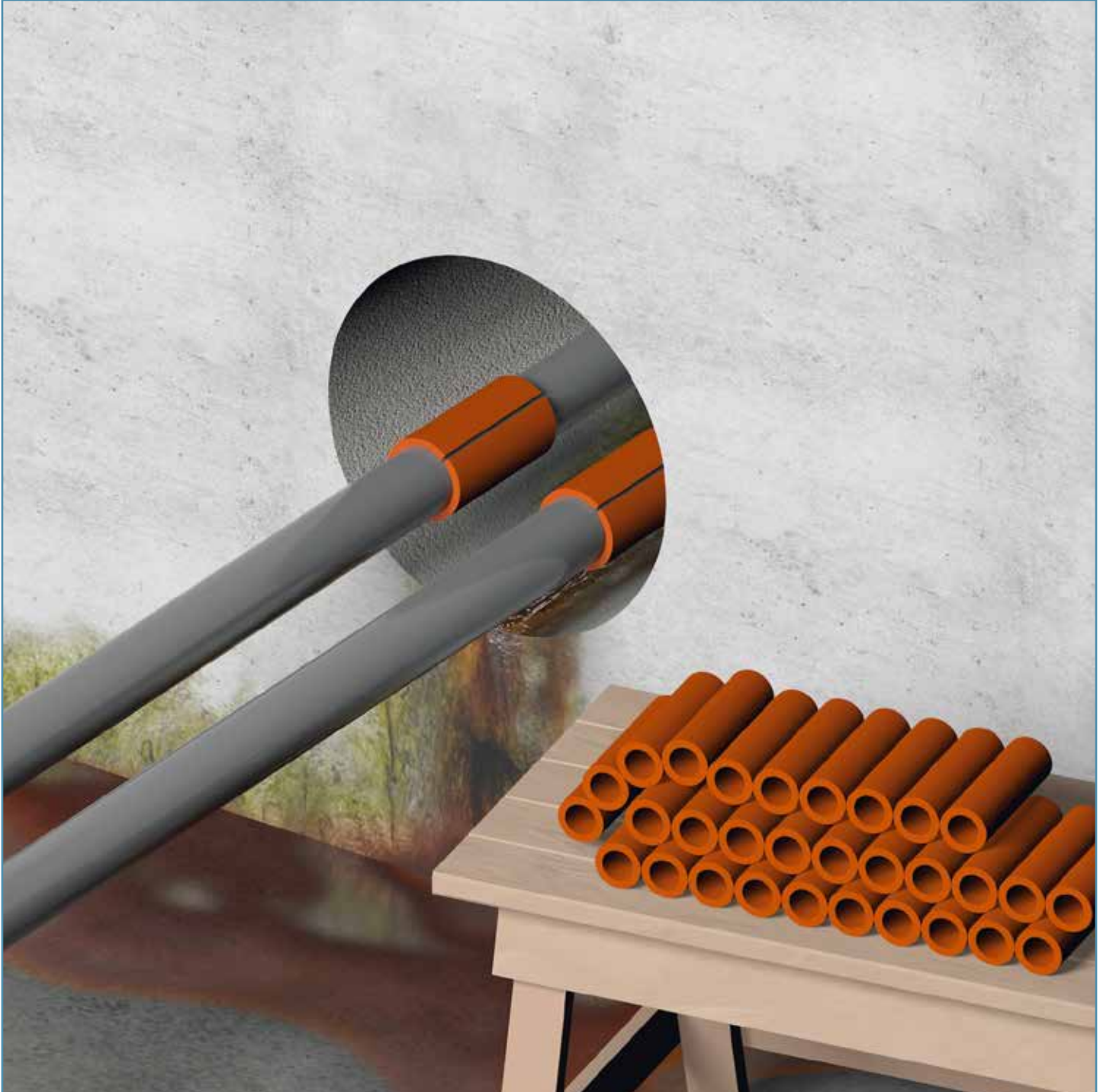
A NOFIRNO® cable insert sleeve is placed around the cable and then pushed inside the conduit opening.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



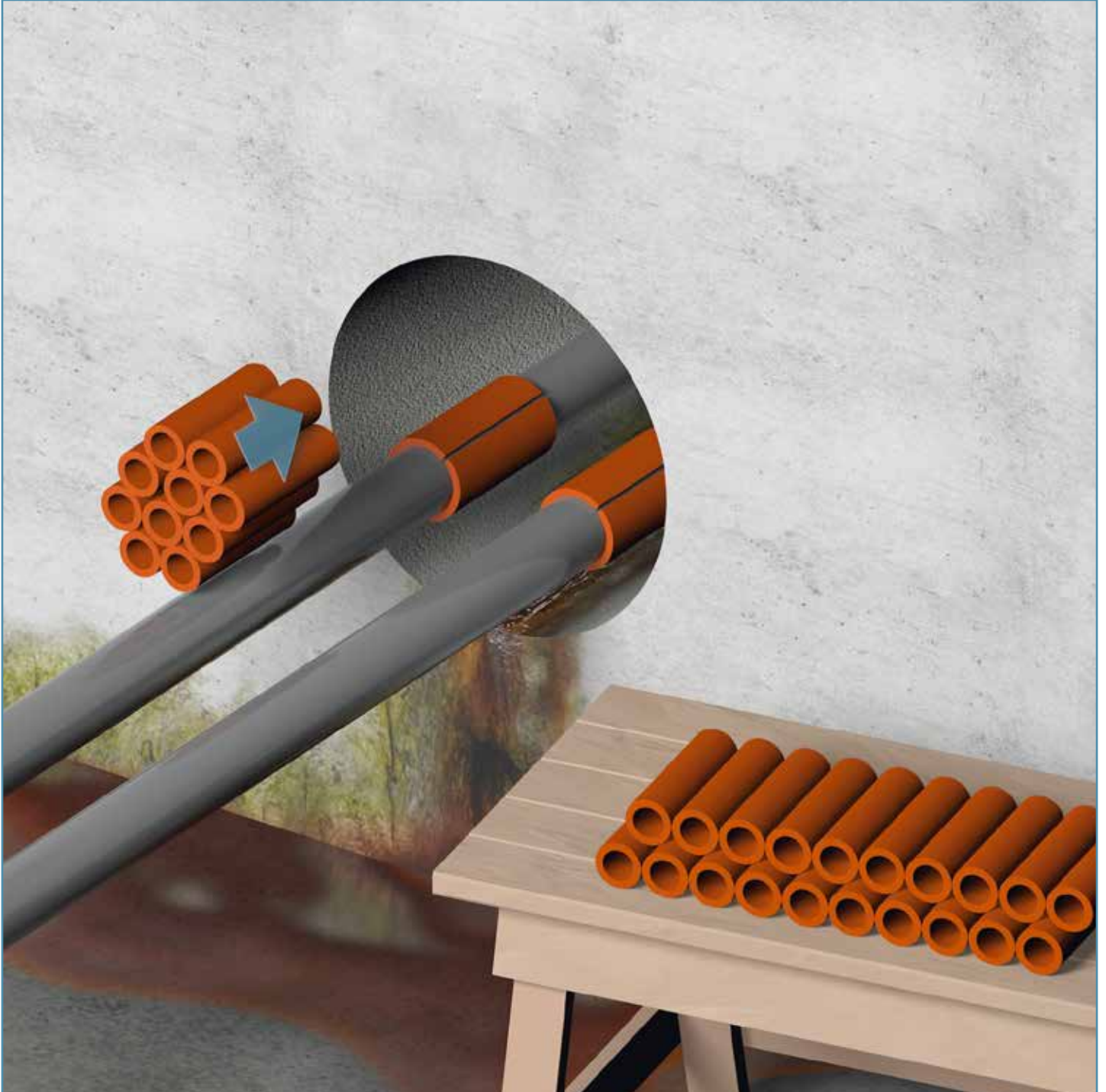
In this way, all ducted cables are sleeved with NOFIRNO® cable insert sleeves.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



The remaining space in the conduit opening has to be filled with NOFIRNO® filler sleeves. Filler sleeves are supplied in multi-sets. There are 5 different dimensions available. The smaller types are used for smaller conduit openings. Generally the type 22/15 is used for conduit sizes of more than 100 mm.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



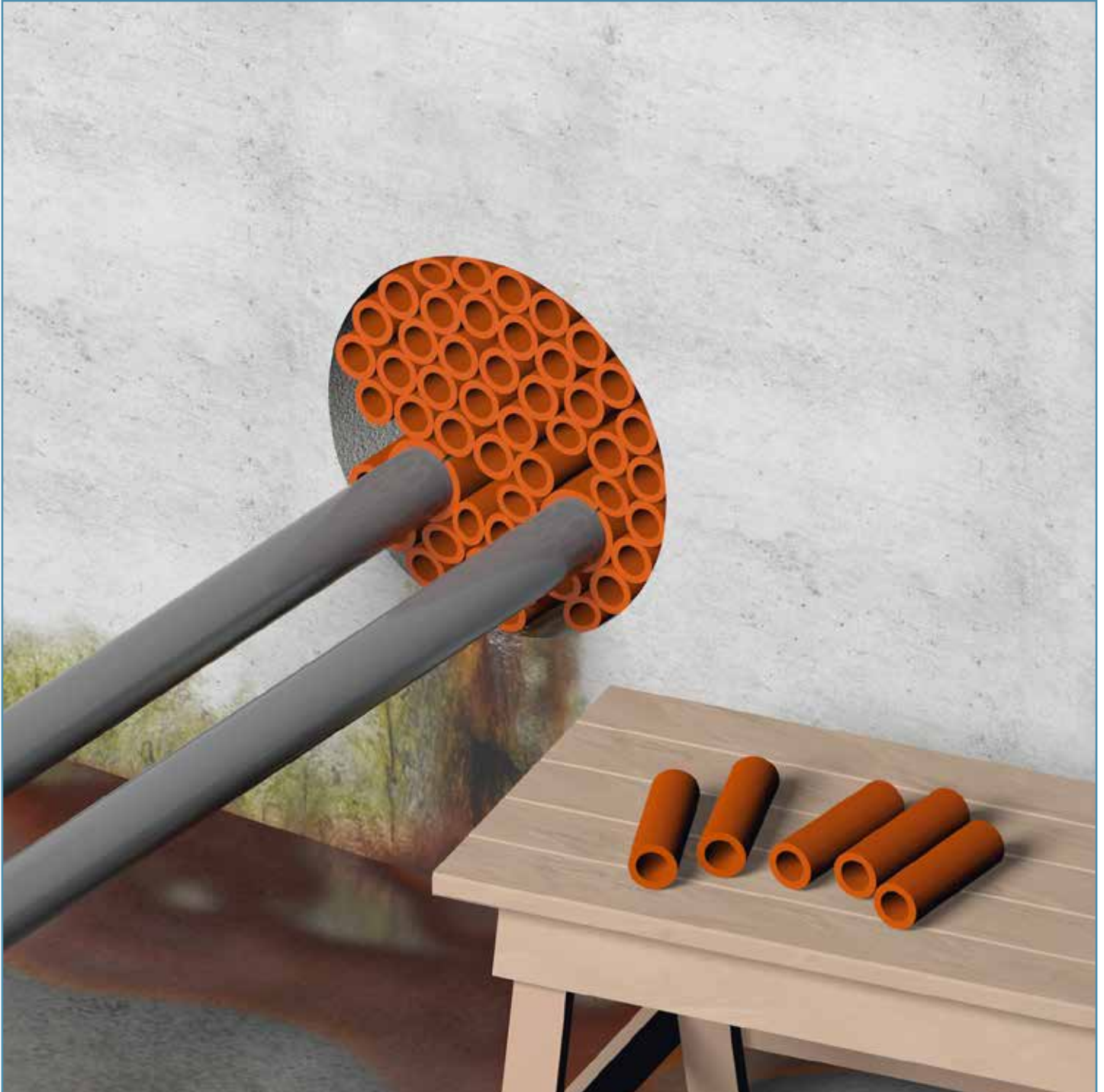
The NOFIRNO® multi-sets of filler sleeves can be rolled up for a quick filling of the conduit opening.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



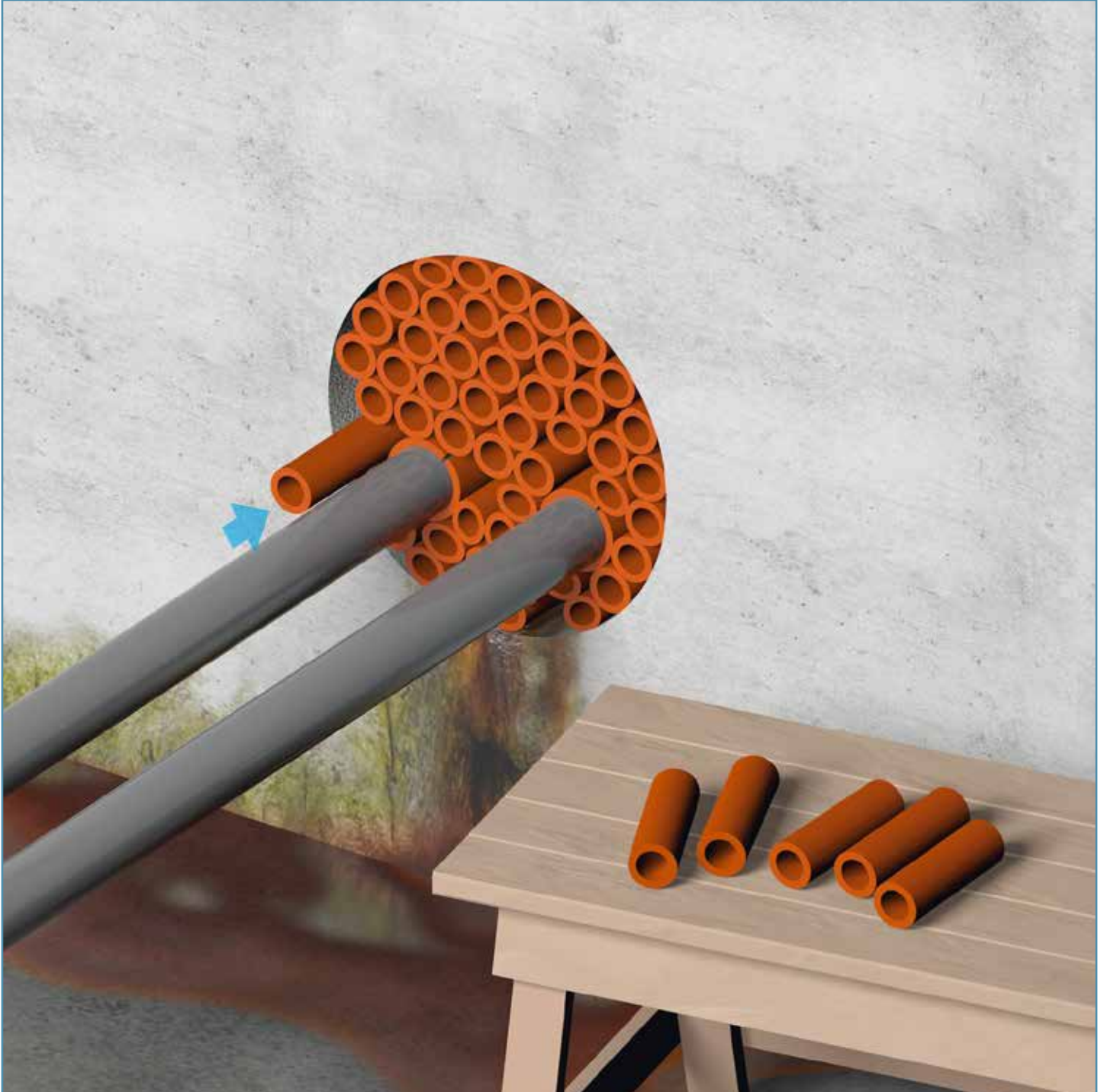
The set is then placed in the open space in the conduit opening.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



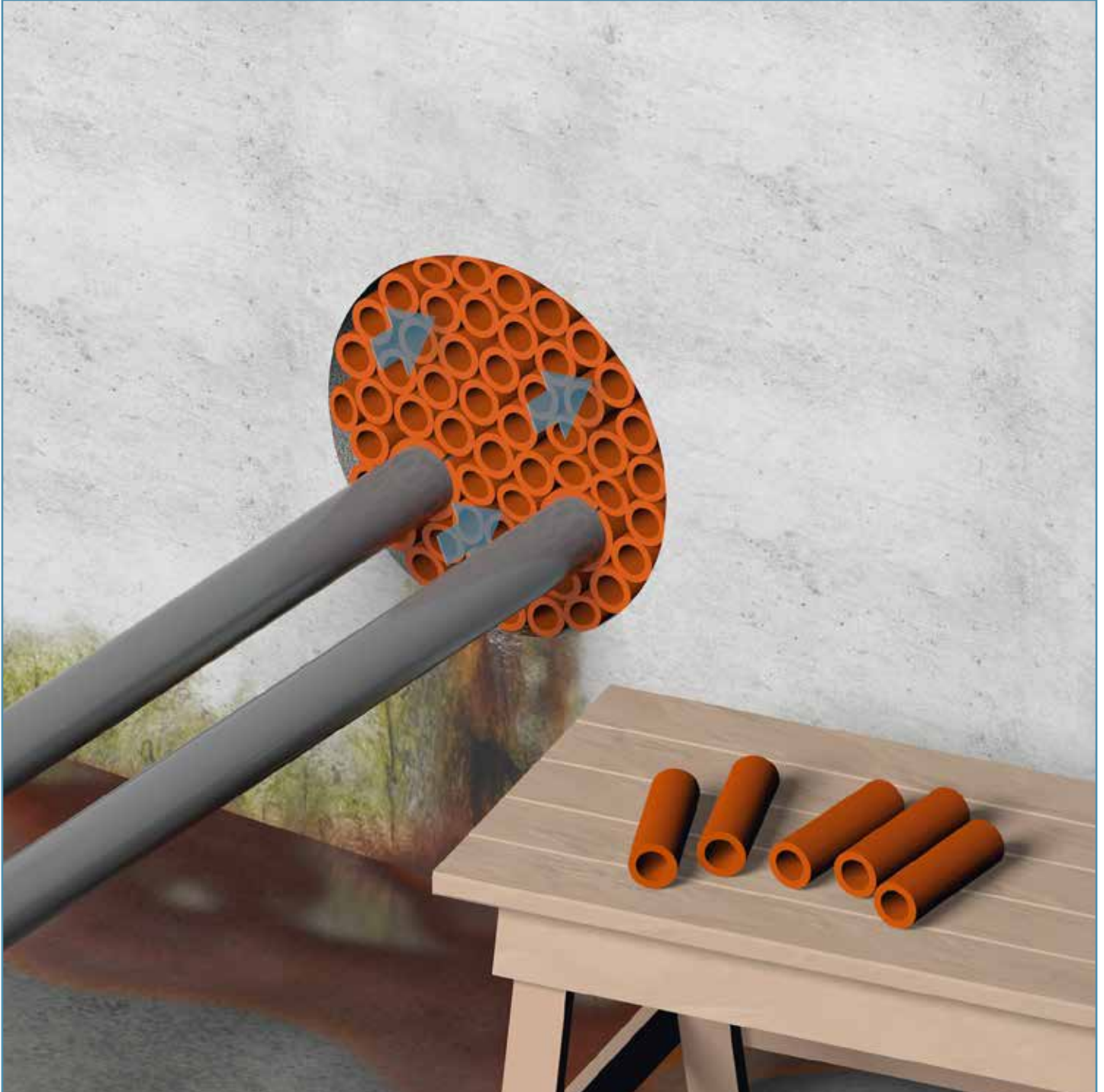
In this way, filling of the open space continues. The smaller openings are now filled with single filler sleeves and/or with parts of the sets of multi-filler sleeves. To tear off sleeves from the multi-set, the procedure is to do this backwards/forwards and not sideways. This is because of the strength of the intermediate rubber parts.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



The smooth surfaces of the NOFIRNO® sleeves makes insertion of the single sleeves an easy job. There is no need for lubricating. Just insert the filler sleeve and push in by hand.

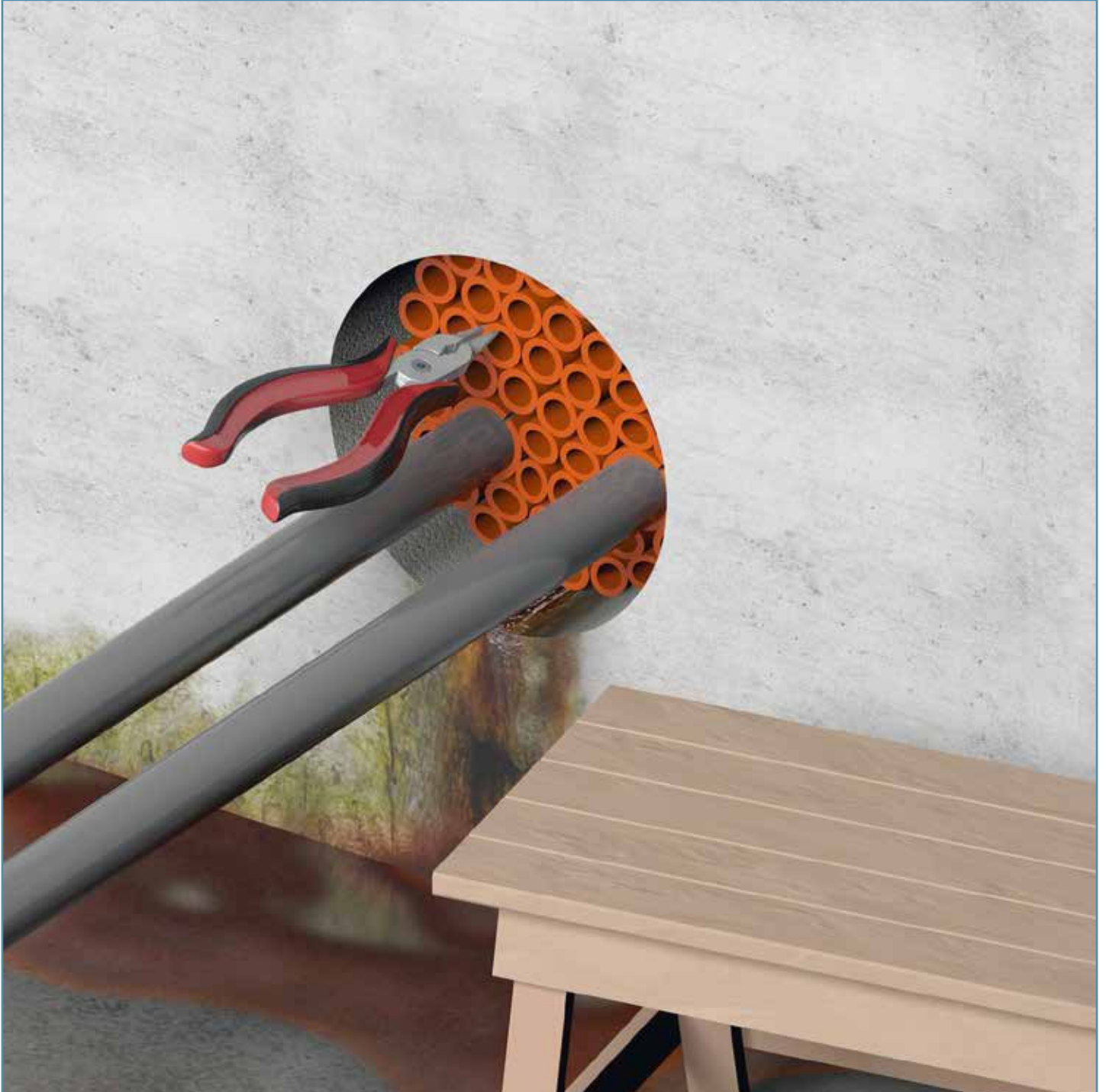
INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



It is very important that the set of NOFIRNO® cable insert and filler sleeves fits tightly in the conduit opening. This contributes not only the optimum mechanical stability, but also to obtain higher pressure ratings.

When the filling is complete, the whole set is pushed into the conduit opening, leaving ca. 40 mm free space at the front side inside the conduit opening.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



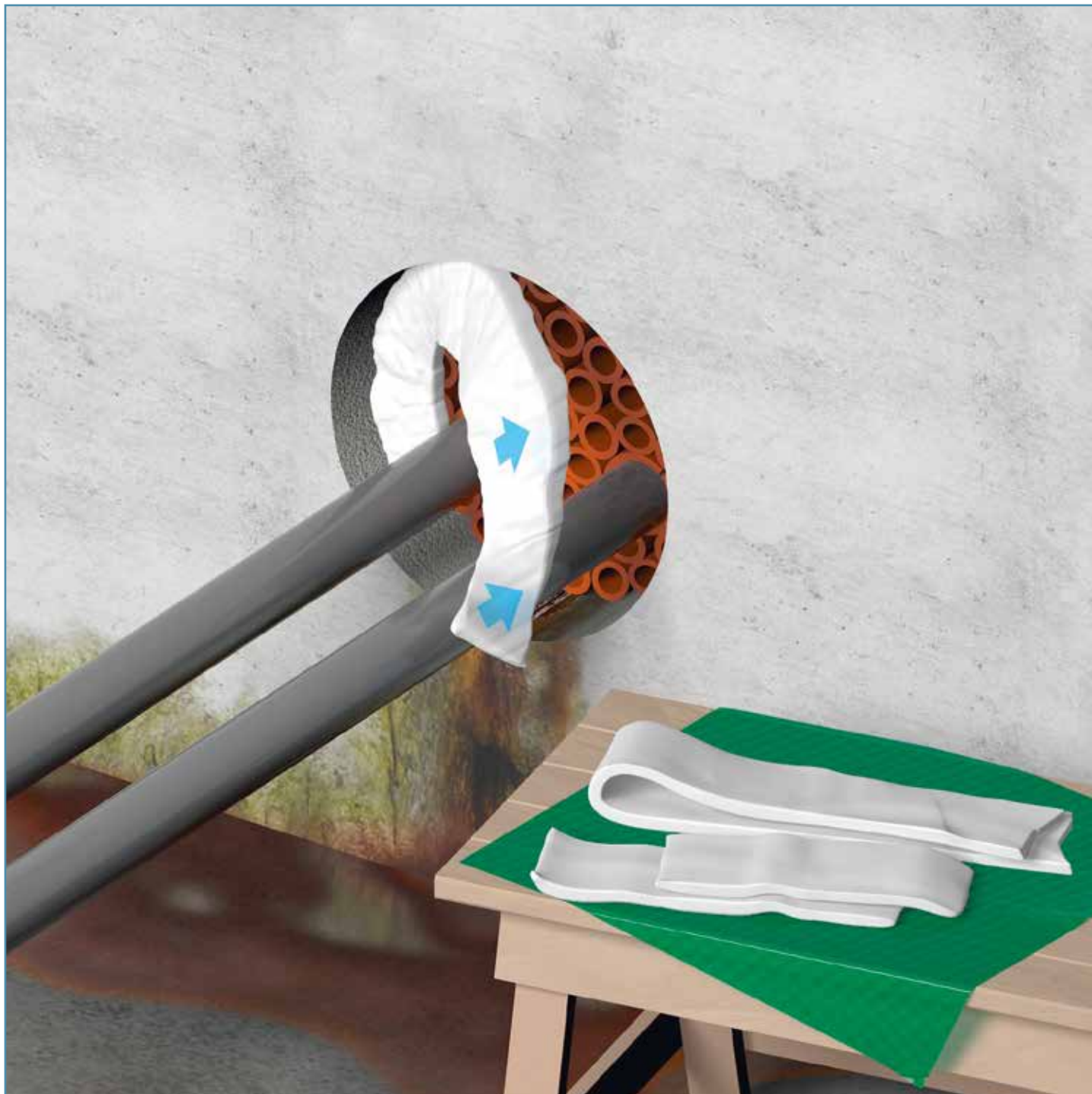
With a flat nose pliers, NOFIRNO® single filler sleeves are inserted in the remaining smaller open spaces in the set of fillers. The flat nose pliers are also used to pull back sleeves which are inserted too deep into the conduit opening.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



With a piece of wood marked with the required 40 mm depth, or with the BEELE Engineering developed aluminum adjuster, the set of fillers can be adjusted to the required 40 mm recess inside the transit. Use a plastic hammer to adjust the set of filler sleeves with the NOFIRNO® adjuster.

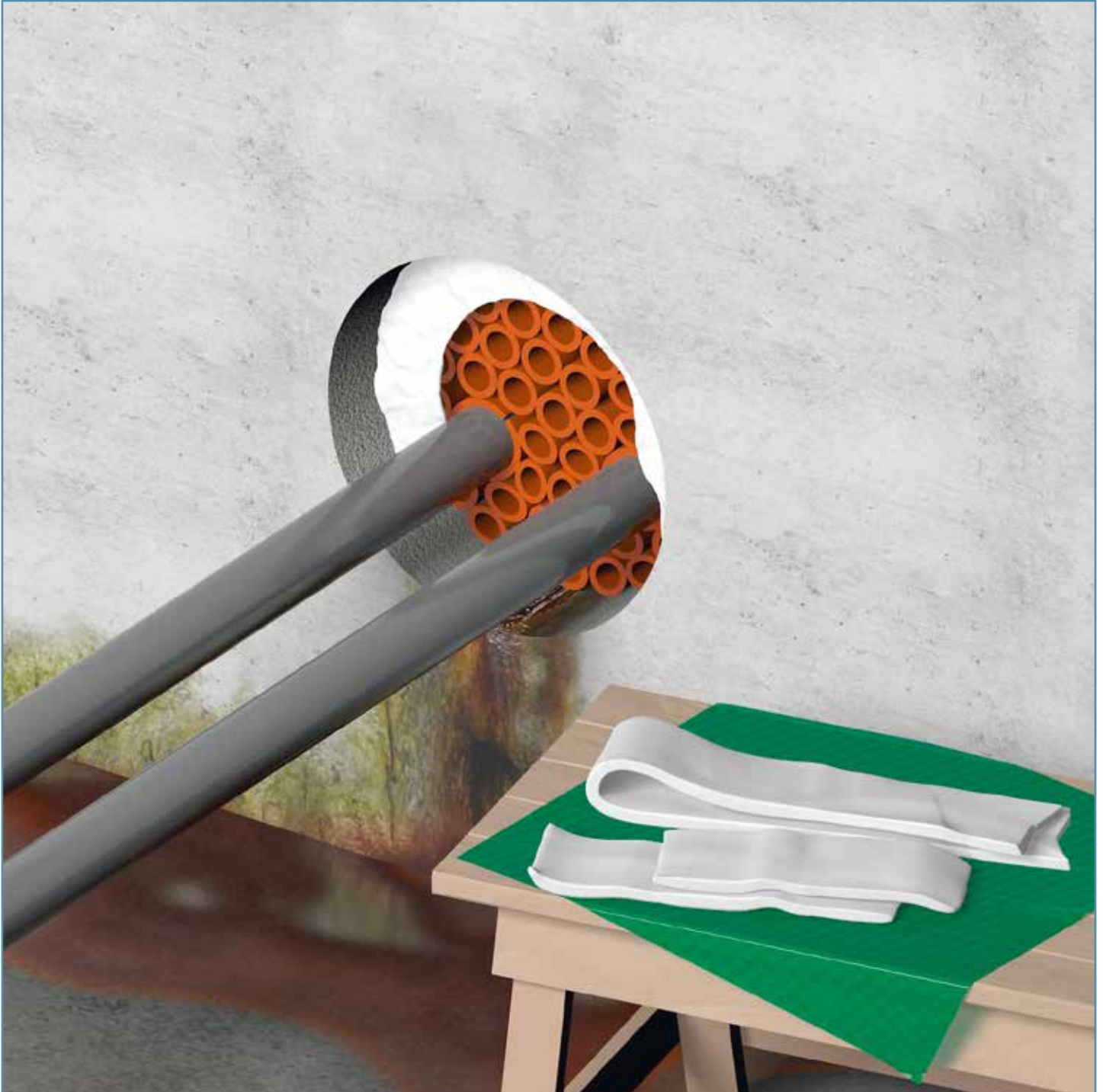
INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



A ca. 20 mm thick layer of AQUASTOP® mouldable rubber has to be applied to stop the water flow. Work from the non-leaking area towards the leaking area when inserting the AQUASTOP® rubber into the wall opening against the existing sealing material.

Note: the rubber is sticky and is for this reason packed in polyethylene plastic. Please refer to the Safety Data Sheet for more information.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



The AQUASTOP® mouldable rubber is applied against the wall of the conduit on top of the filling with the NOFIRNO® sleeves.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



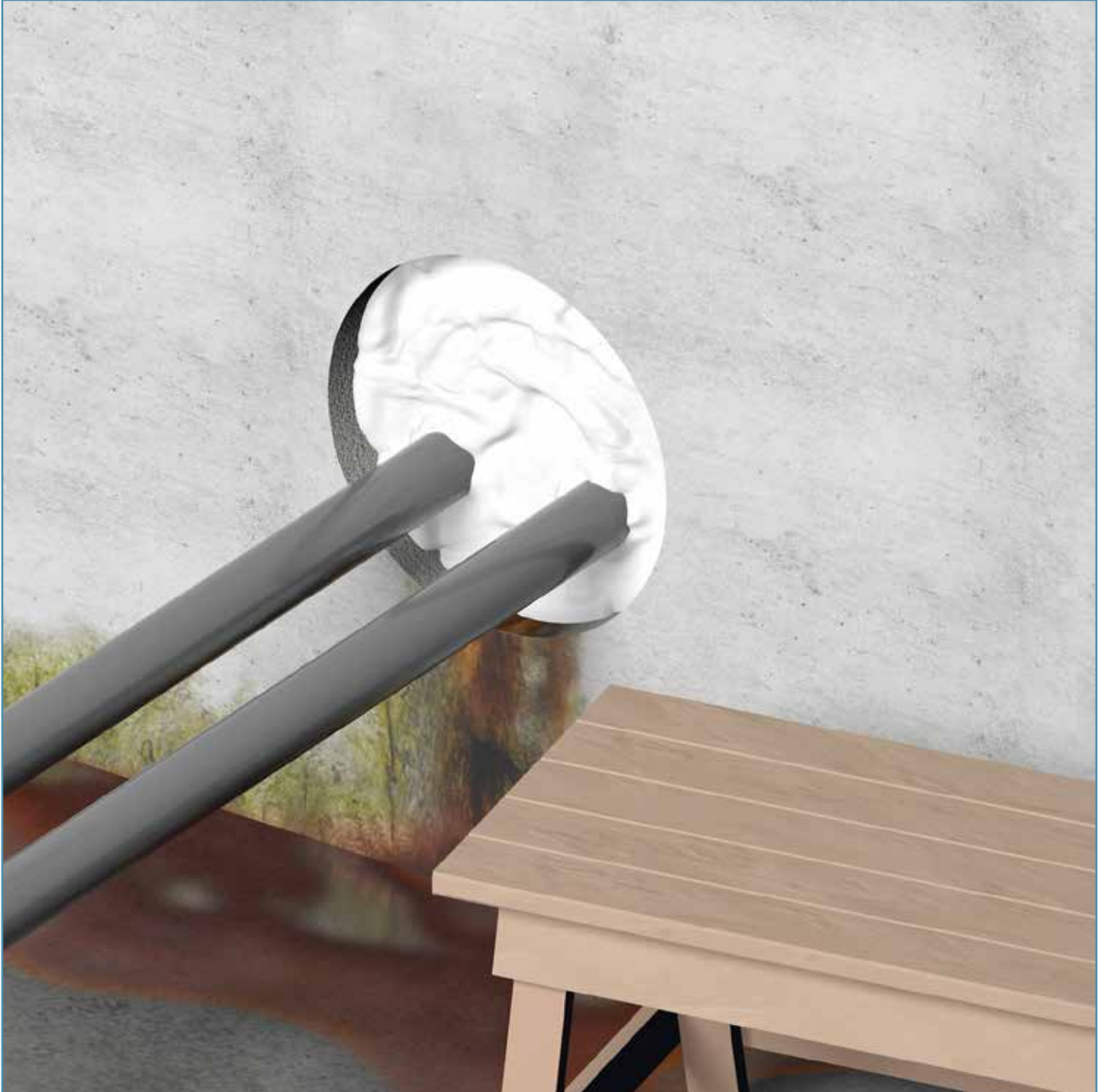
The AQUASTOP® mouldable rubber has to be applied very carefully on the cable sheathings in a way that adhesion all around the cable is obtained.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



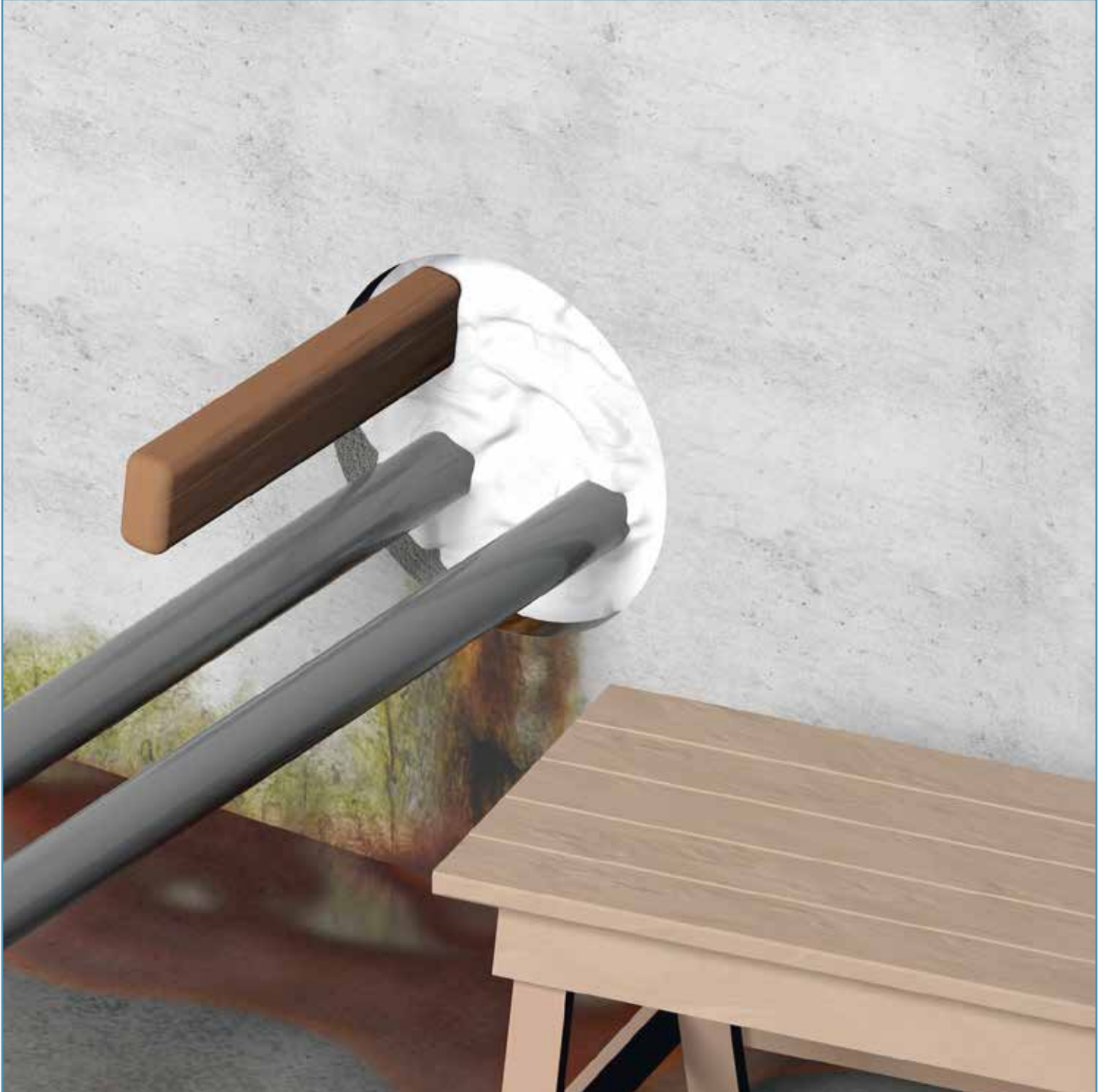
Finally the mouldable rubber is applied at the spot of the water flow.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



Apply the AQUASTOP® rubber by hand thoroughly all around and in between the ducted cables and against the wall of the conduit opening.
Most of the leakage might have stopped by this point.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



Start compressing the AQUASTOP® rubber by hand or with the aid of a piece of wood. This is essential to obtain a solid mass of the rubber inside the conduit.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



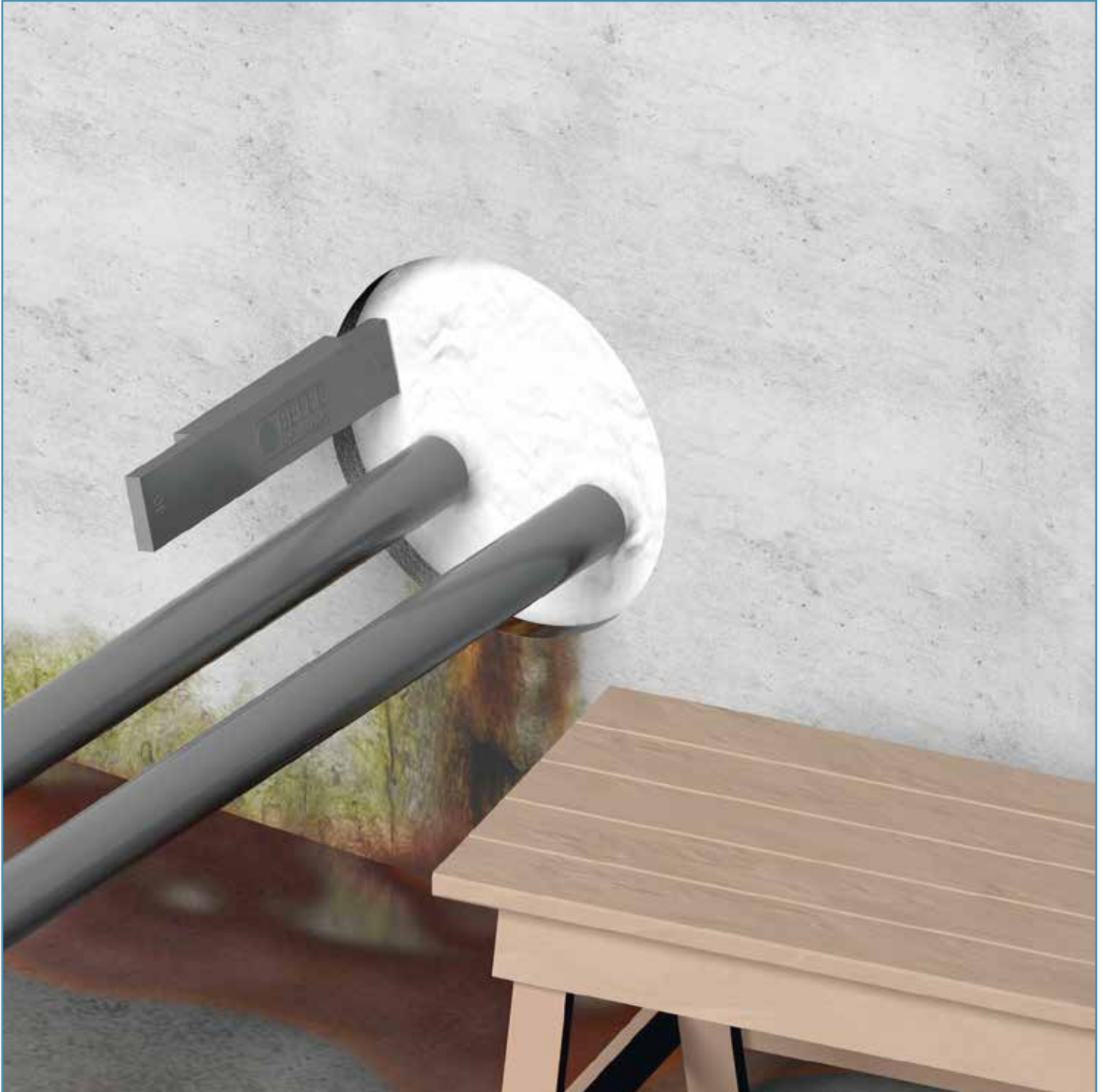
To stop the possible last leakages, the AQUASTOP® mouldable rubber is smeared out by hand against the wall of the conduit opening. Take care that there is 20 mm free space left to apply the sealant over the AQUASTOP® rubber.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



Special attention is required around the cables. Smear the AQUASTOP® mouldable rubber out by hand fully around the ducted cables. This is essential to stop the water flow on long term.

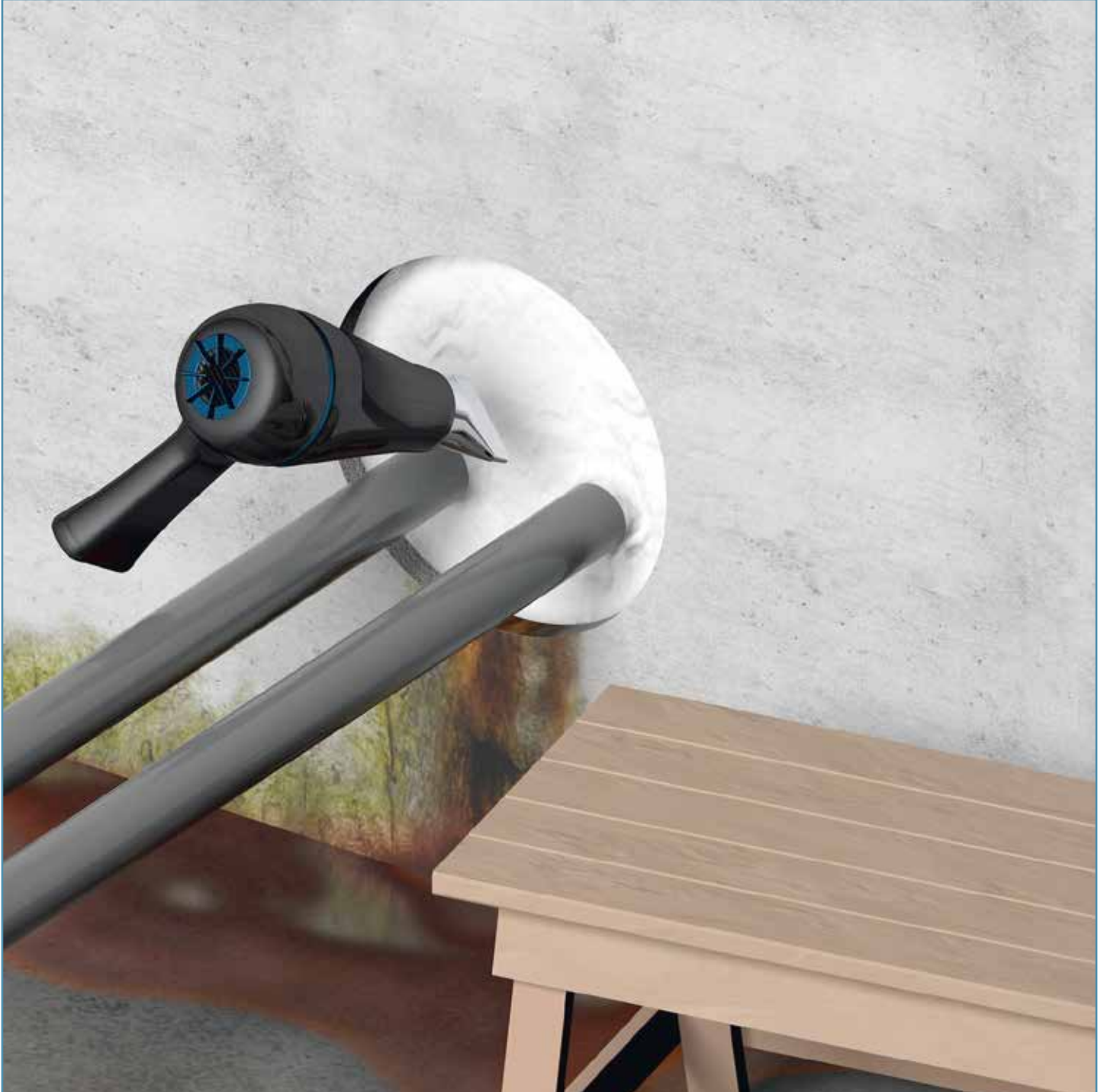
INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



It is advisable to apply a layer of ca. 15-20 mm NOFIRNO® sealant. With the BEELE® aluminum adjuster, the AQUASTOP® filling can be adjusted to the required 20 mm recess inside the transit.

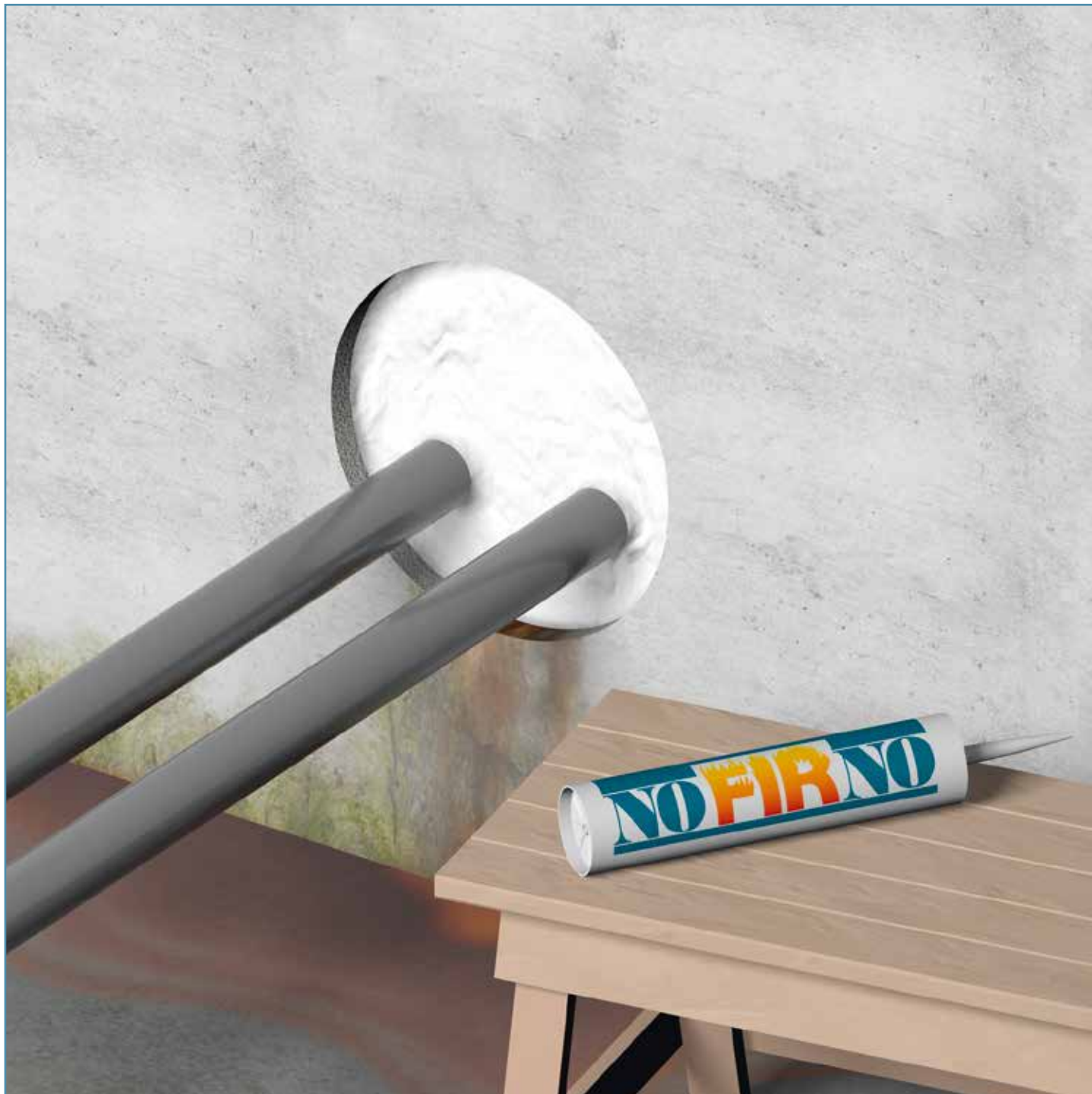
Note: the pressure ratings of the sealing system are optimum with a layer of 20 mm NOFIRNO® sealant.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



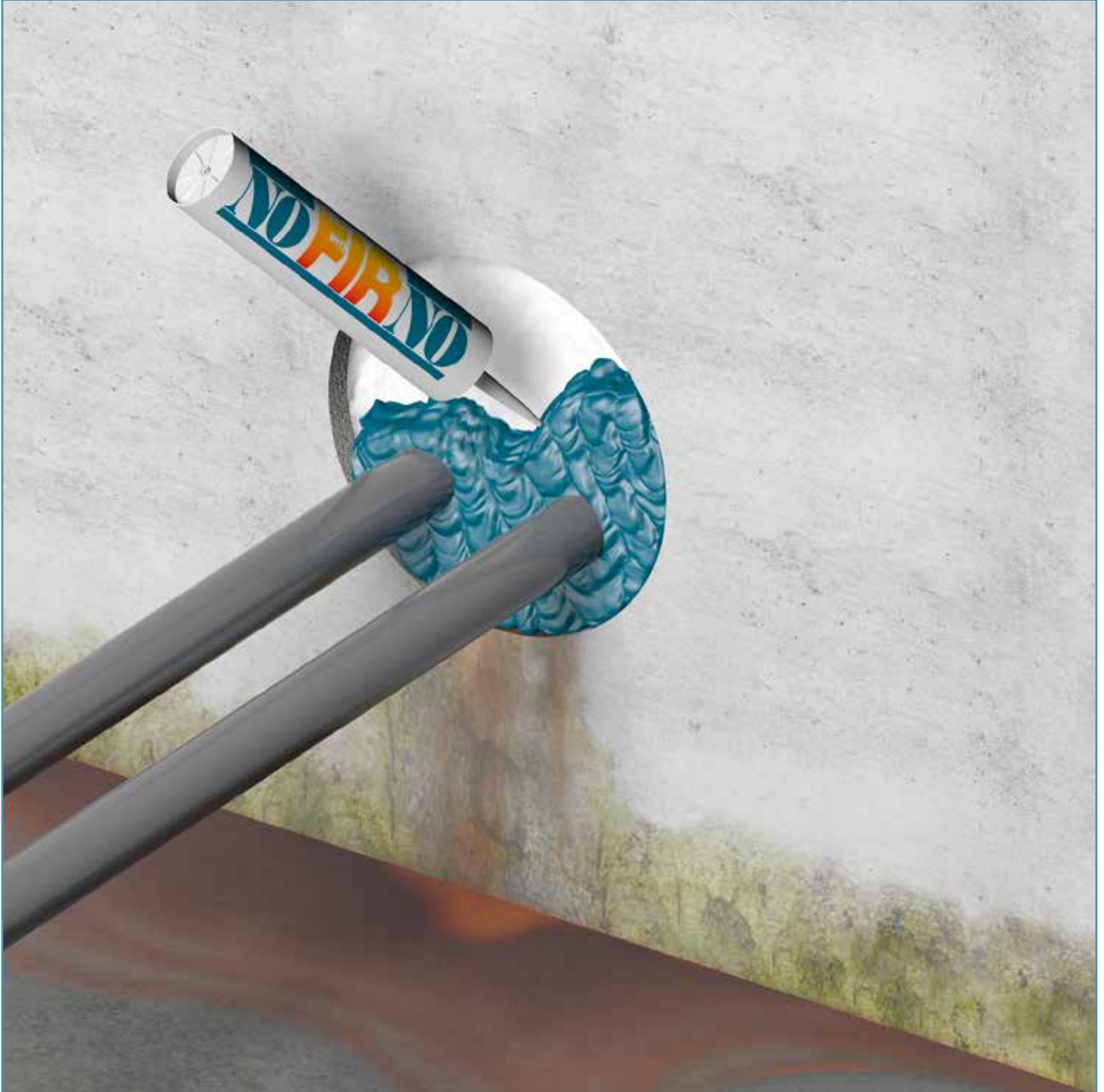
With an air blower, the wet surfaces, also that of the AQUASTOP® rubber, are dried properly. Be careful not to damage the cable sheathings. Note: a dry surface is needed to obtain optimum adhesion of the sealant.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



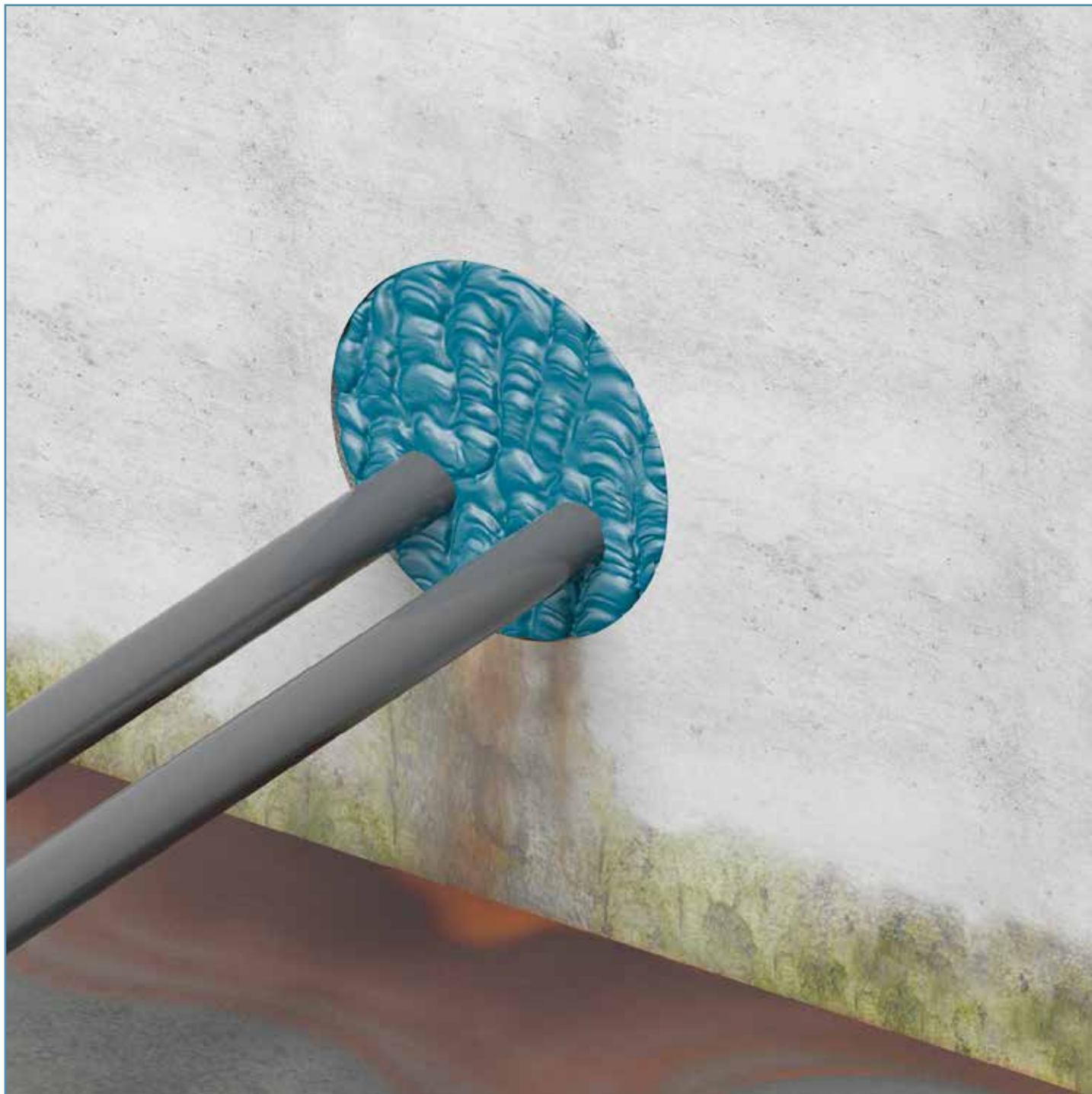
After drying, remove all dirt and other residues and start applying the NOFIRNO® sealant.
Note: for optimum mechanical stability the sealant should be applied with a layer thickness of 20 mm.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



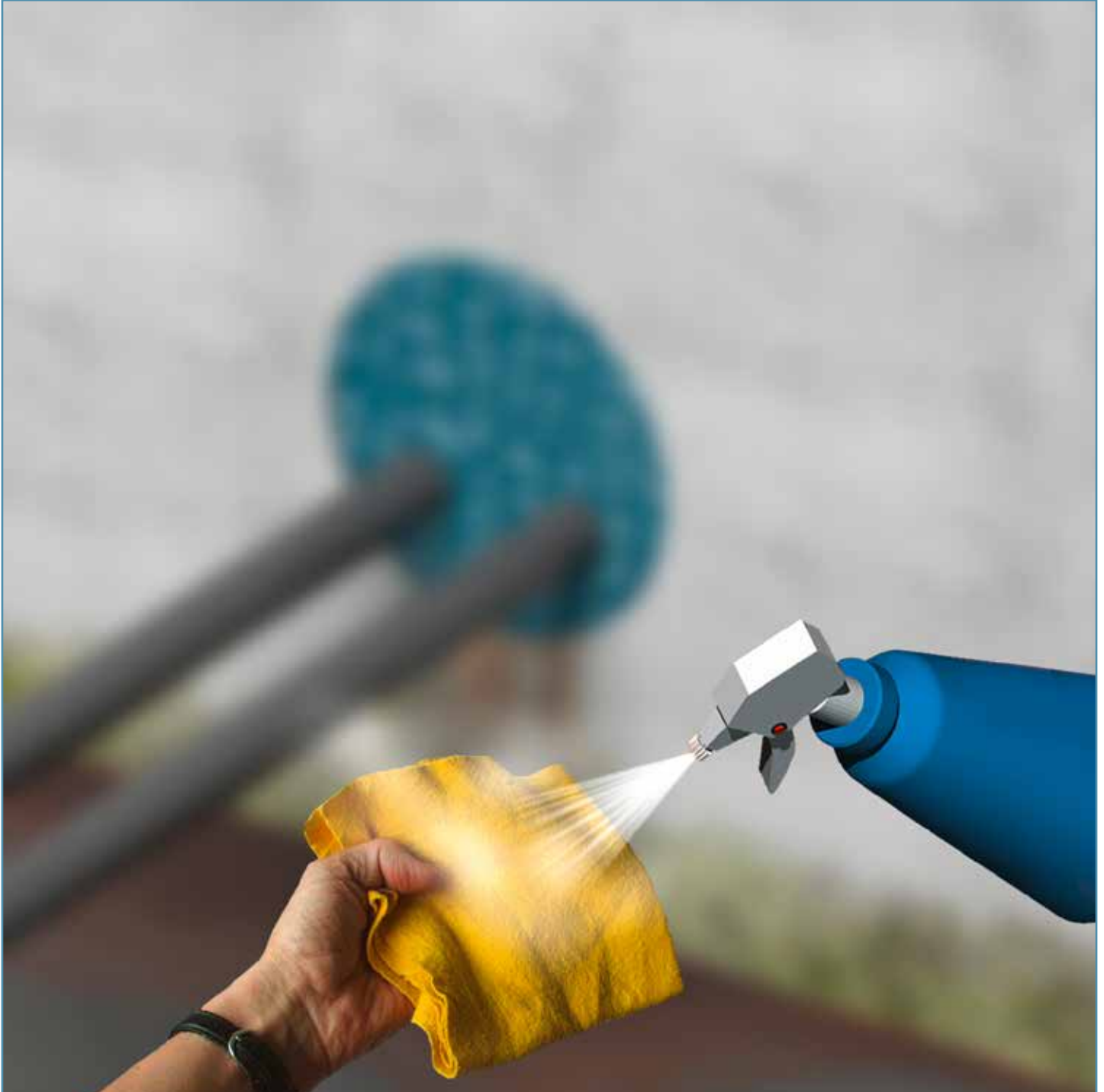
A 15-20 mm thick layer of NOFIRNO® sealant is applied on top of the AQUASTOP® filling. NOFIRNO® sealant has an engineered viscosity, preventing the sealant from sagging and also allowing for a perfect flow of the sealant between the cables during injection. For multi-cable transits with a high filling rate, longer nozzles are available for the sealant cartridges. People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



Skin formation of the sealant takes place after ca. 10-15 minutes. In case of larger conduits with a low cable filling rate, do not apply more sealant than can be finished within this time-frame. Start finishing the sealant layer directly after application.

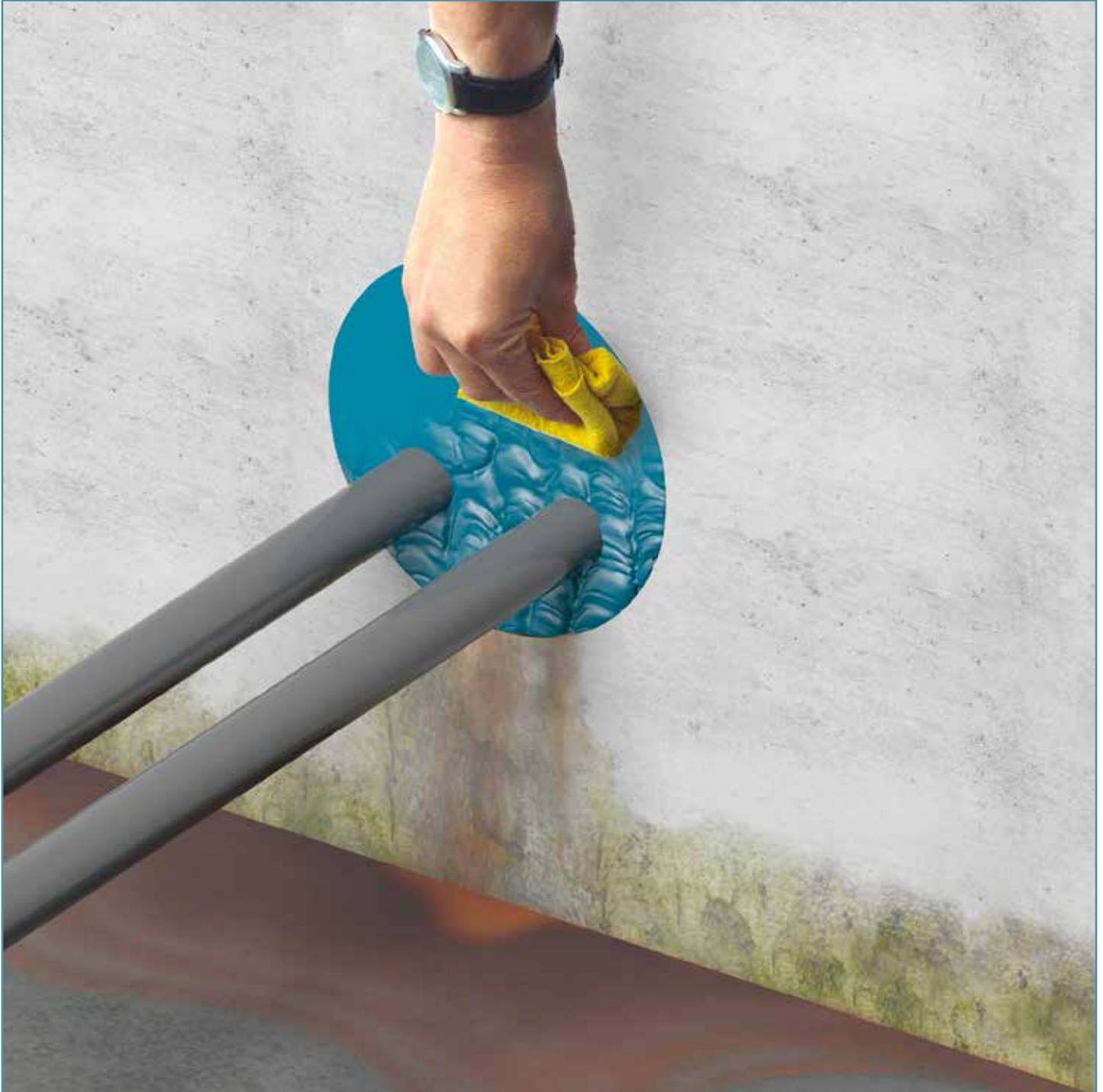
INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



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.

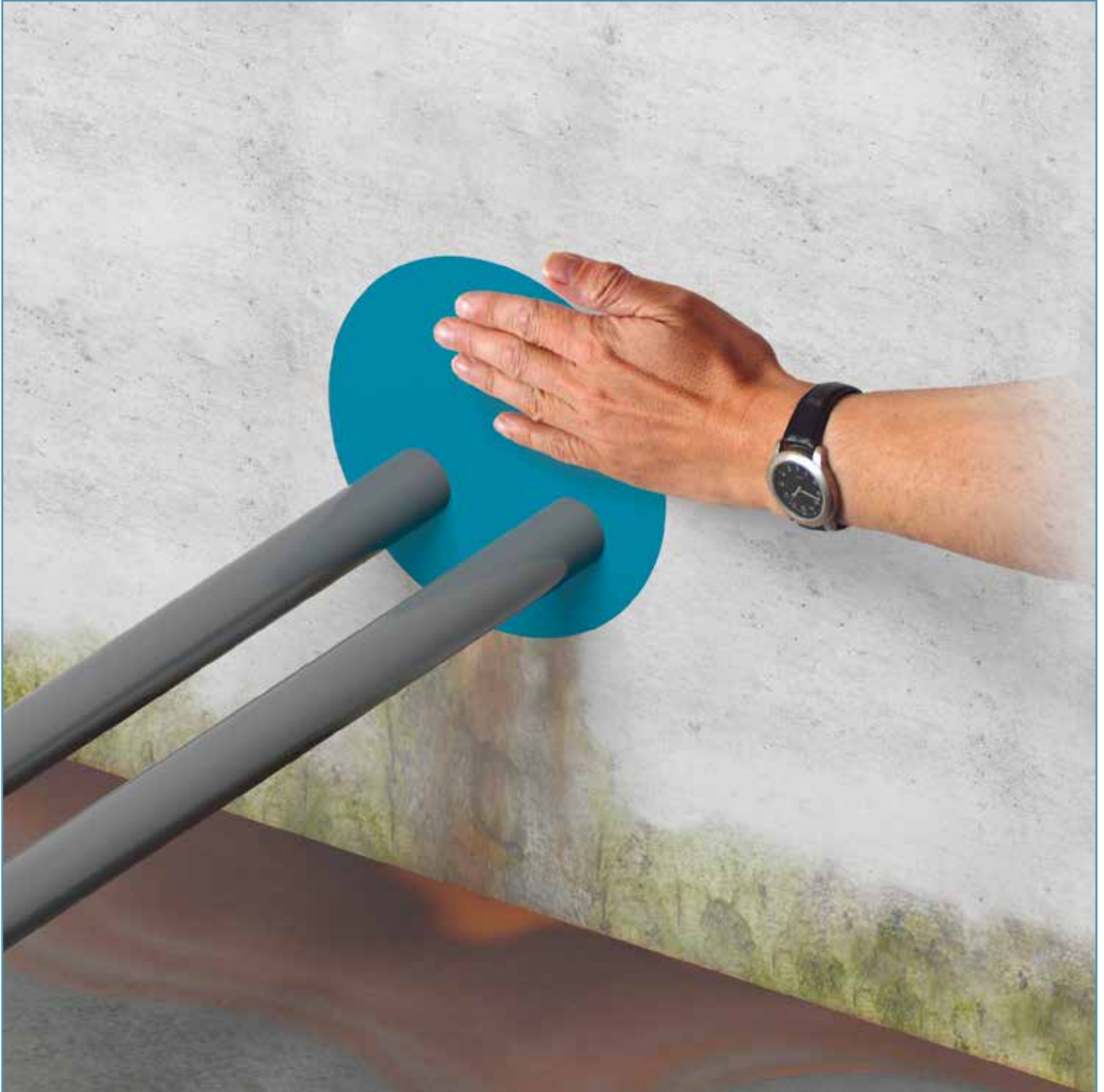
INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



The cloth is then used to press down the sealant layer flush with the wall. It is of utmost importance to ensure that the sealant is compressed very tightly.

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

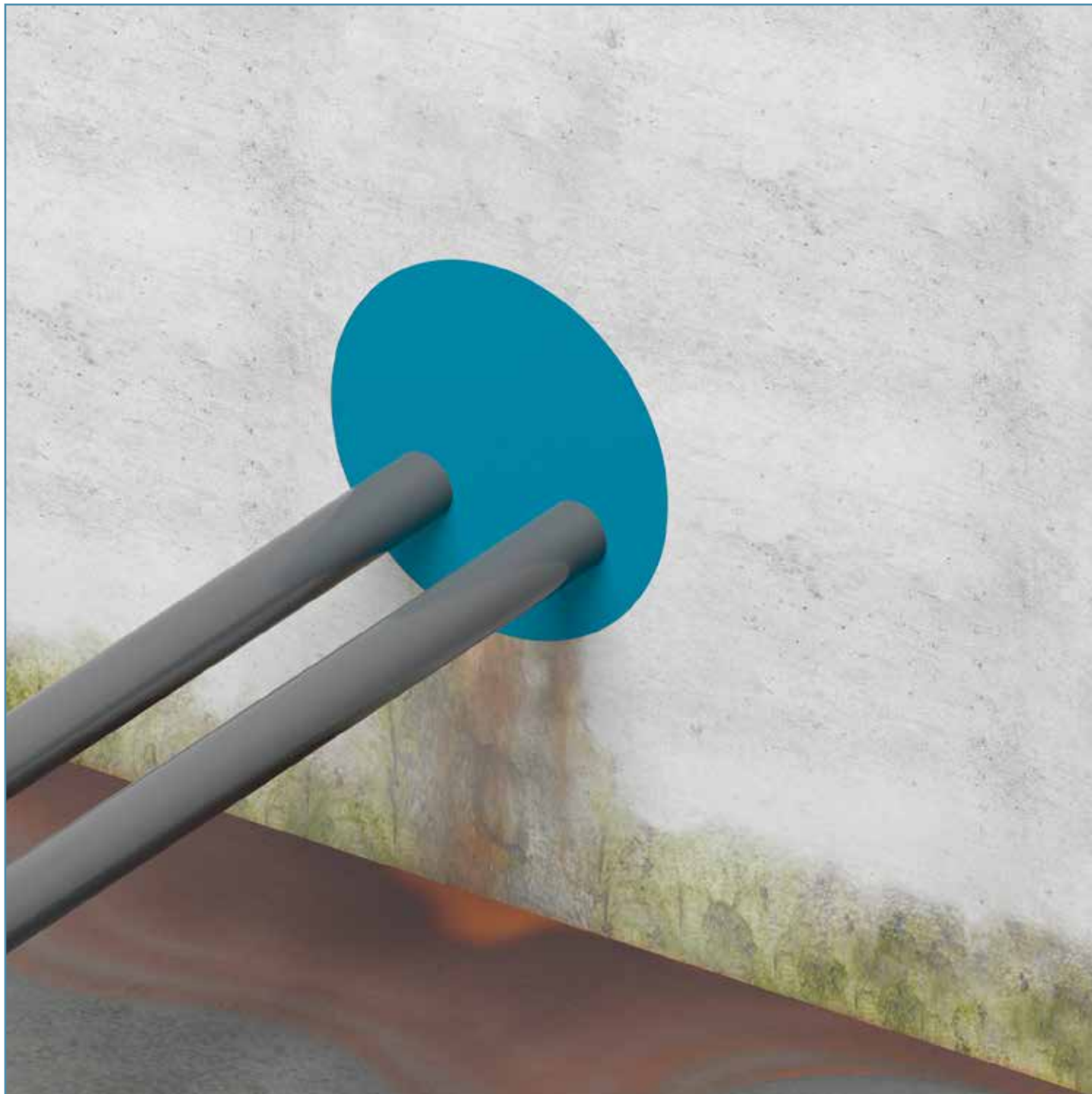
INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



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. Note: this should only be a smoothing procedure. Do not pack or compress the sealant further when using soap water.

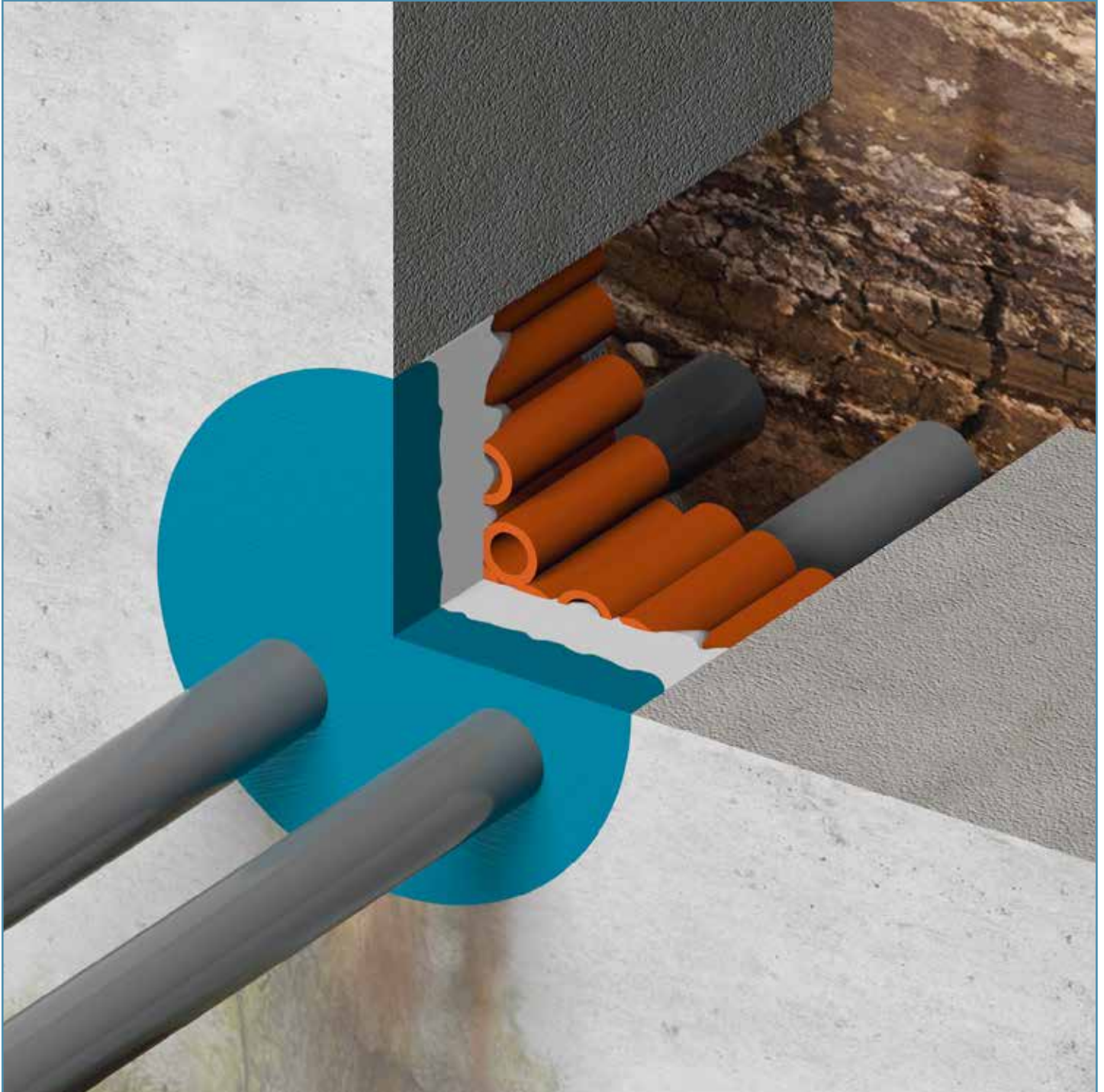
People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



The NOFIRNO® sealant is water repellent so that water will drip off. Neat smoothing is helpful in this respect. The NOFIRNO® sealant is also seawater, UV, ozone and weathering resistant and offers a durability of decades.

INSTALLATION INSTRUCTIONS AQUASTOP® - NOFIRNO® SEALING SYSTEM FOR LEAKING CONDUITS



To obtain optimum adhesion during the curing process of the sealant, all the cables should be tightly fixed at both sides of the transit, as close as possible to the transit, and immediately after finishing the transit. Movement of the cables during the curing process will impair the adhesion process to the cable sheathings.

Note: time needed for curing of the sealant is dependent on air humidity in combination with the environmental temperature. It is advisable to place a sticker near the finished transit, stating that the transit has been recently installed, and should not be touched or damaged.

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



#CONDUCTION



CONTROFIL
MULTI-CABLE TRANSITS

CET-A-SIL

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®

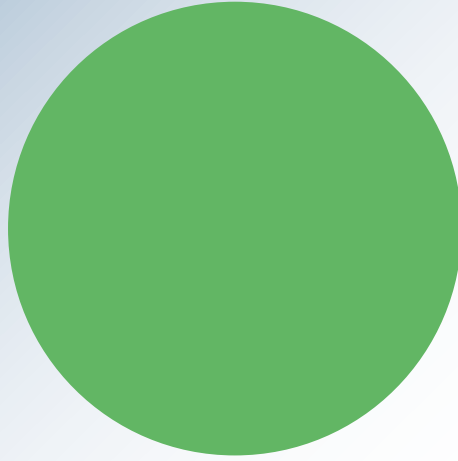
- System technology based on RISE®.
- Even easier installation.
- Even higher pressure ratings.
- Jet Fire tested for harshest applications.
- A-O and H-O up to A-60 and H-I20.
- **Breakthrough - bundled cable sets approved.**
- The system of choice for highest fire ratings and harshest environment!

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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