

INSTALLATION INSTRUCTIONS NOFIRNO® BLIND TRANSITS

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 9001:2015 QUALITY SYSTEM
MORE THAN 40 YEARS R&D ON QUALITY, DURABILITY & FUNCTIONALITY**

Beele campus 45.000 m²
building phase 1 starts early 2017



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Research & Development

: BEELE Engineering BV, Aalten, the Netherlands.

Note

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

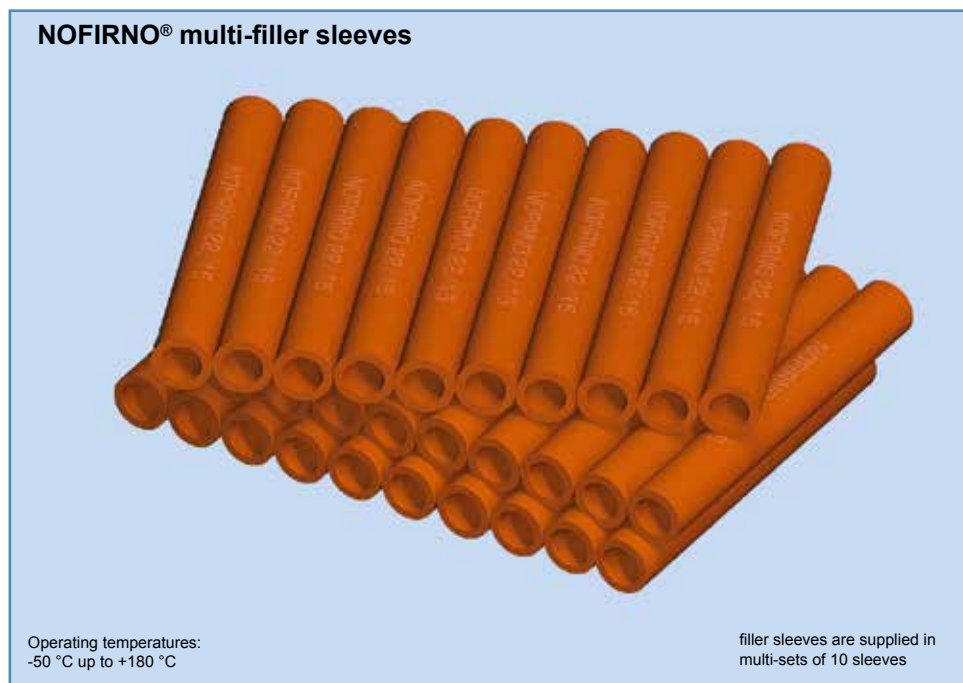
®

: ACTIFOAM, AQUASTOP, BEEBLOCK, BEEBOND, BEELE, BEELE WE CARE, BEESEAL, BEMITITE, BLOCKSTACK, CONDUCTON, CONTROFIL, CRUSHER, CRUSHNOF, CSD, CSD THE SIMPLE SEAL SYSTEM, DRIFIL, DYNATITE, FIRAQUA, FIREQUAKE, FIRSTO, FISSIC, FIWA, GLANDMOD, LEAXEAL, MULTI-ALL-MIX, NOFIRNO, profiles NOFIRNO gaskets, RAPID TRANSIT SYSTEM, REVITITE, RESITITE, RIACNOF, RISE, RISWAT, SEALING VALLEY, S, SLIPSIL, flanges SLIPSIL plugs, ULEPSI, XATTAX and YFESTOS are registered trade marks of BEELE Engineering.

brochure code

: installation NOFIRNO blind

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



NOFIRNO® multi-filler sleeve	sleeve length	article number	
22/15 multi	140	80.5072	
22/15 multi	160	80.5073	
22/15 multi	210	80.5074	all dimensions in mm

PRODUCT INFORMATION SEALANT

01) colour	red brown
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).

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 50.0102



INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



The transit frames might be welded into the partition long before sealing will start. For this reason, the condition of the inside of the frame has to be checked when starting installation. Before insertion of the NOFIRNO® filler sleeves, the inside of the transit frames has to be cleaned, and any dirt, oil, grease and other residues or corrosion should be removed from the inside of the transit frame.

Note: for fire resistant penetrations the max. size of the transit frame is 600x300 mm or equivalent of 1800 cm².

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



With a steel brush or by blasting, the corroded inner surface of the transit frame should be treated to remove these corroded spots. The excellent adhesive properties of the sealing system will be diminished by corroded surfaces.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



The NOFIRNO® blind sealing system is composed of NOFIRNO® filler sleeves and layers of NOFIRNO® sealant. The sleeves are the backing on which the sealant is going to be applied. A 20 mm thick layer of sealant is applied at both sides of the penetration. Before welding the transit frame into the partition, check if the transit frame is deep enough to be in line with the certification of the sealing system. The NOFIRNO® filler sleeves are 40 mm shorter in length than the depth of the transit frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



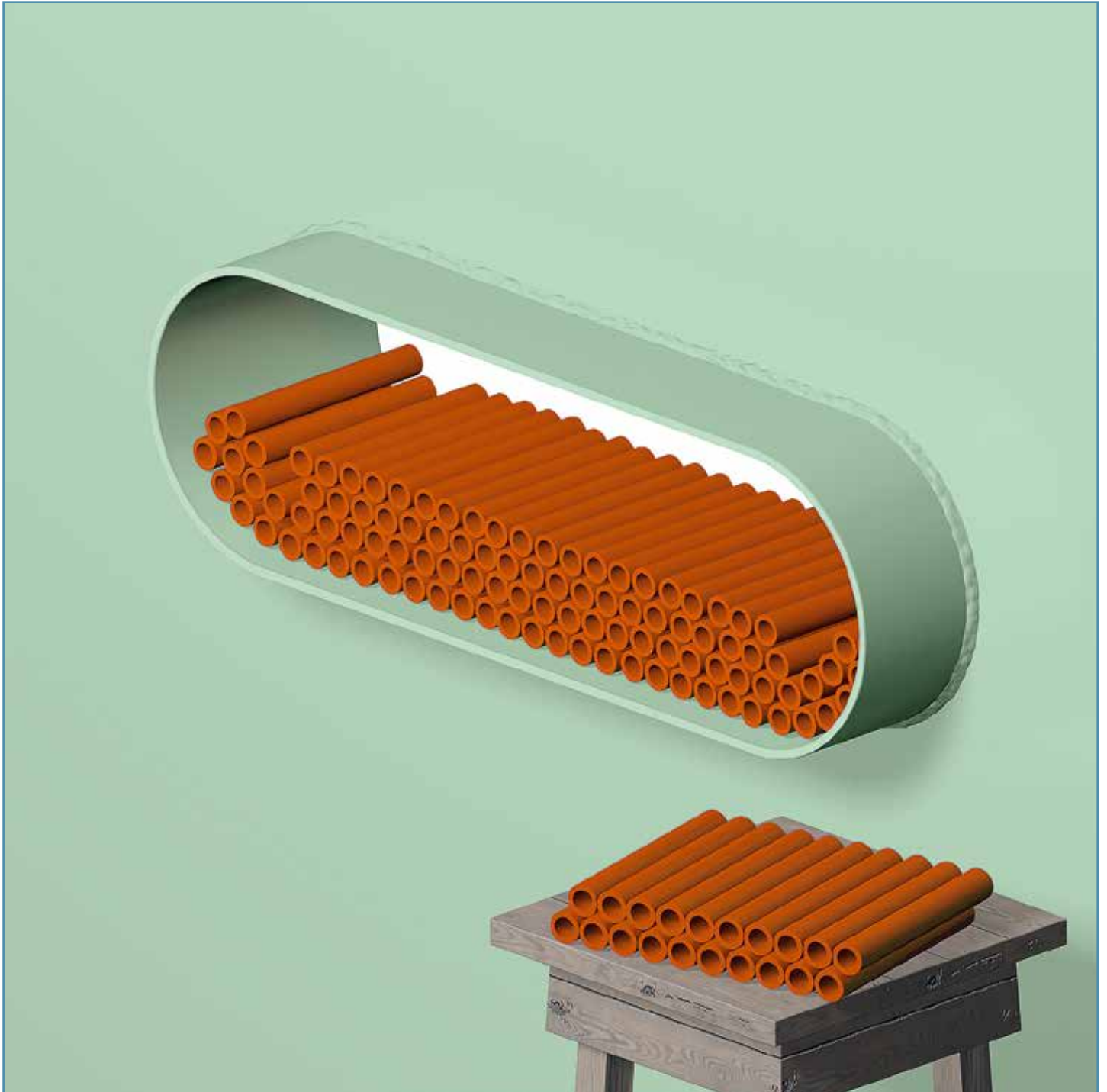
Clean the inside of the transit frames thoroughly and remove any dirt, oil, grease and other residues or corrosion from the inside of the transit frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



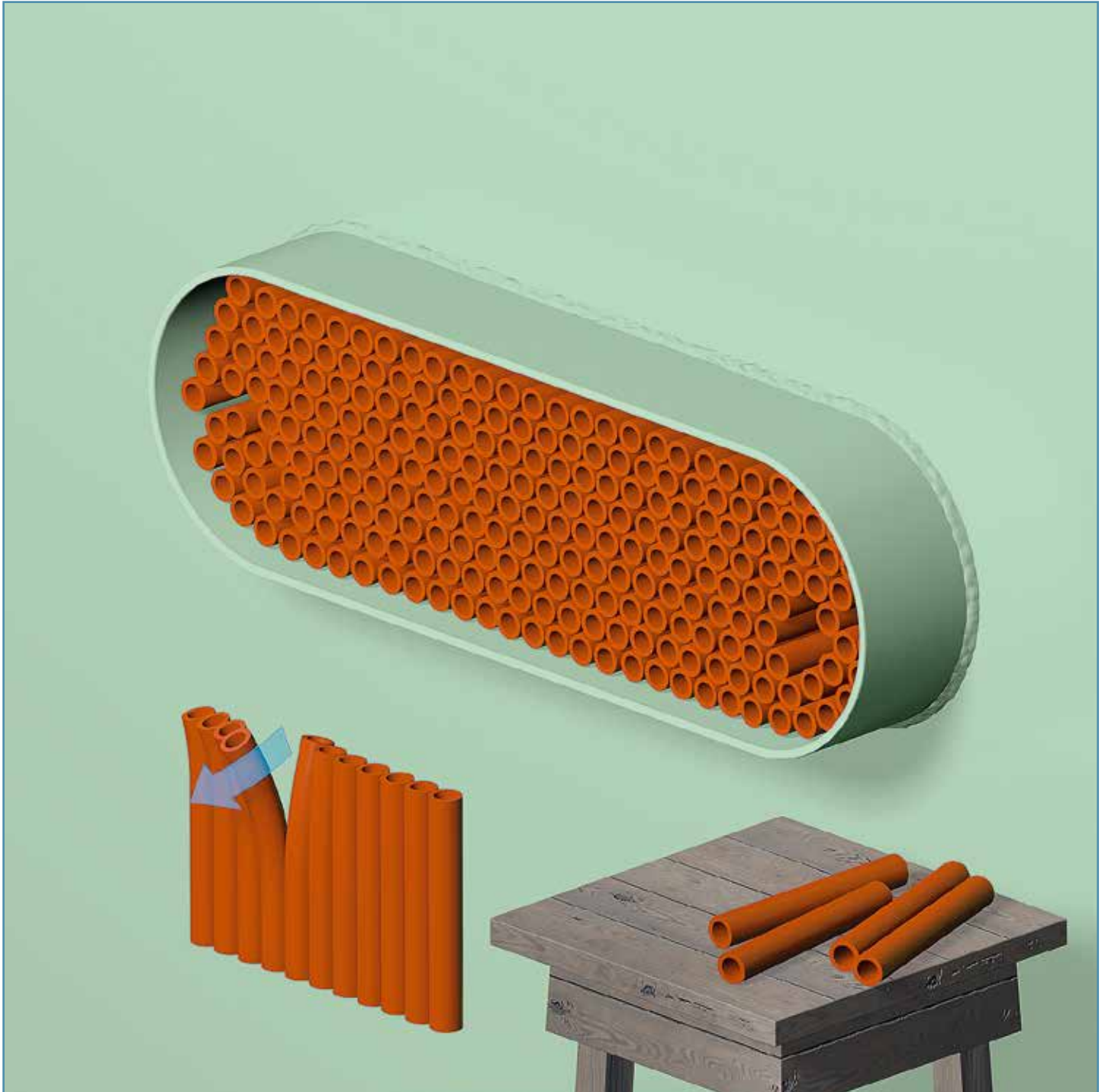
The space inside the transit frame is filled with NOFIRNO® filler sleeves type 22/15. For ease of filling, the NOFIRNO® filler sleeves are supplied non-split. Multi-filler sleeves (set of 10) are preferred for filling larger spaces.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



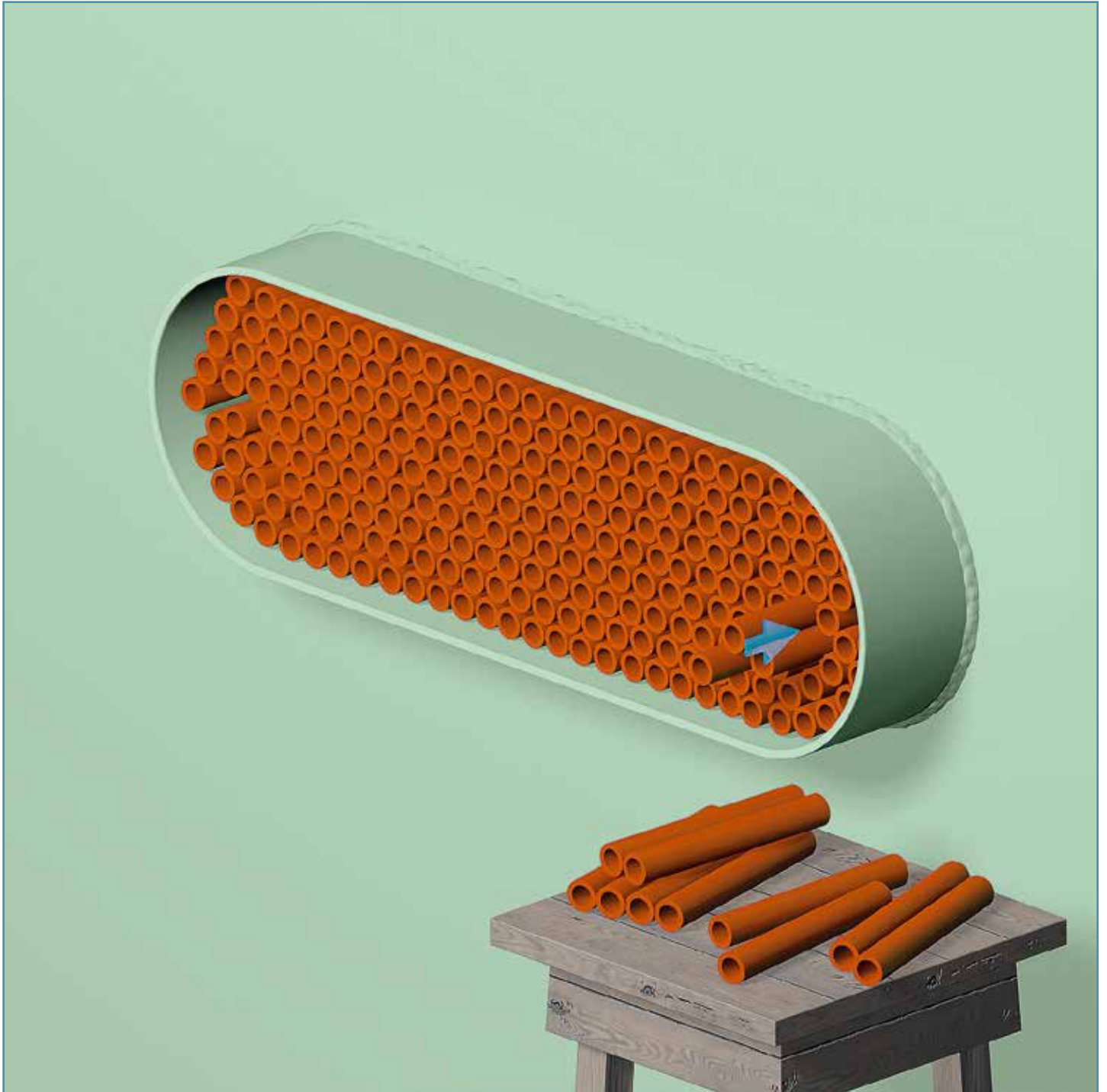
Filling the conduit frame with NOFIRNO® multi-set sleeves starts with stacking the multi-set on top of each other and to place rolled-up sets of multi-sleeves in the corners.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



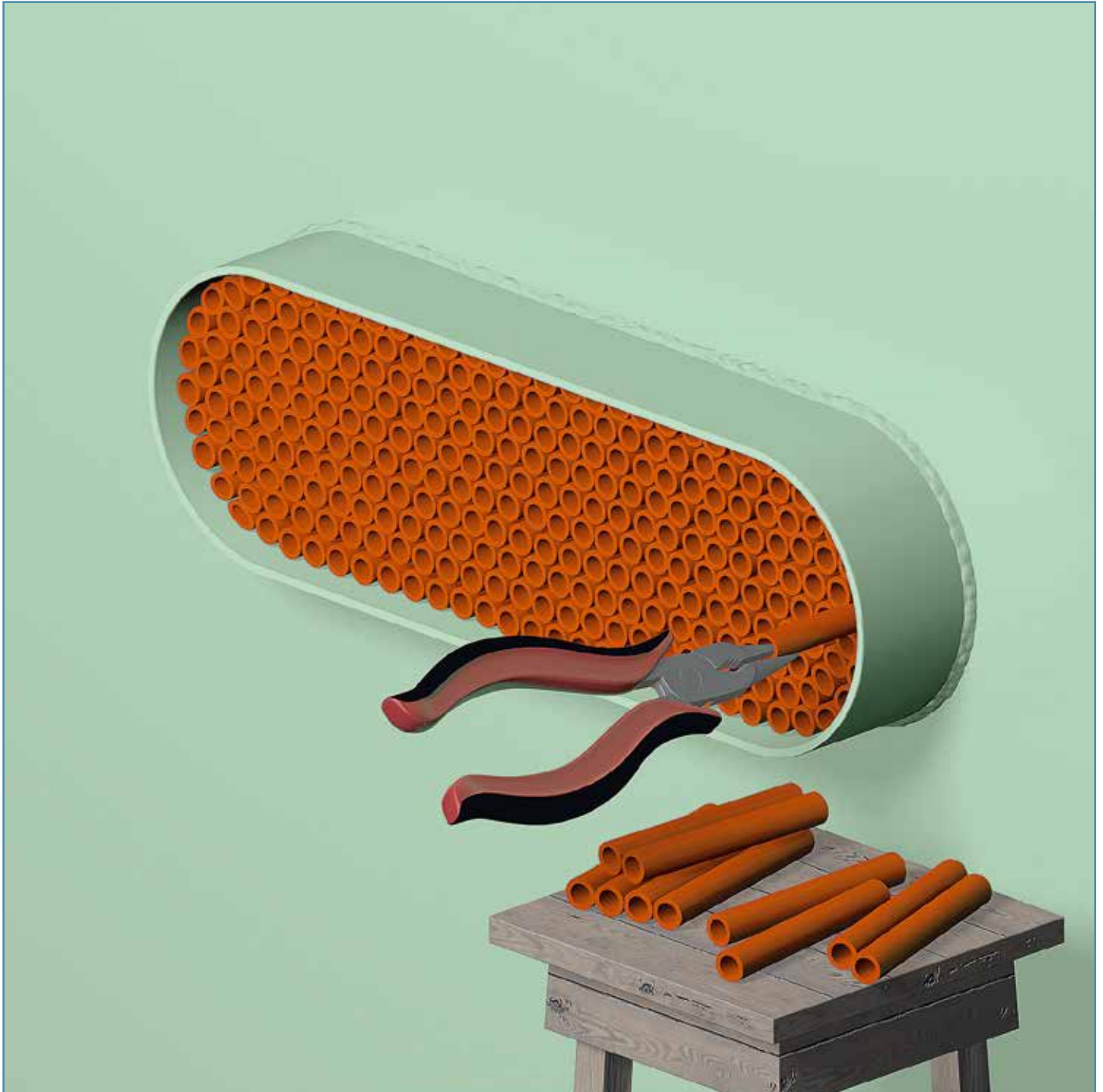
The smaller openings are now filled with parts of the sets of multi-filler sleeves. To tear off sleeves from the multi-set, the procedure is to do this backwards/forwards and not sideways. This is because of the strength of the intermediate rubber parts.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



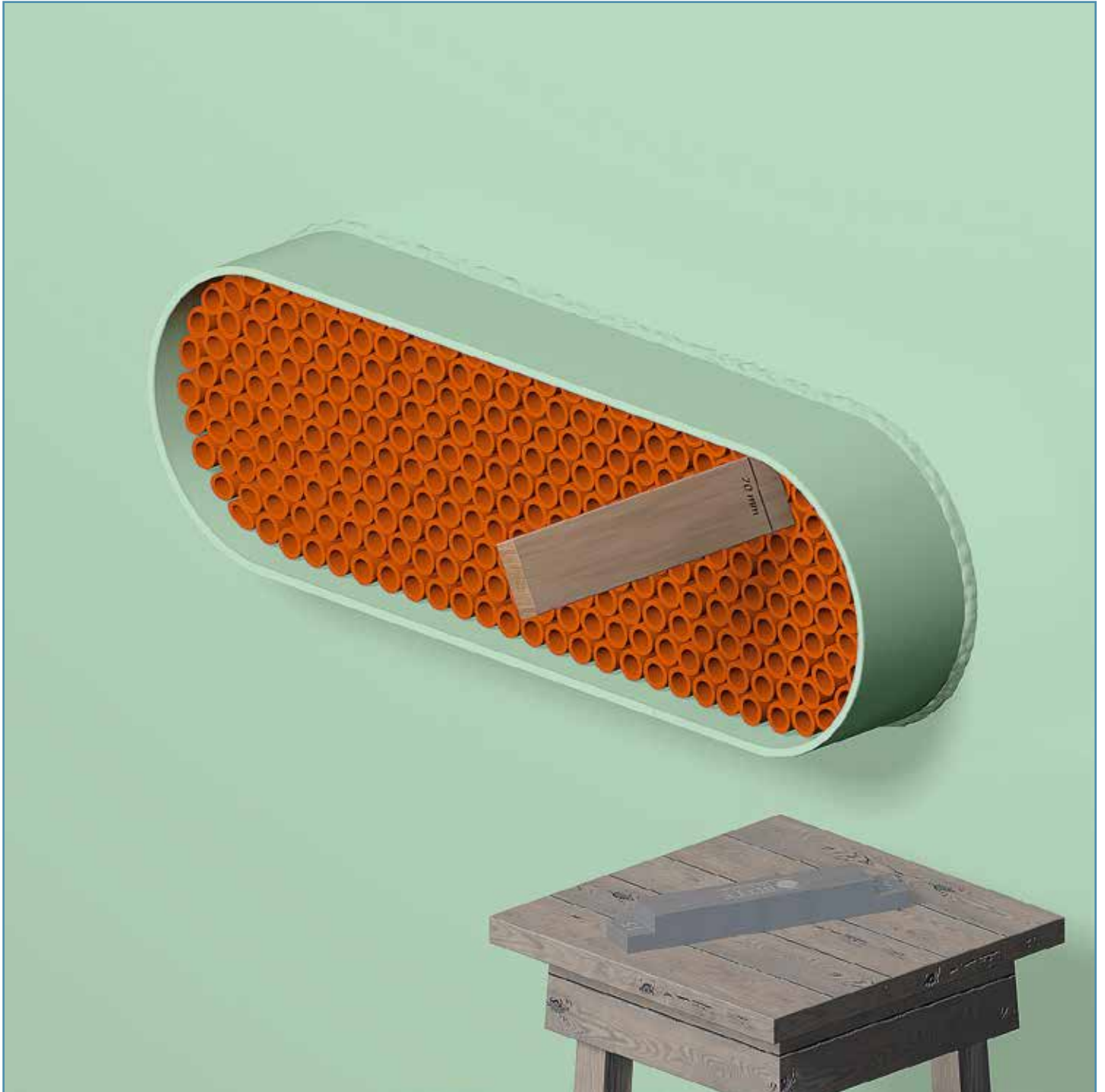
Single filler sleeves are used to fill the remaining small spaces in the set of fillers. Filling these spaces is of utmost importance to obtain a very tight fit of the sleeves inside the conduit frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



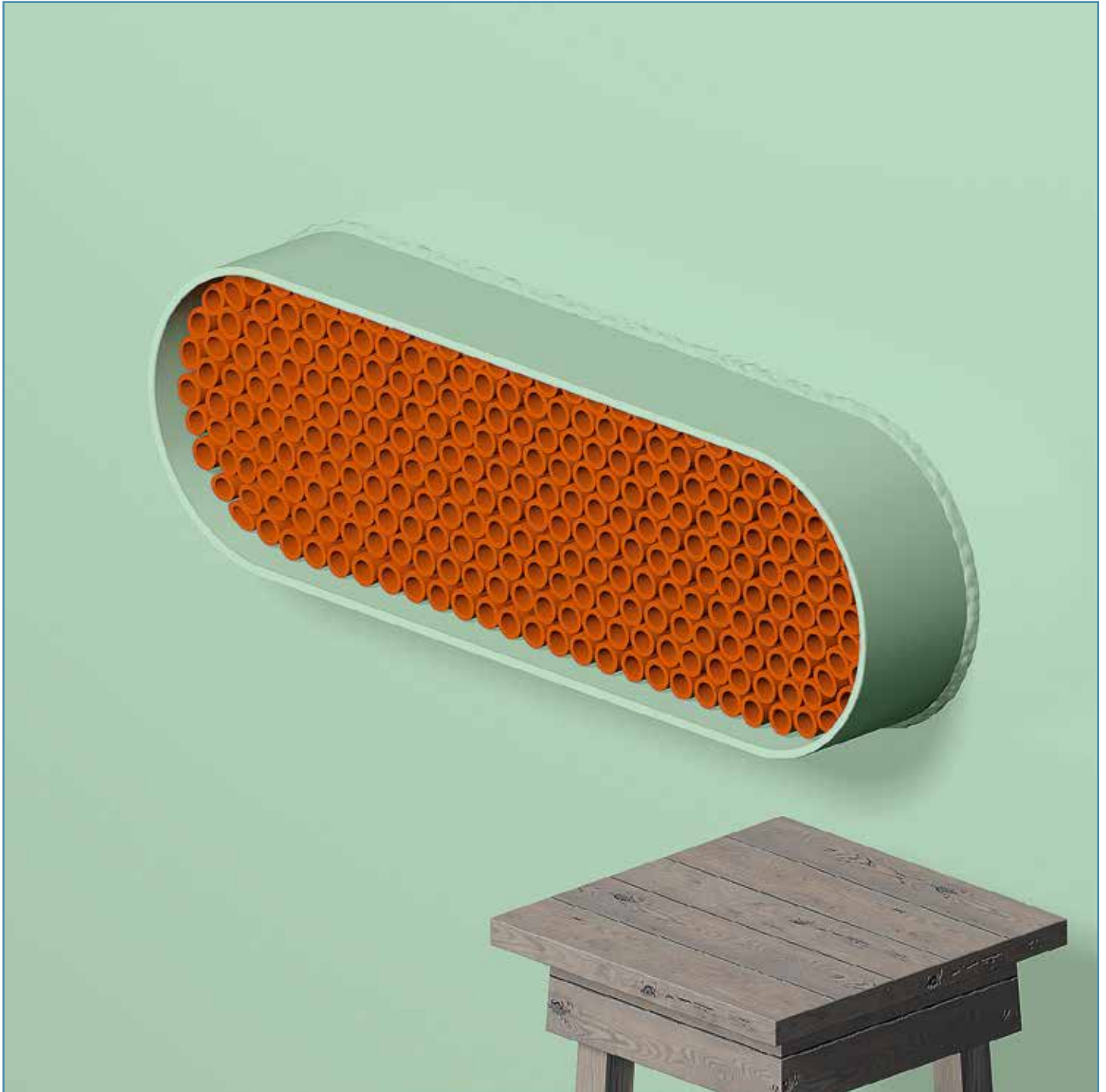
To create a very tight fit of the whole set of fillers, the sleeves can be inserted and adjusted with the help of a flat nose pliers at the final stage.

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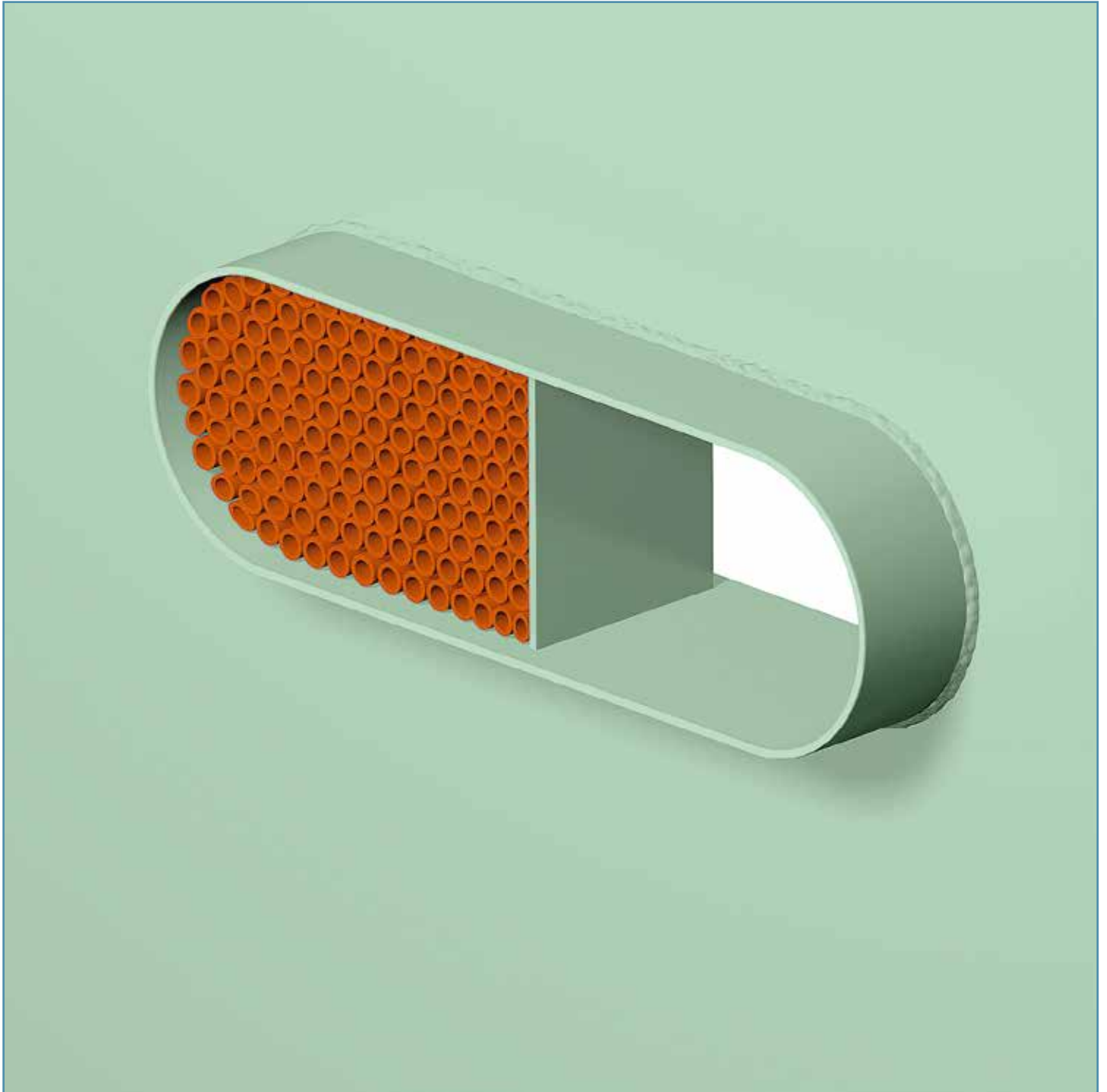
With a piece of wood marked with the required 20 mm depth, or with the BEELE Engineering developed aluminum adjuster, the set of fillers can be adjusted to the required 20 mm recess inside the transit. Use a plastic hammer to adjust the set of filler sleeves with the NOFIRNO® adjuster.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



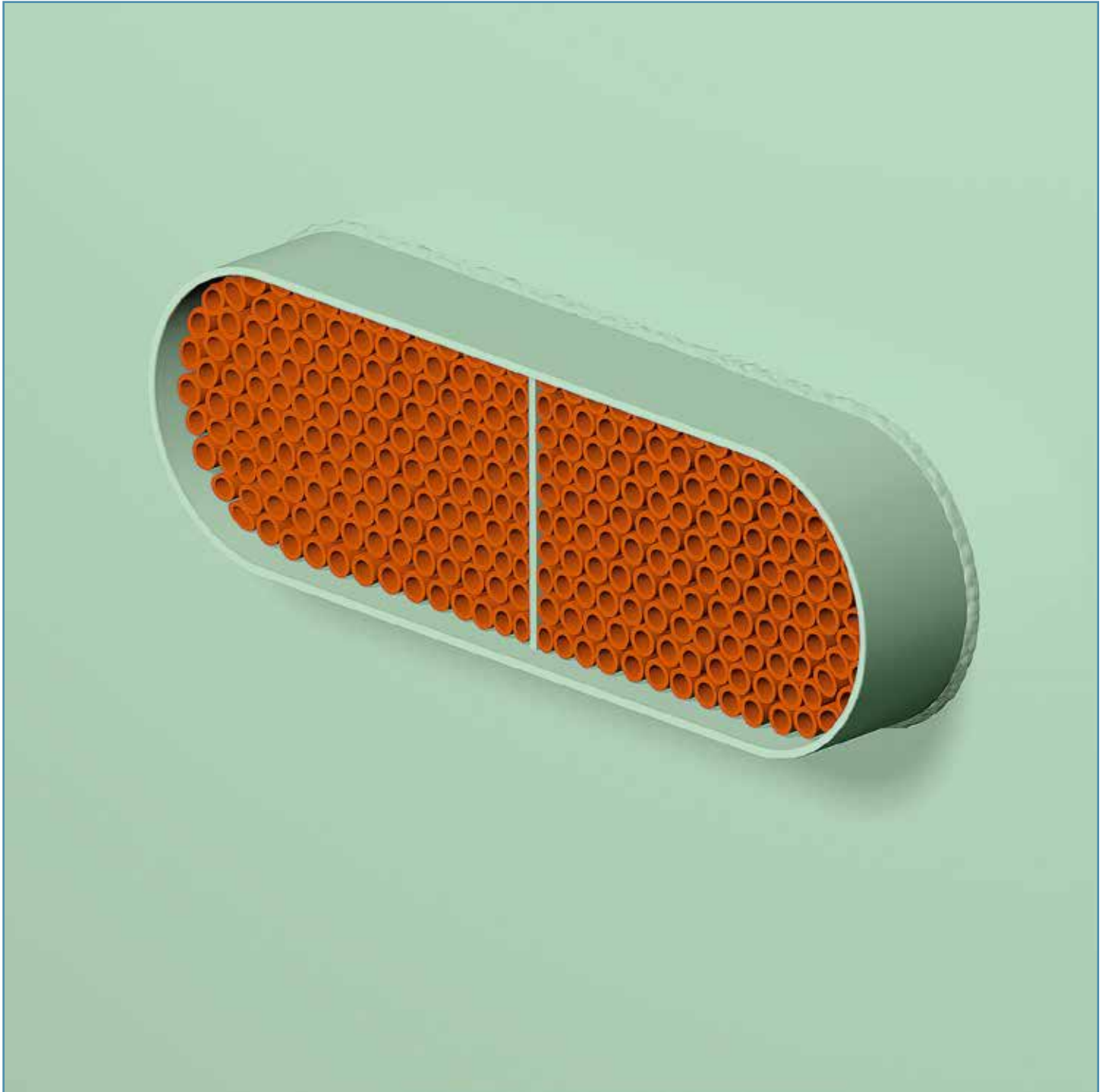
Before applying the NOFIRNO® sealant, it is advisable to perform a final check on the packing of the filler sleeves. A tight fit of the whole set of sleeves in the required ratio is not only vital for the mechanical stability of the sealing system, but also for the fire stopping properties. A final check should therefore be a part of quality control.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



For larger blind penetrations, partitions should be placed inside the larger transit frames to divide the frame in smaller sections. This with a view that under fire or pressure load the sealing system has to carry its own weight.
The partitions should be placed 5-10 mm recessed inside the conduit frame. In this way corrosion on the surface will be prevented.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



The clamping properties of the sets of filler sleeves is optimized by dividing the conduit frame in sections.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



Final smoke, gas and watertight sealing of the NOFIRNO® blind cable transits is achieved with the application of NOFIRNO® sealant. NOFIRNO® sealant has proven excellent performance with regard to mechanical and fire resistance requirements. The NOFIRNO® sealing system has been successfully exposed to severe pressure, shock and vibration tests.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



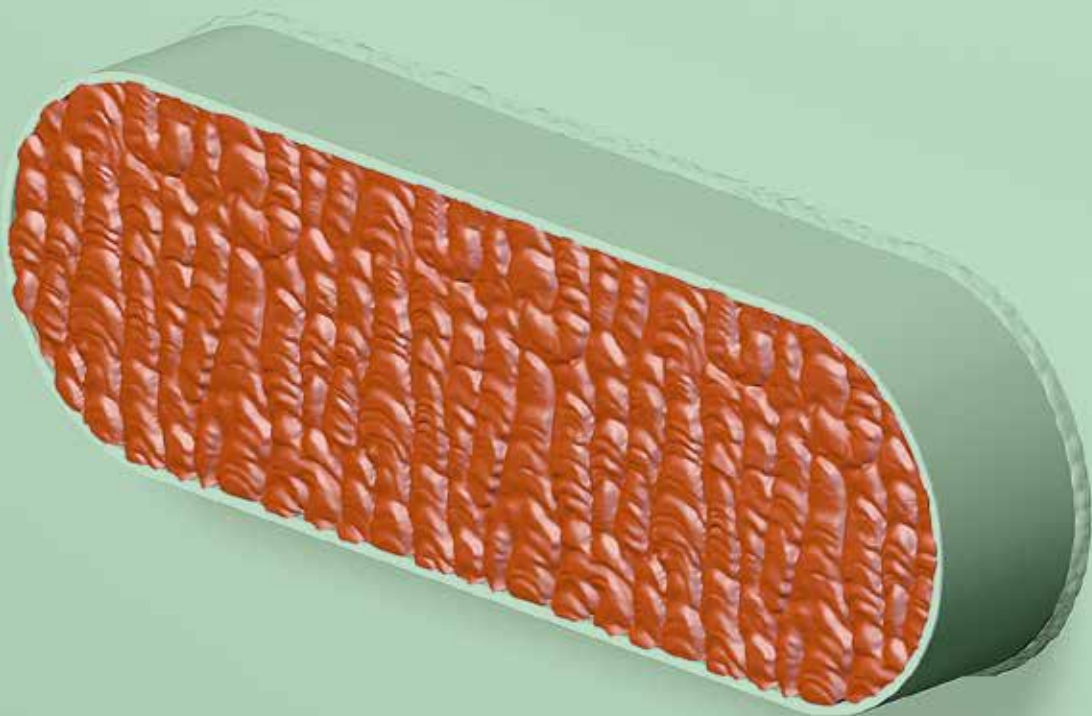
Cut the injection nozzles of the cartridges in an angled way to create a medium sized dispersing opening. Furthermore, it is advisable to use professional sealant guns. Hand fatigue is prevented and an optimum flow of the sealant is obtained. For larger penetrations, electric or pneumatic dispensers should be used.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



A 20 mm thick layer of NOFIRNO® sealant is applied at each side of the NOFIRNO® blind transit. NOFIRNO® sealant has an engineered viscosity, preventing the sealant from sagging. People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



The blind transit should be overfilled with NOFIRNO® sealant, because sealant has to be pushed into the hollow NOFIRNO® (multi) filler sleeves during further finishing. This will contribute also to obtain higher mechanical stability and tightness ratings.

Skin formation of the sealant takes place after ca. 10-15 minutes. In case of larger transits, do not apply more sealant than can be finished within this time-frame.

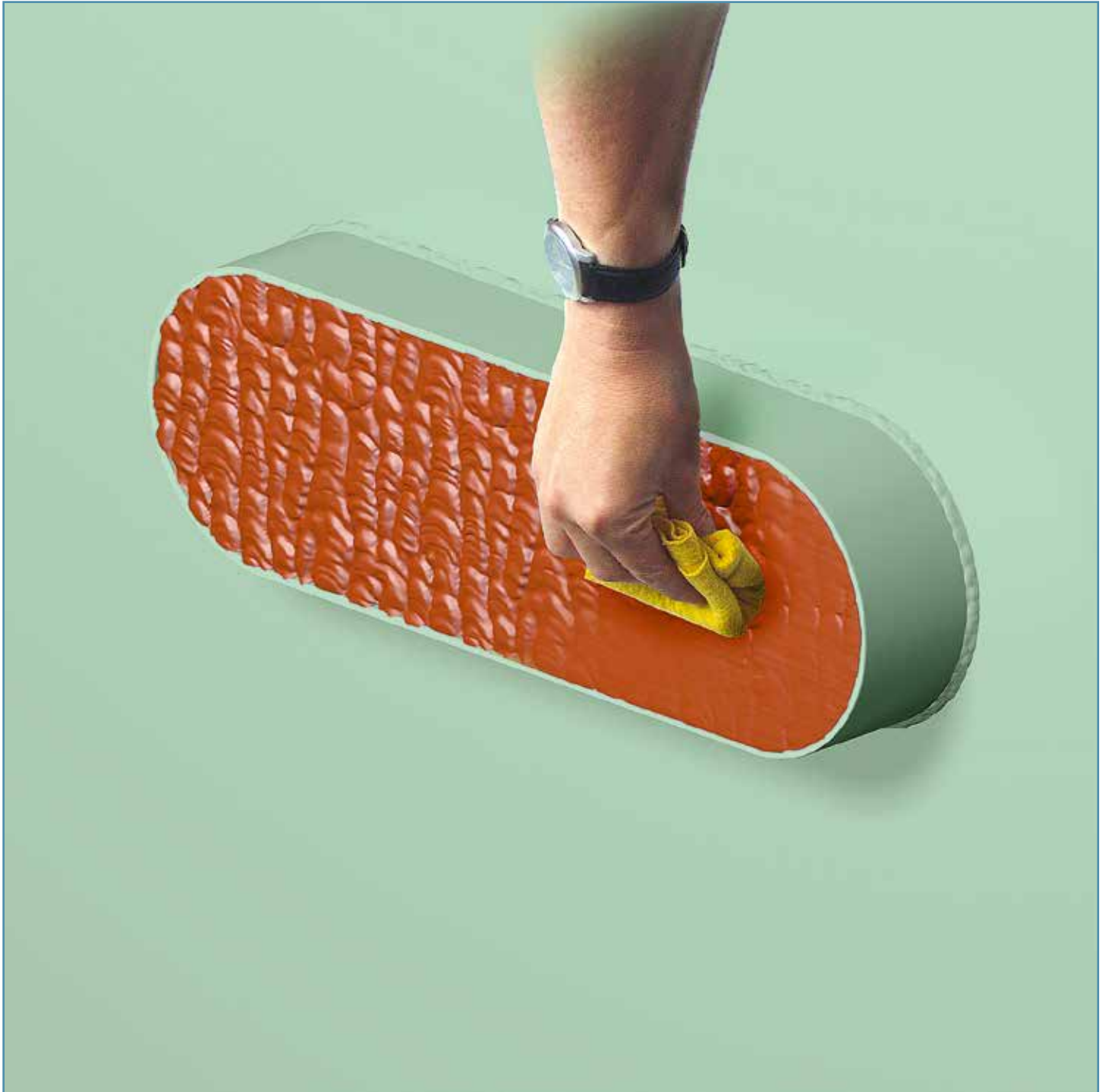
INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



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 FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



The cloth is then used to press down the sealant layer flush with the end of the transit frame. It is of utmost importance to ensure that the sealant is compressed very tightly so that the sealant is compressed into all empty spaces of the NOFIRNO® sleeve set, including partially into the hollow filler sleeves. The larger the adhesive surfaces of the sealant, the higher the performance of the system.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



Due to the rapid skin formation of the sealant, smoothing should take place directly after compression of the sealant layer. As soon as skin formation takes place, a very neat smoothing of the sealant layer is not possible anymore.

Note: 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 for decades.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



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.

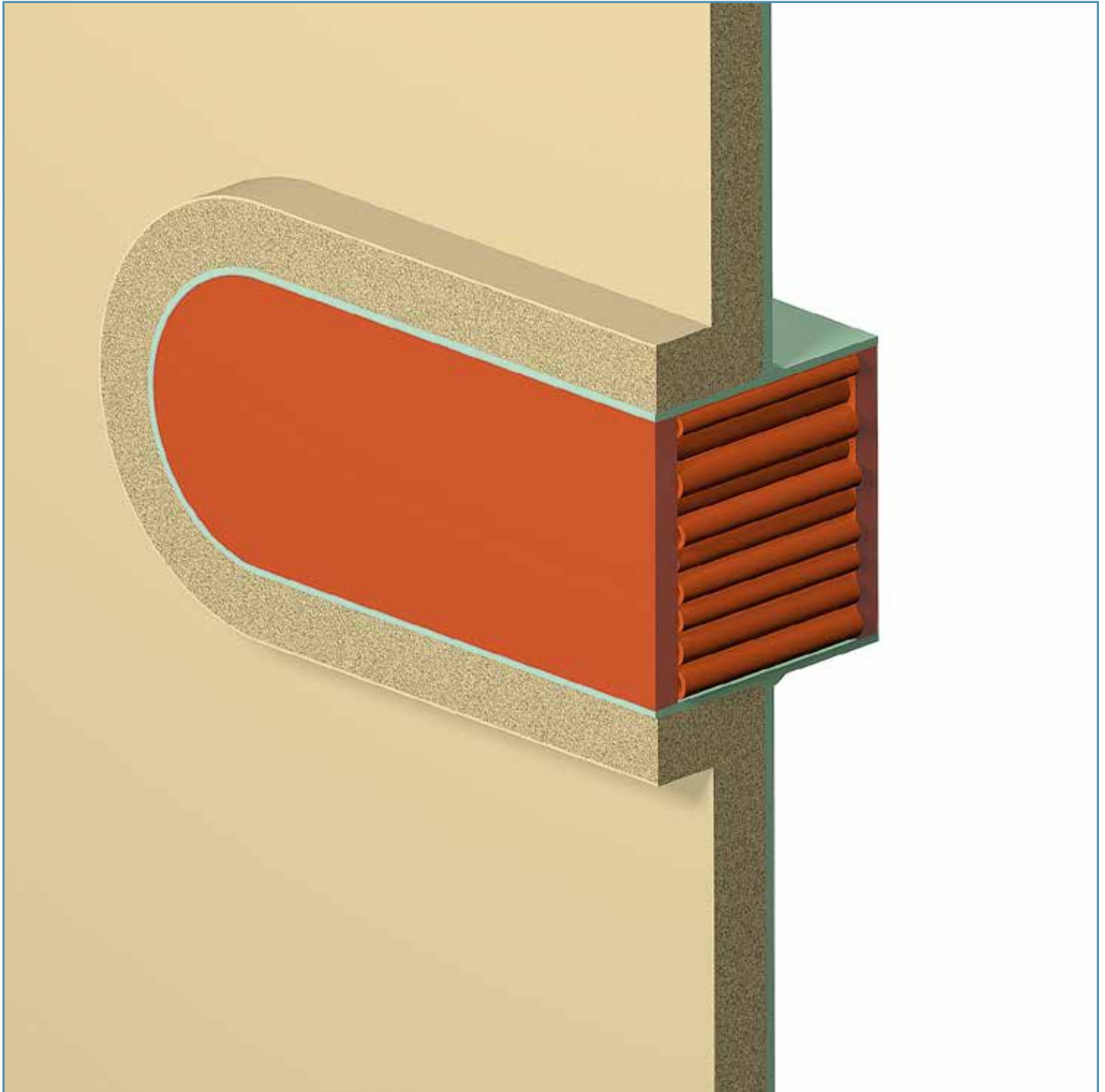
INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



The NOFIRNO rubber grade of the sleeves 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. The NOFIRNO® sealant stays flexible at temperatures of -50 °C, allowing application in arctic environments.

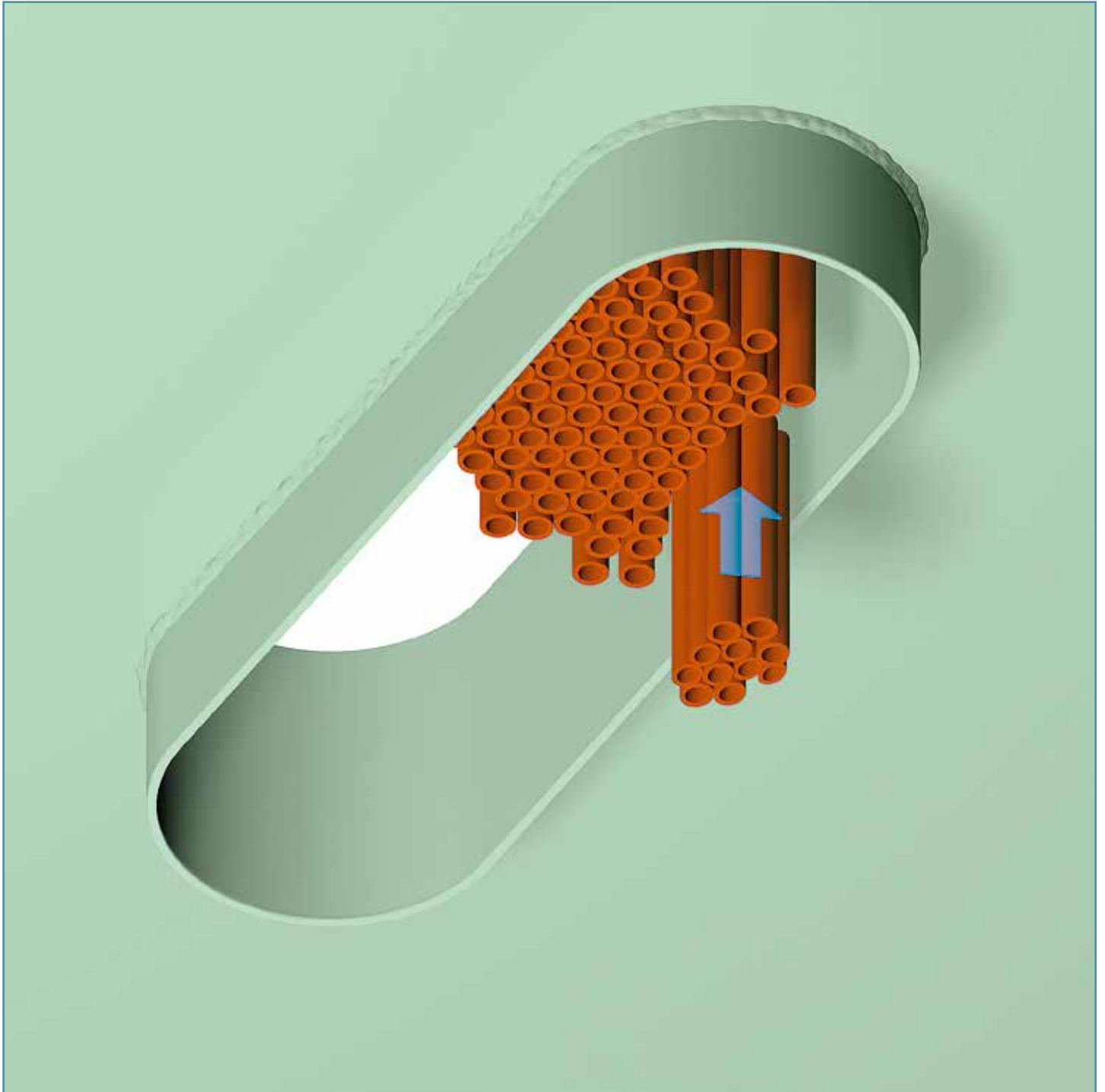
The NOFIRNO® blind transits have excellent resistance to seawater, UV, ozone and weather. Based on the use of the high tech silicone composition of the NOFIRNO® sealant and rubber, the system offers excellent durability.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM



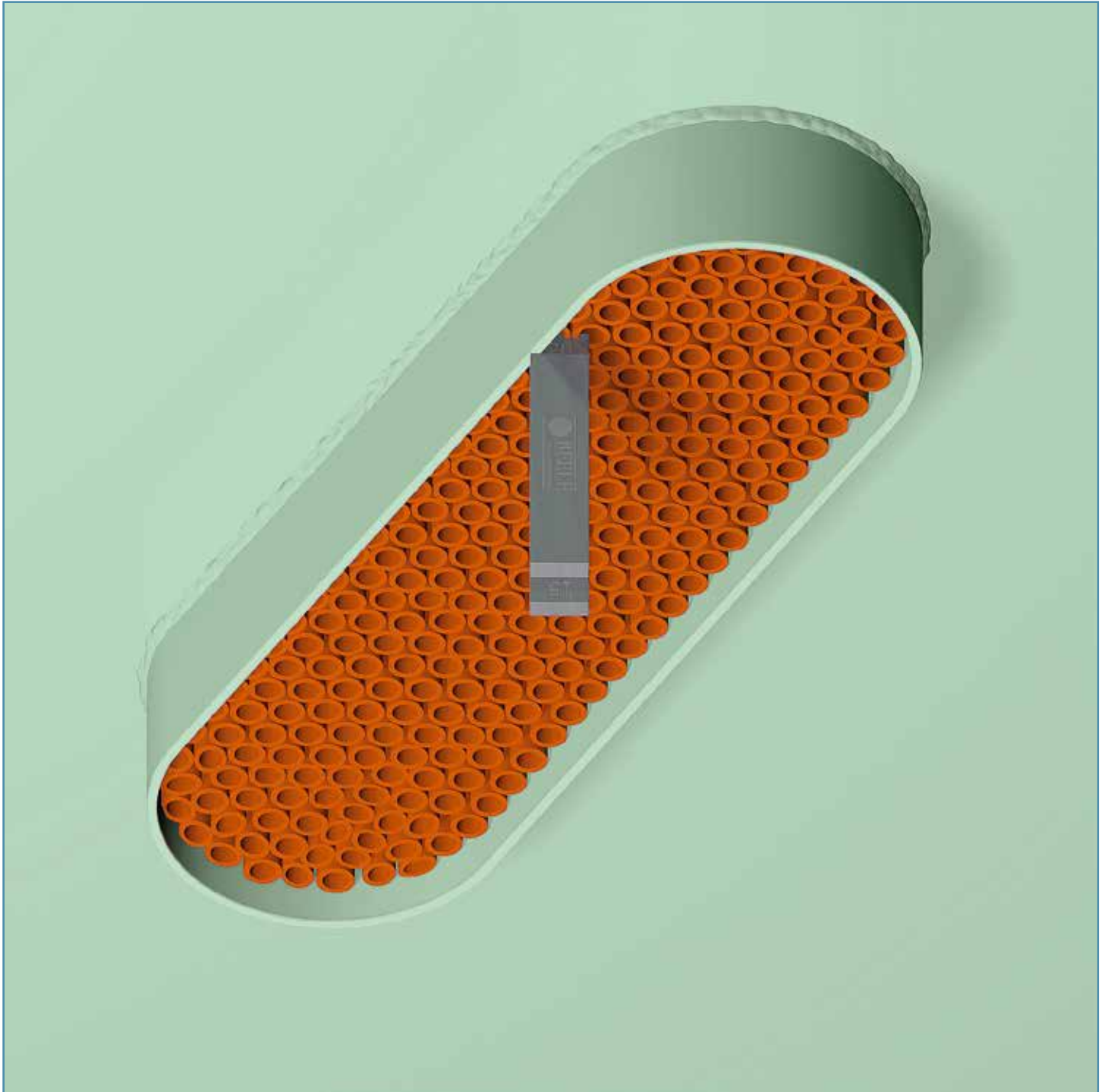
For A-class penetrations (which are insulated), the NOFIRNO® blind transit frame needs to be insulated only at the insulated side of the bulkhead. No extra insulation needed in front of the transit.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM IN DECKS



By making use of the NOFIRNO® multi-filler sleeves, sets and bundles can be made to ensure tight fitting inside the transit. Inserting fitting sets or bundles of multi-sleeves will insure that sleeves won't fall out of the conduit frame.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM IN DECKS



With the Beele® adjuster or a marked piece of wood, the set of fillers is adjusted inside the transit. The NOFIRNO® 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 highest fire rated applications as well. NOFIRNO® sleeves and sealant stay flexible at temperatures of -50 °C, allowing application in arctic environments and can be exposed to temperatures up to +180 °C as well.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM IN DECKS

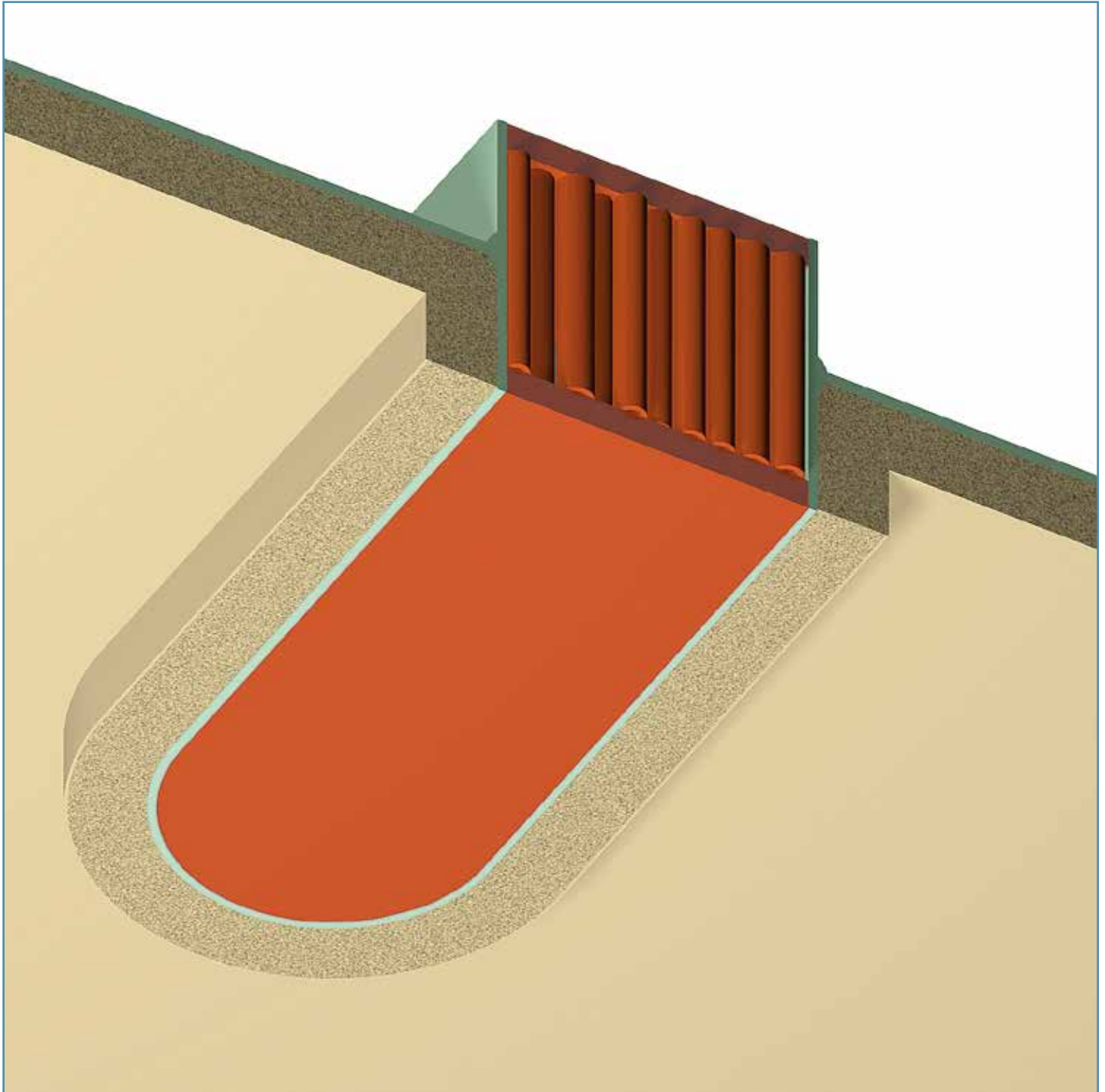


The NOFIRNO® sealant can be applied overhead for deck/floor transits without dripping or sagging. After application of the sealant, the NOFIRNO® sealant is pressed tightly with a cloth sprayed with water. This prevents the sealant from sticking to the cloth.

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.

INSTALLATION INSTRUCTIONS FOR NOFIRNO® BLIND TRANSIT SEALING SYSTEM IN DECKS



For A-class penetrations (which are insulated), the NOFIRNO® blind transit frame needs to be insulated only at the at the lower side of the deck.

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®

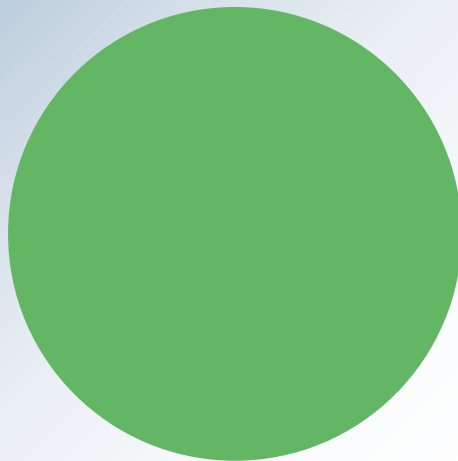
- System technology based on RISE®.
- Even easier installation.
- Even higher pressure ratings.
- Jet Fire tested for harshest applications.
- A-O and H-O up to A-60 and H-I20.
- **Breakthrough - bundled cable sets approved.**
- The system of choice for highest fire ratings and harshest environment!

CONTROFIL®

- Newest technology on 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.



WE CARE

**BEELE ENGINEERING:
A COMPANY DEDICATED TO SAFETY
FOR OVER 40 YEARS**



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