INSTALLATION INSTRUCTIONS
NOFIRNO®
(MULTI-) CABLE TRANSITS

TECHNOLOGY DEVELOPED BY BEELE ENGINEERING BV
COMPOUNDING AND PRODUCTION IN THE ULTRA-MODERN
MANUFACTURING FACILITIES IN AALTEI/’T HE NETHERLANDS
UNDER A STRINGENT ISO 9001:2008 QUALITY SYSTEM
MORE THAN 40 YEARS R&D ON QUALITY, DURABILITY & FUNCTIONALITY
Beele campus 45,000 m²
building phase 1 starts autumn 2016

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

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CONDUCTON, CONTROFIL, CRUSHER, CRUSHNOF, CSD, CSD THE SIMPLE SEAL SYSTEM, DRIFIL,
DYNATITE, FIRAQUA, FIREQUAKE, FIRSTO, FISSIC, FIWA, LEAXEAL, MULTI-ALL-MIX, NOFIRNO,
profiles NOFIRNO gaskets, RAPID TRANSIT SYSTEM, RIACONOF, RISE, RISWAT, Sealing Valley, S, SLIPSIL,
flanges SLIPSIL plugs, ULEPSI and YFESTOS are registered trade marks of BEELE Engineering.

brochure code : installation NOFIRNO cable
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.
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.

### PRODUCT INFORMATION SEALANT

<table>
<thead>
<tr>
<th>No.</th>
<th>Information</th>
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<tbody>
<tr>
<td>01</td>
<td>Colour</td>
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<td>Specific gravity</td>
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<td>03</td>
<td>Curing of top layer</td>
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<td>Service temperature</td>
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<td>05</td>
<td>Tensile strength</td>
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<td>06</td>
<td>Elongation at break</td>
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<tr>
<td>07</td>
<td>Hardness</td>
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<tr>
<td>08</td>
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<td>Ageing</td>
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<td>11</td>
<td>Supplied in</td>
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<tr>
<td>12</td>
<td>Storage</td>
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<tr>
<td>13</td>
<td>Storage life</td>
</tr>
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</table>

- **colour**: red brown
- **specific gravity**: 1.40 ± 0.03 g/cm³
- **curing of top layer**: 0.5 - 1 hour depending on temperature and air humidity
- **service temperature**: -50 °C up to +180 °C
- **tensile strength**: 1.5 MPa
- **elongation at break**: 200%
- **hardness**: 45 Shore A
- **elastic deformation**: approx. 50%
- **resistance**: UV, Ozone, arctic conditions
- **ageing**: more than 20 years
- **supplied in**: 310 ml cartridges
- **storage**: to be stored cool and dry
  - min/max temperature = +5/+30 °C
- **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

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<table>
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<td>50.0105</td>
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<tr>
<td>Blue Grey</td>
<td>50.0106</td>
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*For additional quantities, please contact the supplier.*
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 FOR NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM

#### NOFIRNO® CABLE INSERT SLEEVES

<table>
<thead>
<tr>
<th>NOFIRNO® sleeve</th>
<th>cable diameter</th>
<th>sleeve length</th>
<th>article number</th>
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<td>5 - 7</td>
<td>60</td>
<td>50.1000</td>
</tr>
<tr>
<td>14/8</td>
<td>7 - 9</td>
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<tr>
<td>16/10</td>
<td>9 - 11</td>
<td>60</td>
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</tr>
<tr>
<td>18/12</td>
<td>11 - 13</td>
<td>60</td>
<td>50.1003</td>
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<tr>
<td>20/14</td>
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<tr>
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<td>15 - 17</td>
<td>60</td>
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<td>25/20</td>
<td>17 - 19</td>
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<td>19 - 21</td>
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**Note:** All dimensions in mm.
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/forward and not sideways. This is because of the strength of the intermediate rubber parts.

Filler sleeves are not split lengthwise.

Operating temperatures:
-50 °C up to +180 °C
**NOFIRNO® multi-filler sleeves**

Filler sleeves are supplied non-split.

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

**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

**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

**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

**INSTALLATION INSTRUCTIONS FOR NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM**

- to be used for smaller conduit openings
- to be used for larger conduit openings

**SAFETY SEALS**

WE CARE
The tools needed for the installation are a steel brush, a tie-wrap cutter, a cutter for the nozzles of the sealant cartridges, flat nose pliers to adjust the set of fillers, a filler set adjuster, a tool for pressing the sealant layer in between the cables, cloths for cleaning and compression of the sealant layer, a cable cleaner, wet soap, a bucket with water and a professional sealant dispenser.
The transit frames might be welded into the partition long before cable pulling will start. For this reason, the condition of the inside of the frame has to be checked when starting cable pulling. Before insertion of the NOFIRNO® cable and 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.
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.
The NOFIRNO® sealing system is composed of cable and filler sleeves, and layers of sealant. The sleeves are the backing on which the sealant is going to be applied. A 15 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 (minimum 170 mm). The NOFIRNO® sleeves are 30 mm shorter in length than the depth of the transit frame. Note: for high rated watertight penetrations, the transit frame should be either of a limited size or partitions should be placed inside the larger transit frames to divide the frame in smaller sections.
The cables can be ducted through the transit frame in random order. It is most important that they are not pulled too tight so as not to hamper their separation when NOFIRNO® insert sleeves are inserted. 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. Tangled cable sets can make the installation of the sealing system extremely difficult. Ease of installation starts with organized pulling of the cables through the transit frames.
The cable tie-wrap has to be removed to create enough play in between the cables to enable cleaning of the cables and to allow insertion of the NOFIRNO® cable sleeves in a later stage.
For adequate cleaning purposes (which is an important step), the cables could be lifted with a band to create sufficient access to the inner wall of the transit frame.
Final sealing of the cable penetration may be quite some time after cable pulling. In such a situation, the status of the inside of the transits frames has to be checked again when starting with the installation of the 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.
Clean and dry the cables thoroughly in a similar way. Any moisture, dirt or oil residues will have a negative impact on the adhesive properties of the NOFIRNO® sealant to be applied after filling the transit frame.
The cables have to be cleaned at the spot where the sealant is applied in a later stage. This means 15 mm at both sides of the transit. If feasible, it is of course easier to clean the cables over their full length inside the transit.
Although the system is tested with the cables separated from the wall of the transit frame by the thickness of the NOFIRNO® cable sleeves, it is advisable to have a layer of NOFIRNO® multi-sleeves at the bottom of the transit frame prior to spread out the cables.
By lifting the cables the set(s) of NOFIRNO® multi-filler sleeves can be easily placed inside the transit frame.
The cables are then separated as far as possible on top of the NOFIRNO® multi-filler sleeves. The application of the NOFIRNO® multi-filler sleeves underneath the cables makes the application of the sealant for final finishing at the bottom of the transit not only easier but also more effective. NOFIRNO® multi-filler sleeves also prevent the cables from touching the steel frame, which can lead to shaving and damaging the cables.
NOFIRNO® cable insert sleeves are separators and not precise filling parts. Applying oversized sleeves around the cables will reduce the filling capacity of the sealing system. Due to the fact that the NOFIRNO® rubber is very endothermic and is fully protected by the NOFIRNO® sealant, this will not, however, have an influence on the fire rating as long the sleeves are not extremely oversized.
A precise fit of the NOFIRNO® cable sleeves around the cables is not required, however it is not allowed to use undersized cable sleeves leaving a larger open space around the cable. See the tables on page 6.
NOFIRNO® cable sleeves are applied around each cable. The cable sleeves are split lengthwise and can therefore be placed around the cables in front of the conduit.
Push the insert sleeves into the transit frame in such a way as to leave about 15 mm free space at the front and the back. At this stage, and certainly with a low filling rate of cables, the insertion does not have to be precise in this regard. Adjustment of the set of sleeves to the 15 mm recess can be carried out just before applying the sealant. However, with higher filling rates it might be difficult to correct afterwards.
The remaining free space in the conduit opening is filled with NOFIRNO® filler sleeves type 18/12, 20/12 or 22/15 or a combination of these types. The smaller sleeves sizes 10/4 and 15/8 are used the fill smaller open spaces present in the complete set of filler sleeves. For ease of filling, the NOFIRNO® filler sleeves are supplied non-split. They are delivered also as multi-filler sleeves (multi-sets of 6, 8 and 10 sleeves) which is extremely helpful for filling larger empty spaces.
For later extensions, it is advisable to use NOFIRNO® single filler sleeves, since they are easier to remove when a new cable has to be ducted.
It is allowed to use one type of NOFIRNO® filler sleeves only or a mix of all types of NOFIRNO® filler sleeves.
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.
With a flat nose pliers, NOFIRNO® single filler sleeves are inserted in the remaining smaller open spaces in the set of fillers. A very tight fit of the filling is vital to the performance of the sealing system.
With a piece of wood marked with the required 15 mm depth, or with the by BEELE Engineering developed aluminum adjuster, the set of fillers can be adjusted to the required 15 mm recess inside the transit. Use a plastic hammer to adjust the set of filler sleeves with the NOFIRNO® adjuster.
The filler set can be further adjusted with the aid of a flat nose pliers. Single filler sleeves sometimes might be inserted too deep. A ca. 20 mm free space at the front and back of the sealing system (+/- 2 mm tolerance is acceptable) is a must to obtain optimum sealing capacity of the sealing system.
Before applying the NOFIRNO® sealant, it is advisable to perform a final check on the packing of insert and 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.
Final smoke, gas and watertight sealing of the NOFIRNO® multi-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.
Cut the injection nozzles of the cartridges in an angled way to create a medium sized dispersing opening. This will improve the flow of the sealant in between the set of cables. 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.
A 20 mm thick layer of NOFIRNO® sealant is applied at each side of the NOFIRNO® multi-cable transit. 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.
The multi-cable transit should be overfilled with NOFIRNO® sealant, because some sealant will be pushed into the empty spaces between the NOFINO® sleeves around the cables, and into the hollow NOFIRNO® (multi) filler sleeves during further finishing. This will contribute also to obtain higher tightness ratings.

Skin formation of the sealant takes place after ca. 10-15 minutes. In case of larger transits with a low cable filling rate, do not apply more sealant than can be finished within this time-frame.
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.
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 set of NOFIRNO® sleeves, including partially into the hollow filler sleeves. The larger the adhesive surfaces of the sealant, the higher the performance of the system.

Note: do not use soap water! Soap water will have a negative impact on the adhesive properties of the sealant.
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 of decades.
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, especially in between the cables, is essential to obtain an effective gas and water tightness.
A last check should be made to ensure that the sealant layer is pressed down tightly and that no larger open holes are visible. Air enclosure within the individual layer of sealant should be prevented during finishing, because this would have a negative impact on the performance of the sealant layer under fire exposure.
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.
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.
Additional information: applying the sealant on highly filled multi-cable transits can be quite complicated. The sealant can be applied in layers from the bottom to the top after cable pulling. Regardless, checking if sufficient sealant is applied in between sets of cables close to each other is a must. The reflective colour of the NOFIRNO® has the advantage that visual inspection of the sealant application in between cables is easier to perform.

Water and gas tightness is dependent on the quality of the final sealing. As is the case with any system, workmanship has a direct impact on the performance of the sealing system.
Additional information: bundled cable sets are allowed in the NOFIRNO® multi-cable sealing system, using only a single NOFIRNO® insert sleeve around the bundle of cables. Note: see the approved installation drawings for details. Bundling is limited to approved maximum dimensions.
The sleeve is then pushed into the transit leaving 20 mm free at front and backside.

Note: NOFIRNO® multi-cable transits with bundled cables are not approved for watertight partitions.
Check for all certainty that the sealant has been well packed around the bundle of cables in order to ensure an appropriate degree of cold smoke tightness. When exposed to fire and/or heat, the RISE® rubber will immediately react and fill the openings in between the cables and prevents passage of smoke from the fire side. The NOFIRNO® rubber is highly endothermic and will not be consumed by the fire.
The RISE® and NOFIRNO rubber grades 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® multi-cable 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.
For A-class penetrations (which are insulated), the NOFIRNO® multi-cable transit frame needs to be insulated only at the insulated side of the bulkhead. No extra insulation needed in front of the transit 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 mm² with an OD of 105 mm. Note: for the larger cable sizes, NOFIRNO® cable wraps have to be used.

No metal parts are incorporated in the sealing system. The conduit frames cannot corrode inside due to the tight sealant layers at both sides of the transit. No CUI (Corrosion Underneath Insulation).
Deck penetrations are also easy to install with the NOFIRNO® system. Remove any cable tie-wraps to provide sufficient play of the cable set.
To prevent the NOFIRNO® sleeves from sliding down the cables, the sleeve should be a bit undersized to the cable. This allows the sleeves to cling to the cables, preventing them from sliding down. The inner surface structure of the NOFIRNO® cable sleeves will hold the sleeves in place as well.
By making use of the NOFIRNO® multi-filler sleeves, sets and bundles can be made to ensure tight fitting inside the transit. With NOFIRNO® single filler sleeves, the filling of larger vertical transits will be more difficult.
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 even better than RISE®, and can be exposed to temperatures up to +180 °C as well.
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.
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.
For A-class penetrations (which are insulated), the NOFIRNO® multi-cable transit frame needs to be insulated only 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 with conductors up to 3 x 380 mm² with an OD of 105 mm. Note: for the larger cable sizes, NOFIRNO® cable wraps have to be used.
Flanged frames with a flange for bolting (60 mm wide and 6 mm thick) with a hole configuration for fixation, can be used also for the NOFIRNO® multi-cable sealing system.
The flanged transit frames are bolted against the partition. A fire safe 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 make the usual need for retightening from time to time a thing of the past.
For A-class penetrations (which are insulated), the NOFIRNO® 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 with conductors up to 3 x 380 mm² with an OD of 105 mm.

Note: for the larger cable sizes, NOFIRNO® cable wraps have to be used.
Adding extra cables through a finished NOFIRNO® multi-cable transit is an easy job. With the use of NOFIRNO® filler and cable sleeves as separators, 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. 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.
Remove one or more NOFIRNO® filler sleeves to create a fitting opening for the cable to be ducted.
A cable is pulled through the free passage opening in the NOFIRNO® multi-cable transit. For adding cables, there is in fact no more disassembling needed than removing some filler sleeves. No extra costs for the extension of the cable set other than some new sealant to be applied.
Place a NOFIRNO® sleeve around the newly ducted cable. Push the insert sleeve into the conduit so that it is even with the other sleeves.
Clean and dry the newly ducted cable 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.
Note: time needed for curing of the sealant is dependent on air humidity in combination with the environmental temperature.
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. Filling the conduit frame with NOFIRNO® multi-filler sleeves starts with stacking the multi-set on top of each other and to place rolled-up sets of multi-sleeves in the corners.
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.
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.
For A-class penetrations (which are insulated), the NOFIRNO® blind transit frame needs to be insulated only at the insulated side of the bulkhead or the lower side of the deck. No extra insulation needed in front of the transit.

Also approved for deck penetrations.
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.
BEELE ENGINEERING:
A COMPANY DEDICATED TO SAFETY FOR OVER 40 YEARS