BEELE
ENGINEERING

PRODUCT OVERVIEW CABLE AND PIPE SEALING SYSTEMS SHIPBUILDING/OFFSHORE

WE CARE

BEELE ENGINEERING

CONTENTS

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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.

brochure code : product overview/en/mar

BEELE ENGINEERING

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BEELE ENGINEERING - SAFETY, RELIABILITY, INVOLVEMENT

Every moment of the day, in every business and every situation, the threat of fire is present. For over three decades, BEELE Engineering has specialized in passive fire safety in the form of systems which prevent the spread of fire, smoke, water and gases via cable and pipe penetrations. With our superior sealing technologies, we have become the undisputed Number One in this particular field.

It is BEELE Engineering's philosophy that R&D exists to respond to market demands. Only then can research and development activities be classed as functional. Only then are innovative solutions generated for problems that have current or near-term relevance. Our policy is one of continuous active response to customers' demands, or to modified or new functional requirements. We listen, we observe and we interpret, and so we arrive at new product developments and bold innovations.

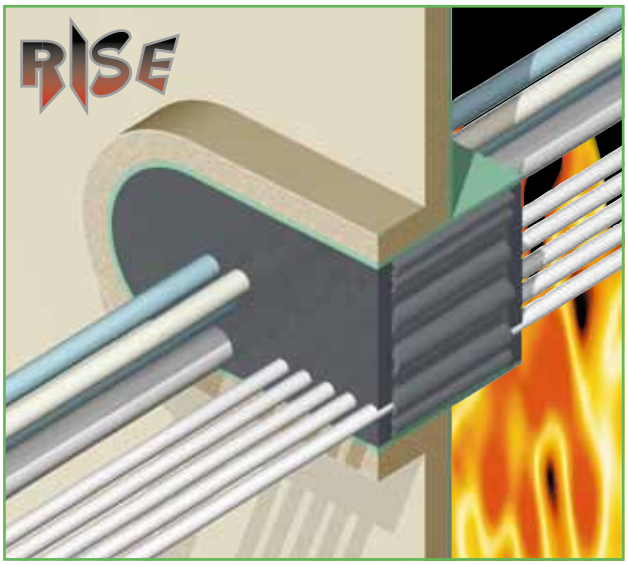
BEELE Engineering has built up an enormous body of specialized expertise and knowledge. Our company is the world market leader in sealing systems for state-of-the-art shipbuilding applications as well as civil and industrial applications. We do not follow trends, we set them.

Development of new products and technologies, as well as pioneering know-how, are present in every fibre of our organization. We are driven by passion for our specialization, and our customer involvement drives us to exceed the boundaries of what is technically feasible.

BEELE Engineering operates world-wide. From our agencies in virtually every industrialized country, our support and services are always somewhere nearby. We are there for you – also for on-site advice or in-house demonstrations, instructions and support at your location.

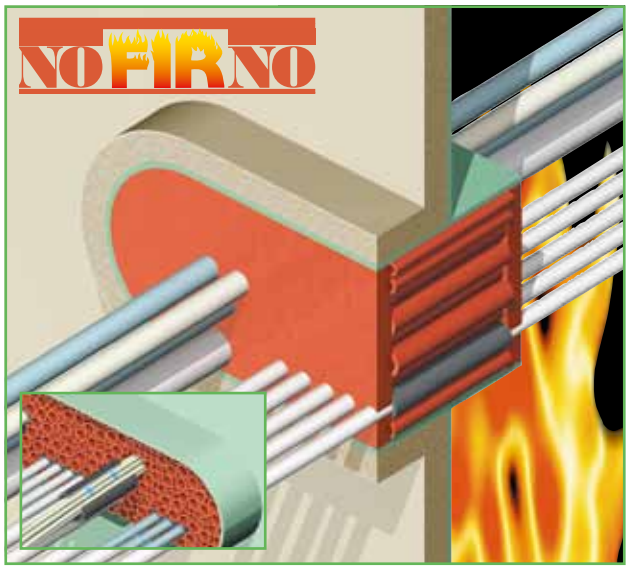
Our development, test and production facilities are among the most advanced in the world. The factory is equipped with state of the art machines, which are tailor made to the requirements of our company. We work to a high-level ISO system, with unmatched involvement. Continuous investment in design technologies, combined with highest quality polymers, is our guarantee for the safety of lives and equipment. That is why BEELE Engineering is internationally recognized by all relevant certification institutes and classification societies.

BEELE PRODUCT OVERVIEW
MARINE APPLICATIONS - ELECTRICAL



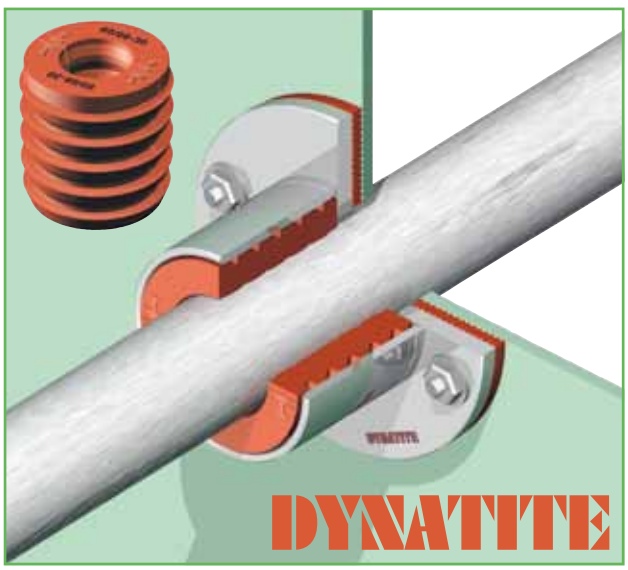
RISE®

- 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 applicable for upgrading block systems - doubles the usable space!
- Proven - for new and upgraded installations
- The system of choice in shipyards worldwide for MORE THAN 20 years!



NOFIRNO®

- 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.
- Jet Fire tested for harshest applications.
- A-0 and H-0 tested without the use of any insulation.
- Breakthrough - bundled cable sets approved
- The system of choice for highest fire ratings and harshest environment!



DYNATITE®

- For applications where a high degree of (instantaneous) tightness is required.
- Dynamic sealing when a disaster occurs.
- Plugs are compressible and will return to their original shape after shock pressure.
- Easily withstands shock pressure loads of up to 15 bar (220 psi).
- Ideal solution for the columns of offshore rigs and collision bulkheads.
- Breakthrough - dynamic compression
- Based on high-tech rubber grade and engineered profiling, the DYNATITE® plugs can be substantially compressed and get tighter with excessive pressure.

BEELE PRODUCT OVERVIEW
MARINE APPLICATIONS - MECHANICAL

SLIPSIL®

- Designed to provide fire safe, gas and watertight seals for pipe penetrations.
- For transits carrying single or multiple metal pipes with the same diameter (hydraulic and pneumatic lines).
- Installs in a couple of minutes. Lubricate and push - that is it!
- No bolting or other mechanical devices.
- Absorbs mechanical stresses, vibration and prevents galvanic corrosion problems.
- Wide temperature range: -50 °C up to +180 °C.
- Proven - simple, shortest conduit length
- The system of choice in shipyards world-wide for more than 2 decades!

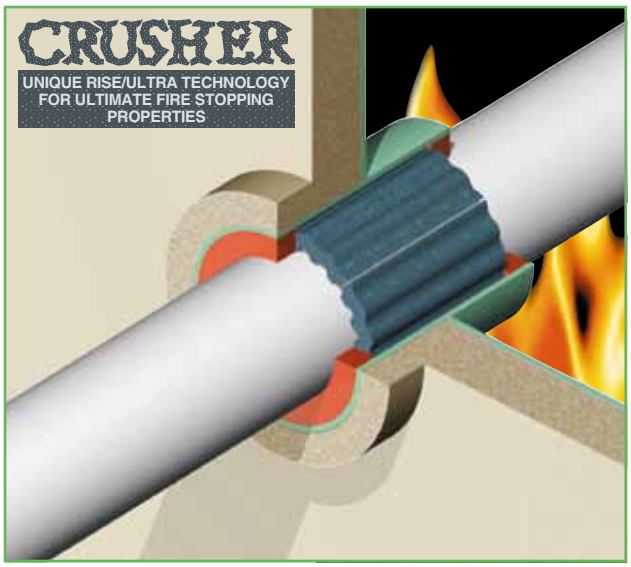
NOFIRNO®

- Approved for harshest fire ratings for pipe penetrations (A, H and Jet Fire class).
- Allows substantial movement of the ducted pipe within the conduit.
- High pressure ratings - designed for gas and/or watertight penetrations.
- Prevents corrosion inside the penetration.
- Longest service life and best Total Cost of Ownership on the market.
- NOFIRNO® rubber sleeves and sealant will remain stable and not be consumed by fire.
- Breakthrough - MULTI-ALL-MIX® SYSTEM
- Approved for any combination of cable and/or metallic, GRP or plastic pipes!

MULTI-ALL-MIX®
(left to right):
CLX cable, steel pipe, bundled LAN cables, plastic pipe, thermally insulated metallic pipe, copper and GRP pipe

CRUSHER®

- Most simple and effective system for all plastic pipe penetrations.
- RISE®/ULTRA C-FIT crushers squeeze down and seal opening during a fire.
- RISE®/ULTRA wraps to be used for oversized conduit sleeves.
- NOFIRNO® sleeves for filling larger spaces.
- NOFIRNO® sealant adheres well to plastics: high degree of water tightness feasible.
- Breakthrough - adhesion under fire load
- RISE®/ULTRA compound forms an adhesive mass during fire exposure!
- Approved for a multiple mixture of all kinds of plastic pipes.



WE CARE

RISE® & NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEMS

Cutting Edge ACTIFIRE® & NOFIRNO® technology for optimum performance under fire conditions:

- RISE® SYSTEM WILL BE ACTIVATED WHEN EXPOSED TO FIRE
- NOFIRNO® SYSTEM WILL NOT BE CONSUMED BY FIRE
- ALL COMPONENTS ARE TOTALLY HALOGEN FREE
- IN CASE OF FIRE: NON-TOXIC, LOW SMOKE INDEX
- CE (MED) CERTIFICATES FOR A-0 UP TO A-60
- CERTIFIED FOR H-0 UP TO H-120 AND JET FIRE TESTED
- FIWA & NOFIRNO LOW FLAME SPREAD ACC. TO IMO A.653(16)
- APPROVED WATERTIGHT UP TO 2.5 - 4 BAR
- APPROVED GAS TIGHT UP TO 1 BAR
- CAN BE USED IN ARCTIC CONDITIONS
- HIGH LEVEL OF SOUND DAMPING/EMC ATTENUATION
- SHOCK AND VIBRATION PROOF
- UP TO 50 YEARS SERVICE LIFE
- CAPABLE OF ABSORBING TEMPERATURE CHANGES
- WEATHERING, UV AND OZONE RESISTANT
- NO PRE-ENGINEERING NEEDED
- NO SPECIAL CONDUIT FRAMES
- MINIMIZED NUMBER OF STRUCTURAL COMPONENTS
- MOST COMPACT INSTALLATION
- EXTREMELY SIMPLE TO INSTALL
- NO INSULATION IN FRONT OF THE PENETRATION
- SHORTEST POSSIBLE CONDUIT LENGTH
- APPROVED FOR HEAVY CONDUCTOR CABLES
- APPROVED FOR BUNDLED LAN CABLES
- APPROVED FOR STEEL AND ALUMINIUM PARTITIONS
- MAINTENANCE FRIENDLY

RISE® & NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEMS

Cutting Edge NOFIRNO® and LEAXEAL® technology for optimum physical performance:

* Naval Engineering Standard 711: Issue 2: Determination of the smoke index	passed
* Naval Engineering Standard 713: Issue 3: Determination of the toxicity index	passed
* ISO 4589 - 2 : 1996 Determination of the oxygen index	passed
* ISO 4589 - 3 : 1996 Determination of the temperature index	passed
* IMO Resolution A.653(16) on FIWA and NOFIRNO Determination of low flame spread characteristics	passed
* Artificial ageing test Determination of properties after 25-50 years	passed
* Thermal cycling test Determination of adhesion at +120 °C / ambient / -40 °C (+212 °F / ambient / -40°F)	passed
* Naval Engineering Standard 510: Issue 2, Draft B: Shock (100 g_n) and vibration test (5-350 Hz) combined with 1 bar leak test afterwards	passed
* Naval Engineering Standard 814: Shock test, acceleration level 8378/s/s in two directions combined with 6.9 bar leak test afterwards	passed
* Naval Engineering Standard 510: Issue 2, Draft B: Leak test after a one hour fire test	passed
* General classification Helium gas leak test up to 1 bar	passed
* Nordtest method NT ELEC 030, modified for conducted attenuation	20-100 dB
* Sound damping test According to EN ISO 717-1:1996	70 dB
* Rapid rise fire test, shock, vibration and water pressure According to Mil-P-24705 of the US Navy	passed
* Dynamic cycling test Displacement 10 mm, 100,000 cycles, frequency 0.5 Hz	passed
* Shock and vibration tests in 3 axis and pressure tests According to standards of the German Navy	passed
* Fluid nitrogen test at -196 °C on customer specification during 15 minutes exposure	passed
* Jet Fire test according to ISO 22899-1:2007 with a duration of two hours at Health & Safety Laboratory, England	passed
* Jet Fire test according to OTI 96634 at SINTEF, Norway to determine if existing RISE pipe penetrations could be J-classed without any extra action	passed

Initially some of these tests have been carried out with the regular RISE® system. The sealant is a determining factor for successful mechanical testing. NOFIRNO® sealant has improved mechanical properties so that NOFIRNO® can also be classed for these tests as well. TNO report TQS/RAP/07/335-idl.

To prove the outstanding quality and safety of the RISE® cable and pipe penetrations, the basic materials (FIWA® sealant and RISE® rubber) have been subjected to additional tests. These tests have been carried out by official institutes: Warrington Fire Research and RAPRA Technologies in the United Kingdom, the Fire Technology Institute of the University of Ghent in Belgium and TNO Laboratories in The Netherlands.
The RISE® cable and pipe penetrations have also been subjected to additional tests at official institutes such as DELTA Danish Electronics, Light and Acoustics Testing in Denmark, QinetiQ in England, South West Research Institute in USA and in-house under survey of the classification societies. To name some: sound tests, shock and vibration tests, rapid temperature rise tests, leak tests after a one hour fire test, EMC tests, A-0 test without insulation, dynamic cycling test, several configurations on watertightness and a helium gas leak test.

RISE® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

RISE® cable sleeves

Note: maximum continuous service temperature of the RISE® sleeves not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

cable sleeves are supplied split lengthwise

RISE® filler sleeves

Note: maximum continuous service temperature of the RISE® sleeves not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

Note: split sleeves 18/12 and 27/19 can also be used as filler sleeves.

filler sleeves are supplied non-split

RISE® multi-filler sleeves

filler sleeves are supplied in multi-sets of 10 sleeves

RISE® cable sleeve	cable diameter		sleeve length	article number
12/6	5 - 7		140	80.0051
14/8	7 - 9		140	80.0052
16/10	9 - 11		140	80.0053
18/12	11 - 13		140	80.0054
20/14	13 - 15		140	80.0055
22/16	15 - 17		140	80.0056
27/19	17 - 21		140	80.0057
31/23	21 - 25		140	80.0058
35/27	25 - 29		140	80.0059
39/31	29 - 33		140	80.0060
46/36	33 - 39		140	80.0061
52/42	39 - 45		140	80.0062
58/48	45 - 51		140	80.0063
64/54	51 - 57		140	80.0064
70/60	57 - 63		140	80.0065
12/6	5 - 7		160	80.0100
14/8	7 - 9		160	80.0101
16/10	9 - 11		160	80.0102
18/12	11 - 13		160	80.0103
20/14	13 - 15		160	80.0104
22/16	15 - 17		160	80.0105
27/19	17 - 21		160	80.0106
31/23	21 - 25		160	80.0107
35/27	25 - 29		160	80.0108
39/31	29 - 33		160	80.0109
46/36	33 - 39		160	80.0110
52/42	39 - 45		160	80.0111
58/48	45 - 51		160	80.0112
64/54	51 - 57		160	80.0113
70/60	57 - 63		160	80.0114
12/6	5 - 7		210	80.0200
14/8	7 - 9		210	80.0201
16/10	9 - 11		210	80.0202
18/12	11 - 13		210	80.0203
20/14	13 - 15		210	80.0204
22/16	15 - 17		210	80.0205
27/19	17 - 21		210	80.0206
31/23	21 - 25		210	80.0207
35/27	25 - 29		210	80.0208
39/31	29 - 33		210	80.0209
46/36	33 - 39		210	80.0210
52/42	39 - 45		210	80.0211
58/48	45 - 51		210	80.0212
64/54	51 - 57		210	80.0213
70/60	57 - 63		210	80.0214

all dimensions in mm

RISE® filler sleeve		sleeve length	article number
18/12 single		140	80.0323
18/12 multi		140	80.0324
18/12 single		160	80.0313
18/12 multi		160	80.0314
18/12 single		210	80.0303
18/12 multi*		210	80.0304
27/19 single		140	80.0326
27/19 multi		140	80.0327
27/19 single		160	80.0316
27/19 multi		160	80.0317
27/19 single		210	80.0306
27/19 multi*	* not available yet	210	80.0307

all dimensions in mm

RISE® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

PRODUCT INFORMATION SEALANT

01)	colour	dark grey
02)	specific gravity	1.30 ± 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 +160 °C
05)	tensile strength	1.15 MPa
06)	elongation at break	125%
07)	hardness	35 Shore A
08)	elastic deformation	approx. 25%
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 80.0900

FIWA® is absolutely HALOGEN FREE (tested according to Naval Engineering Standard NES 713: Issue 3).
Furthermore FIWA® has a low smoke index (NES 711: Issue 2: 1981) and a high oxygen index (ISO 4589-2: 1996), and low flame spread characteristics according to IMO Resolution A.653(16).

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

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 50.0102

NOFIRNO® is a paste-like compound which is simple to use. NOFIRNO® has a balanced viscosity and can be applied overhead.
After applying the sealant, it can be smoothed by means of a wet cloth or by hand. Because the sealant adheres very tightly, the cloth and hands should be wetted with water before use to prevent sealant from sticking to them.

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

article number 80.0932

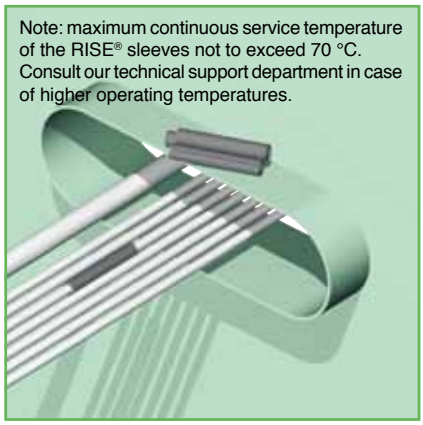
CONDUCTON® flexible rubber is used to fill the cavity around the ducted cables in the conduit sleeve, instead of making use of the putty.
This rubber can be molded by hand and offers the highest attenuation.

CONDUCTON® flexible rubber is absolutely HALOGEN FREE and has a toxicity index of 0,00 (tested according to Naval Engineering Standard NES 713: Issue 3).

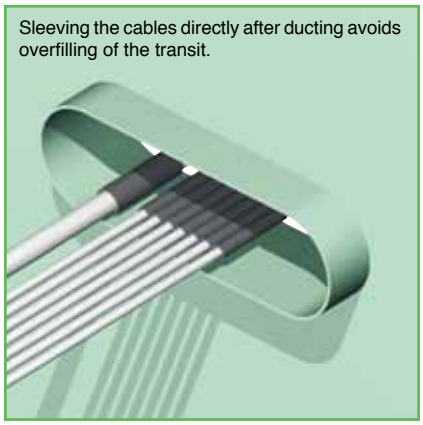
Furthermore CONDUCTON® has a low smoke index (NES 711: Issue 2: 1981), an oxygen index of 38,2% (ISO 4589-2: 1996), and a temperature index of 294 °C (ISO 4589-3: 1996).

CONDUCTON® flexible rubber fullfils the criteria for use on board of UK Navy vessels for EMP/EMI penetrations.

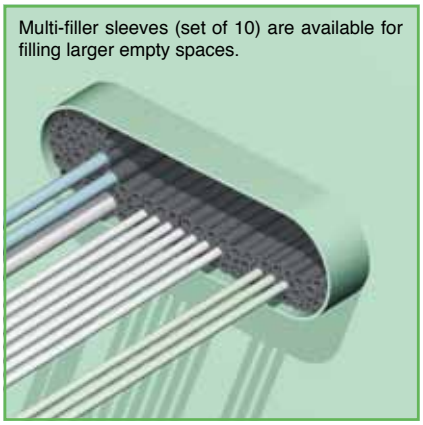
RISE® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT



1) The cables can be ducted through the conduit sleeve/frame in random order.
It is most important that they are not pulled too tight so as not to hamper their separation when RISE® insert sleeves are inserted.



2) After the cables have been ducted, RISE® insert sleeves are applied around each cable. The insert sleeves are split lengthwise and can therefore be placed around the cables in front of the conduit.



3) The remaining free space in the conduit is filled with RISE® filler sleeves type 27/19 and 18/12. For ease of filling, the RISE® filler sleeves are supplied non-split. The ratio 27/19 to 18/12 should be about 2:1.

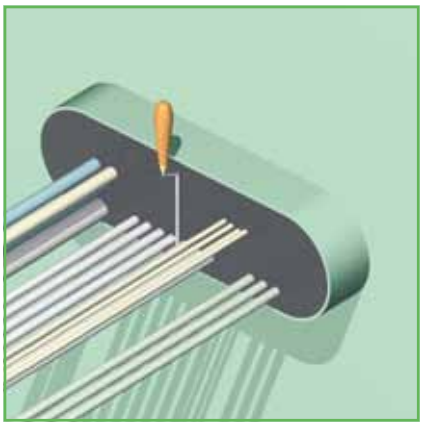
4) Push the insert/filler sleeves into the conduit in such a way as to leave about 20 mm free space at the front. The whole set of insert and filler sleeves should fit tightly into the conduit to provide sufficient mechanical stability.

5) A 20 mm thick layer of FIWA® sealant is applied at each side of the conduit. Clean and dry the conduit opening and the cables thoroughly, and remove any dirt, rust or oil residues before applying the sealant.

6) The conduit should be overfilled with FIWA® sealant, because some sealant will be pushed between and into the empty filler sleeves during further finishing. This will contribute to obtain higher tightness ratings.

7) To smooth the surface of the FIWA® sealant layer, a cloth is sprayed with water. This prevents the sealant from sticking to the cloth.
Note: do not use soap water!

8) The cloth is then used to press down the sealant layer. People with sensitive skin should use gloves when working with FIWA®. Please refer to the Safety Data Sheet for more information.



9) The FIWA® sealant between the cables is pressed down and smoothed by hand or with a spatula or putty knife.
This is essential to obtain an effective gas and water tightness.

RISE® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

People with sensitive skin should use gloves when working with FIWA®.

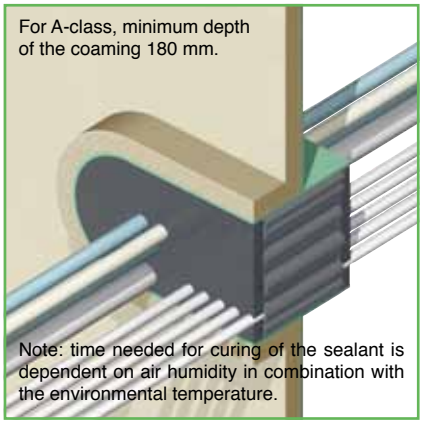
Please refer to the Safety Data Sheet for more information.

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

To obtain optimum adhesion during the curing process of the sealant, the cables should be tightly fixed immediately after finishing the transit.

11) After smoothing is finished, a last check should be taken to ensure sufficient sealant has been applied in between the cables (especially for transits with larger amounts of cables). This is most important for water and gas tight penetrations.

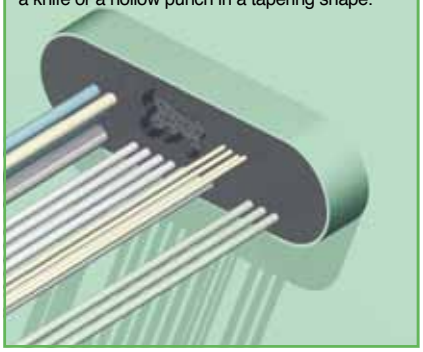
For A-class, minimum depth of the coaming 180 mm.



Note: time needed for curing of the sealant is dependent on air humidity in combination with the environmental temperature.

12) For A-class penetrations (which are insulated), the conduit sleeve/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.

Adding extra cables is an easy job. Cut away the sealant layer at both sides of the penetration with a knife or a hollow punch in a tapering shape.



Remove one or more RISE® filler sleeves to create a fitting opening for the cable to be ducted.

Place a RISE® sleeve around the newly ducted cable. Push the insert sleeve into the conduit. Refill the opening with sufficient FIWA® sealant.

Note: time needed for curing of the sealant is dependent on air humidity in combination with the environmental temperature.

RISE® multi-cable penetrations are the best alternative for the casting compounds, mineral wool and block systems used in fire-rated/watertight bulkheads and decks. RISE® multi-cable penetrations offer a most simple way of installation. The very limited amount of different parts makes this system easy to handle on site. Use is made of rubber inserts (placed around the cables) and filler sleeves. No precise positioning of the cables in the transit needed.

The RISE® sealing system allows cables to be ducted through conduit openings in a bent, curved or oblique way without any adverse impact on sealing performance.

The RISE® sealing system gives easy access to add or remove cables in a later stage without the necessity to disassemble the whole penetration or replace all existing material.

Just cut away a piece of the FIWA® layer at both sides of the penetration, pull the cable through and refill the opening in the sealant layer. ***It is that simple!***

ask for the MED certificate with the stamped and signed detailed installation drawings

EC TYPE EXAMINATION CERTIFICATE

BEELE ENGINEERING

PENETRATIONS THROUGH "A" CLASS DIVISIONS ELECTRIC CABLE TRANSITS

check for updates

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RISE® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

L1: A-60/H-120 approved bulkhead insulation.

- APPROVED FOR ALL TYPES OF CABLES INCL. LAN AND CLX
- APPROVED FOR CABLE SIZES UP TO 105 MM OD AND UP TO 3x400 MM²
- APPROVED FOR BUNDLED LAN DATA CABLES
- MAX. BUNDLE SIZE 35 MM

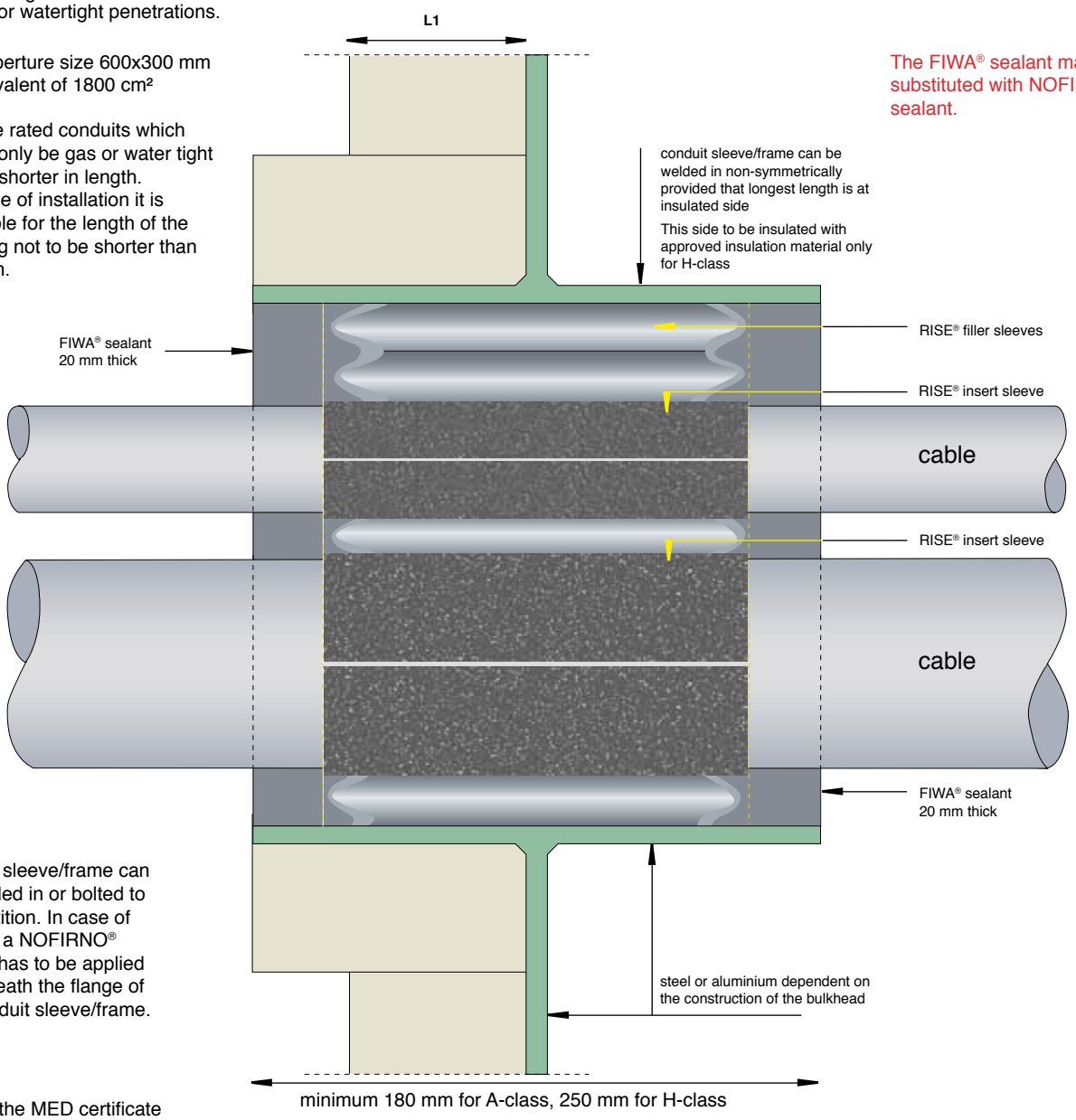
Bundling of cables is not allowed for gas or watertight penetrations.

- NO EXTRA INSULATION REQUIRED AT THE FRONT OF THE PENETRATION AND/OR IN BETWEEN THE CABLES

max. aperture size 600x300 mm or equivalent of 1800 cm²

Non-fire rated conduits which should only be gas or water tight can be shorter in length. For ease of installation it is advisable for the length of the coaming not to be shorter than 100 mm.

The FIWA® sealant may be substituted with NOFIRNO® sealant.



conduit sleeve/frame can be welded in or bolted to the partition. In case of bolting, a NOFIRNO® gasket has to be applied underneath the flange of the conduit sleeve/frame.

ask for the MED certificate with the stamped and signed detailed installation drawings

Specifications for A-class according to EC (MED) certificate 09156/C1 EC issued by Bureau Veritas. Drawings R0096E, R0115E, R0116E, R0117E, R0170E, R0171E, R0172E, R0273E and R0274E
For H-class DNV certificate F-19295. Drawings R0103E, R0104E and R0105E.

A0-A60 / H0-H120 MULTI-CABLE TRANSIT

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RISE® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

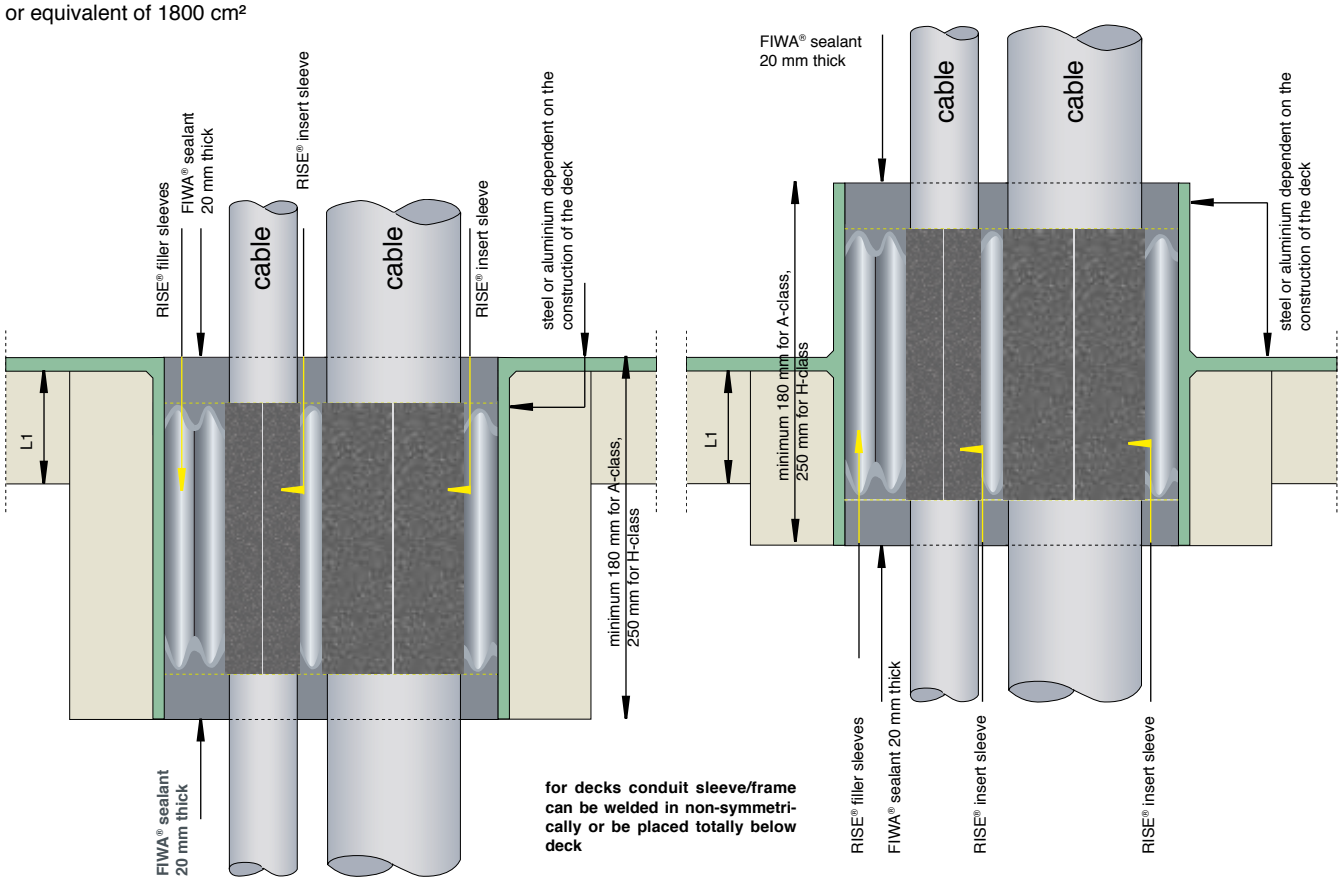
L1: A-60/H-120 approved deck insulation.

- APPROVED FOR ALL TYPES OF CABLES INCL. LAN AND CLX
- APPROVED FOR CABLE SIZES UP TO 105 MM OD AND UP TO 3x400 MM²
- APPROVED FOR BUNDLED LAN DATA CABLES
- MAX. BUNDLE SIZE 35 MM

Bundling of cables is not allowed for gas or watertight penetrations.

- NO EXTRA INSULATION REQUIRED AT THE FRONT OF THE PENETRATION AND/OR IN BETWEEN THE CABLES

max. aperture size 600x300 mm
or equivalent of 1800 cm²



The FIWA® sealant may be substituted with NOFIRNO® sealant.

conduit sleeve/frame can be welded in or bolted to the partition. In case of bolting, a NOFIRNO® gasket has to be applied underneath the flange of the conduit sleeve/frame.

ask for the MED certificate with the stamped and signed detailed installation drawings

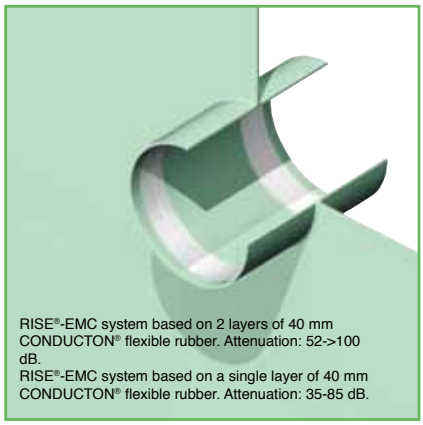
Non-fire rated conduits which should only be gas or water tight can be shorter in length.
For ease of installation it is advisable for the length of the coaming not to be shorter than 100 mm.

ask for the MED certificate with the stamped and signed detailed installation drawings

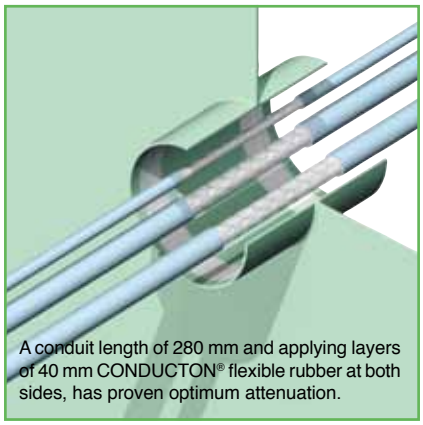
Specifications for A-class according to EC (MED) certificate 09156/C1 EC issued by Bureau Veritas.
Drawings R0096E, R0115E, R0116E, R0117E, R0170E, R0171E, R0172E, R0273E and R0274E
For H-class DNV certificate F-19295.
Drawings R0103E, R0104E and R0105E.

A0-A60 / H0-H120 MULTI-CABLE TRANSIT

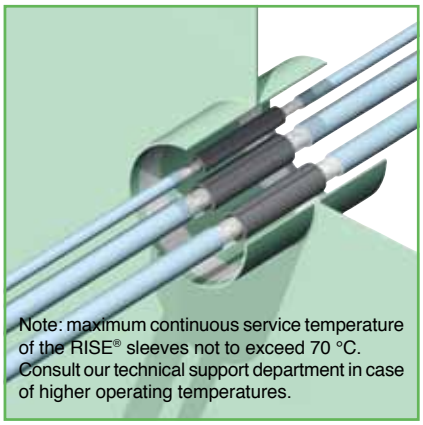
RISE® TYPE EMC/EMI MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT



1) At the place where the CONDUCTON® flexible compound is to be applied, the penetration should be bare steel without primer and thoroughly cleaned to ensure effective connection to earth.

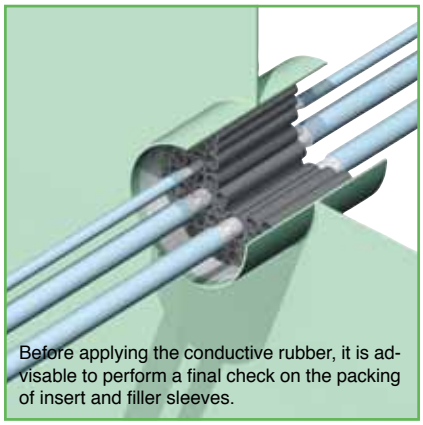


2) Remove the cable sheathing over a length that is 40 mm shorter than the length of the penetration, in such a way that he front face of the exposed braiding is situated about 20 mm inside the conduit at both sides.



3) RISE® sleeves 120 mm shorter in length than the penetration are then fitted around the ducted cables and pushed into the penetration. The exposed braiding should extend 40 mm outside the sleeves.

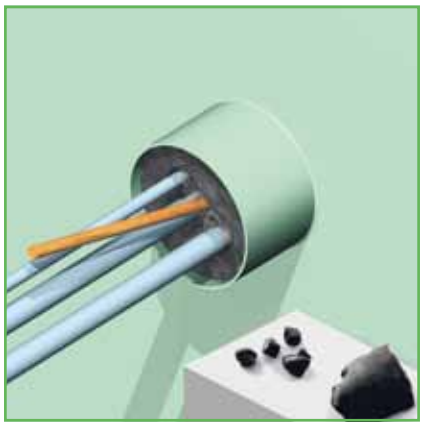
4) The remaining space inside the penetration is then packed with RISE® filler sleeves. Push the filler sleeves into the penetration in the same way as the sleeves fitted around the cables. Make sure that the sleeves fit tightly.



5) Push the insert/filler sleeves into the penetration in such a way as to leave about 60 mm free space at both sides. Take care that the exposed braiding extends 40 mm outside the sleeves at each side.

6) Then apply layers of CONDUCTON® flexible rubber strips 40 mm wide against the inside wall of the penetration. People with sensitive skin should use gloves when working with CONDUCTON®.

7) Pack the free space inside the penetration with lengths of strip. Compress the filling from time to time firmly to obtain a solid mass of flexible rubber and a good contact with the coaming/sleeve.



8) Pack the remaining small spaces around the cables with spare pieces of flexible rubber strip. Then press them down firmly with a piece of wood in order to obtain a good contact with the braiding.

9) Firmly press down the mass once more by hand. This is extremely important to ensure effective conductivity. Then apply the CONDUCTON® flexible rubber at the other side of the penetration in a similar way.

RISE® TYPE EMC/EMI MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

People with sensitive skin should use gloves when working with FIWA®.

Please refer to the Safety Data Sheet for more information.

10) At both sides of the penetration about 20 mm free space should be present to enable the application of the FIWA® fire safe, water tight sealing compound. First clean the inside wall of the penetration very thoroughly.

11) To smooth the surface of the FIWA® sealant layer, a cloth is sprayed with water. This prevents the sealant from sticking to the cloth. Note: do not use soap water!

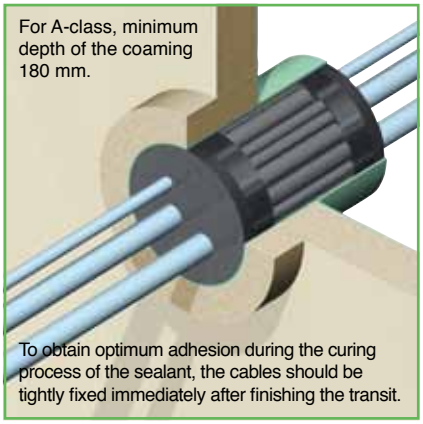
12) The cloth is then used to press down the sealant layer. People with sensitive skin should use gloves when working with FIWA®. Please refer to the Safety Data Sheet for more information.

13) The surface can be smoothed by hand. Just wet the hands thoroughly with soap and water. No dirty hands when working with FIWA®.

Note: time needed for curing of the sealant is dependent on air humidity in combination with the environmental temperature.

14) After smoothing is finished, a last check should be taken to ensure sufficient sealant has been applied in between the cables.

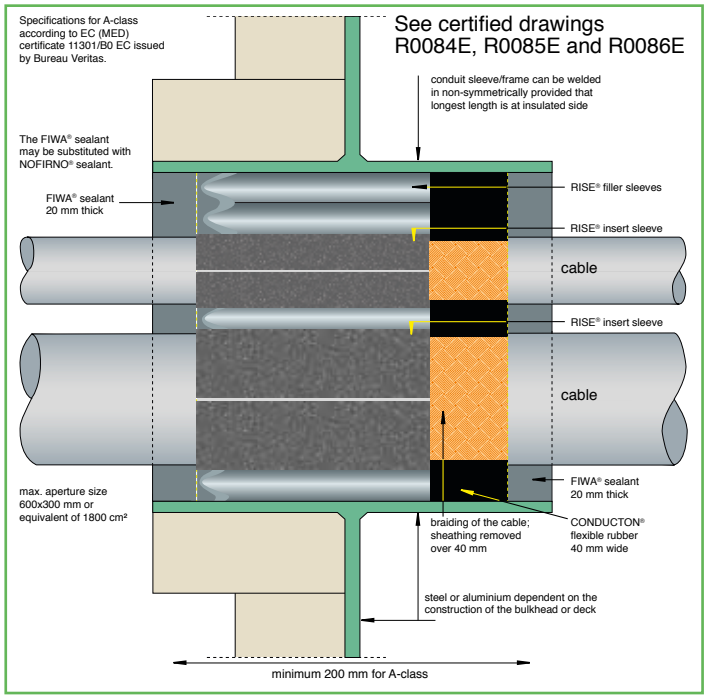
For A-class, minimum depth of the coaming 180 mm.



To obtain optimum adhesion during the curing process of the sealant, the cables should be tightly fixed immediately after finishing the transit.

Specifications for A-class according to EC (MED) certificate 11301/B0 EC issued by Bureau Veritas.

See certified drawings R0084E, R0085E and R0086E



ask for the MED certificate with the stamped and signed detailed installation drawings


EC TYPE EXAMINATION CERTIFICATE

BEELE ENGINEERING

PENETRATIONS THROUGH "A" CLASS DIVISIONS: ELECTRIC CABLE TRANSITS

check for updates

NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

RISE® cable sleeves

Note: maximum continuous service temperature of the RISE® sleeves not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

cable sleeves are supplied split lengthwise

NOFIRNO® filler sleeves

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

filler sleeves are supplied non-split

NOFIRNO® multi-filler sleeves

filler sleeves are supplied in multi-sets of 10 sleeves

RISE® cable sleeve	cable diameter		sleeve length	article number
12/6	5 - 7		140	80.0051
14/8	7 - 9		140	80.0052
16/10	9 - 11		140	80.0053
18/12	11 - 13		140	80.0054
20/14	13 - 15		140	80.0055
22/16	15 - 17		140	80.0056
27/19	17 - 21		140	80.0057
31/23	21 - 25		140	80.0058
35/27	25 - 29		140	80.0059
39/31	29 - 33		140	80.0060
46/36	33 - 39		140	80.0061
52/42	39 - 45		140	80.0062
58/48	45 - 51		140	80.0063
64/54	51 - 57		140	80.0064
70/60	57 - 63		140	80.0065
12/6	5 - 7		160	80.0100
14/8	7 - 9		160	80.0101
16/10	9 - 11		160	80.0102
18/12	11 - 13		160	80.0103
20/14	13 - 15		160	80.0104
22/16	15 - 17		160	80.0105
27/19	17 - 21		160	80.0106
31/23	21 - 25		160	80.0107
35/27	25 - 29		160	80.0108
39/31	29 - 33		160	80.0109
46/36	33 - 39		160	80.0110
52/42	39 - 45		160	80.0111
58/48	45 - 51		160	80.0112
64/54	51 - 57		160	80.0113
70/60	57 - 63		160	80.0114
12/6	5 - 7		210	80.0200
14/8	7 - 9		210	80.0201
16/10	9 - 11		210	80.0202
18/12	11 - 13		210	80.0203
20/14	13 - 15		210	80.0204
22/16	15 - 17		210	80.0205
27/19	17 - 21		210	80.0206
31/23	21 - 25		210	80.0207
35/27	25 - 29		210	80.0208
39/31	29 - 33		210	80.0209
46/36	33 - 39		210	80.0210
52/42	39 - 45		210	80.0211
58/48	45 - 51		210	80.0212
64/54	51 - 57		210	80.0213
70/60	57 - 63		210	80.0214

all dimensions in mm

NOFIRNO® filler sleeve		sleeve length	article number
18/12 single		140	80.5002
18/12 multi		140	80.5052
18/12 single		160	80.5003
18/12 multi		160	80.5053
18/12 single		210	80.5004
18/12 multi		210	80.5054
27/19 single		140	80.5012
27/19 multi		140	80.5062
27/19 single		160	80.5013
27/19 multi		160	80.5063
27/19 single		210	80.5014
27/19 multi		210	80.5064

all dimensions in mm

NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

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 50.0102

NOFIRNO® is a paste-like compound which is simple to use. NOFIRNO® has a balanced viscosity and can be applied overhead.
After applying the sealant, it can be smoothed by means of a wet cloth or by hand. Because the sealant adheres very tightly, the cloth and hands should be wetted with water before use to prevent sealant from sticking to them.

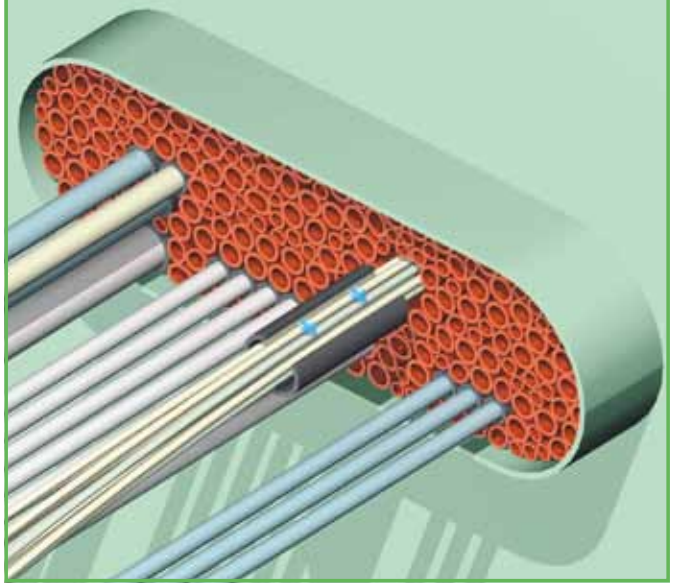
Shelf life is 12 months when stored properly. Since we have no control on storage, we can only guarantee for 6 months.

The NOFIRNO®, RIACNOF® and RISE® sealing systems have been successfully tested according to IMO Resolution A.754(18) with sets of bundled cables. Especially in the case of ducting larger amounts of small diameter LAN cables, a lot of time saving is obtained since not each and every cable has to be sleeved with a RISE® insert sleeve. Cable sets of max. 25 LAN cables with an OD of 5 - 6 mm tightly bundled to max. 35 mm can be passed through the penetration. A single RISE® insert sleeve is then placed around the cable set and inserted into the penetration.

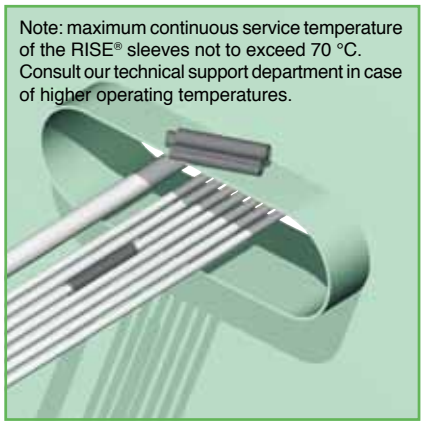
THE SYSTEM OF CHOICE FOR HARSHEST APPLICATIONS.

The NOFIRNO® system has been subjected to A-0, H-0 and even Jet Fires without being severely affected. Due to the superb behaviour of our various systems, the NOFIRNO® sealing system can be easily combined with RISE® and RISE®/ULTRA for the so-called MULTI-ALL-MIX® system for ducting all types of pipes and cables through a single conduit. The NOFIRNO® sealing system is the most advanced system in our product range.

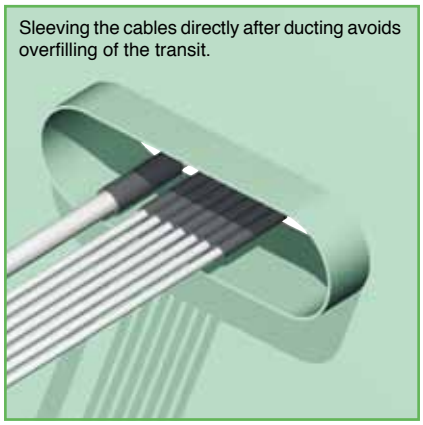
Bundling of cables is not allowed for penetrations which are installed in gas and/or watertight partitions.



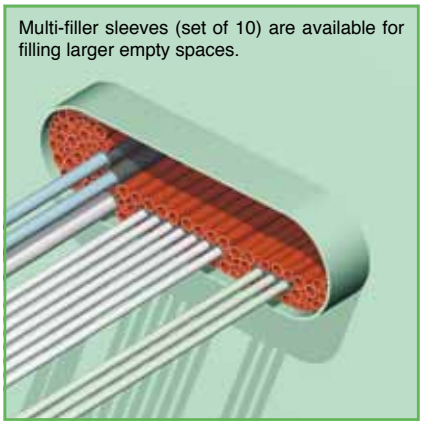
NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT



1) The cables can be ducted through the conduit sleeve/frame in random order.
It is most important that they are not pulled too tight so as not to hamper their separation when RISE® insert sleeves are inserted.



2) After the cables have been ducted, RISE® insert sleeves are applied around each cable. The insert sleeves are split lengthwise and can therefore be placed around the cables in front of the conduit.



3) The remaining free space in the conduit is filled with NOFIRNO® filler sleeves type 27/19 and 18/12. For ease of filling, the NOFIRNO® filler sleeves are supplied non-split. The ratio 27/19 to 18/12 should be about 2:1.

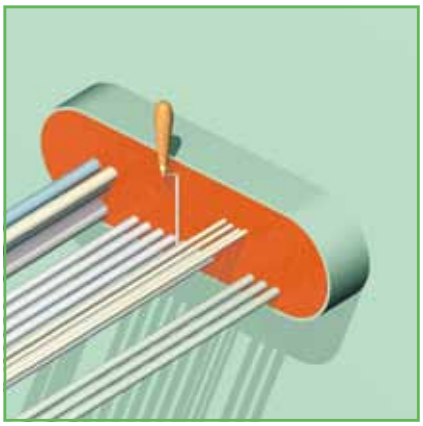
4) Push the insert/filler sleeves into the conduit in such a way as to leave about 20 mm free space at the front. The whole set of insert and filler sleeves should fit tightly into the conduit to provide sufficient mechanical stability.

5) A 20 mm thick layer of NOFIRNO® sealant is applied at each side of the conduit. Clean and dry the conduit opening and the cables thoroughly, and remove any dirt, rust or oil residues before applying the sealant.

6) The conduit should be overfilled with NOFIRNO® sealant, because some sealant will be pushed between and into the empty filler sleeves during further finishing. This will contribute to obtain higher tightness ratings.

7) 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!

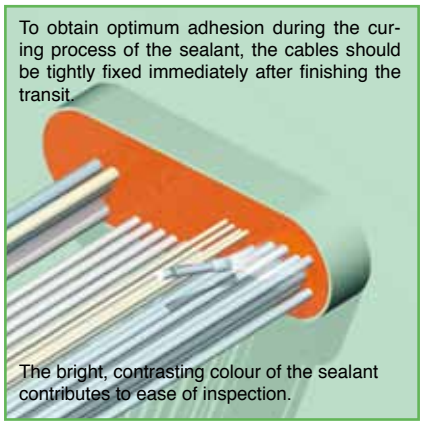
8) The cloth is then used to press down the sealant layer. People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.



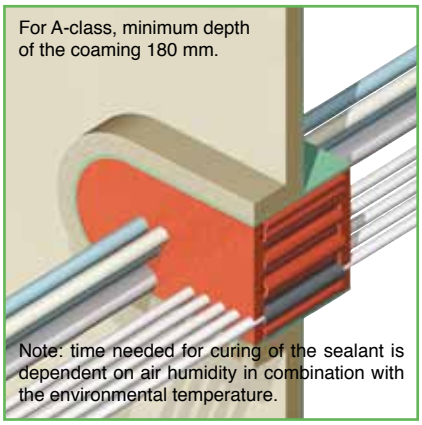
9) The NOFIRNO® sealant between the cables is pressed down and smoothed by hand or with a spatula or putty knife.
This is essential to obtain an effective gas and water tightness.

NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

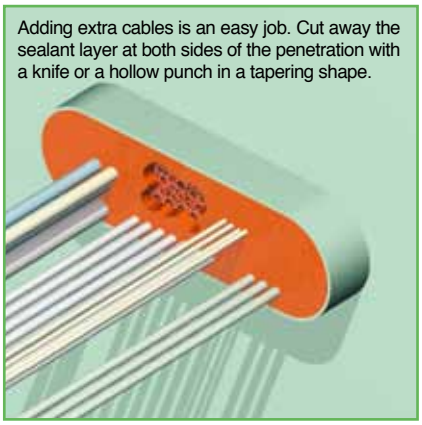
10) The surface can be smoothed by hand. Just wet the hands thoroughly with soap and water. No dirty hands when working with NOFIRNO® and a very neat surface is the result.

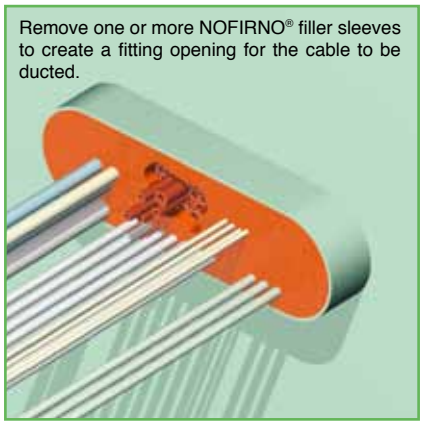


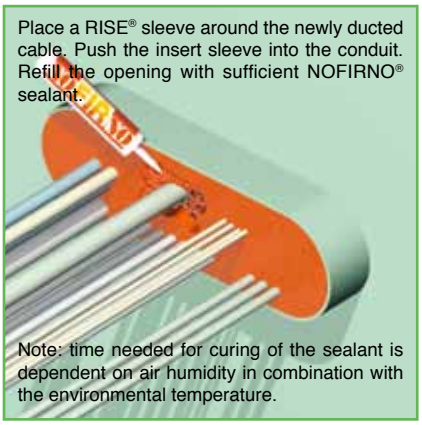
11) After smoothing is finished, a last check should be taken to ensure sufficient sealant has been applied in between the cables (especially for transits with larger amounts of cables). This is most important for water and gas tight penetrations.



12) For A-class penetrations (which are insulated), the conduit sleeve/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.







The NOFIRNO® rubber grade, which is compounded under strict conditions in our factory, is suitable for gas and water tight ducting and for fire rated applications as well.

1) the NOFIRNO® rubber shows minimum permanent deformation and limited stress relaxation, guaranteeing mechanical stability in the long term.
2) The NOFIRNO® rubber can be exposed to high temperatures (up to 180 °C), making the NOFIRNO® sealing system suitable for steam lines.
3) NOFIRNO® stays flexible at temperatures of -50 °C, allowing application in arctic environments.
4) The NOFIRNO® sealant/rubber has optimum fire stopping properties:
   a) creates immediately a protective layer at the fire side
   b) will not be consumed under fire exposure
   c) prevents smoke emission
5) Higher thermal insulation values under fire load.
6) Shorter conduit depths.
7) Approved for A-0 and H-0 class without the use of any insulation. Certified up to A-60 and H-120 class.
8) Successfully exposed to a 2 hour Jet Fire test.
9) Can be combined with RISE® and RISE®/ULTRA.

ask for the MED certificate with the stamped and signed detailed installation drawings

NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

L1: A-60/H-120 approved bulkhead insulation.

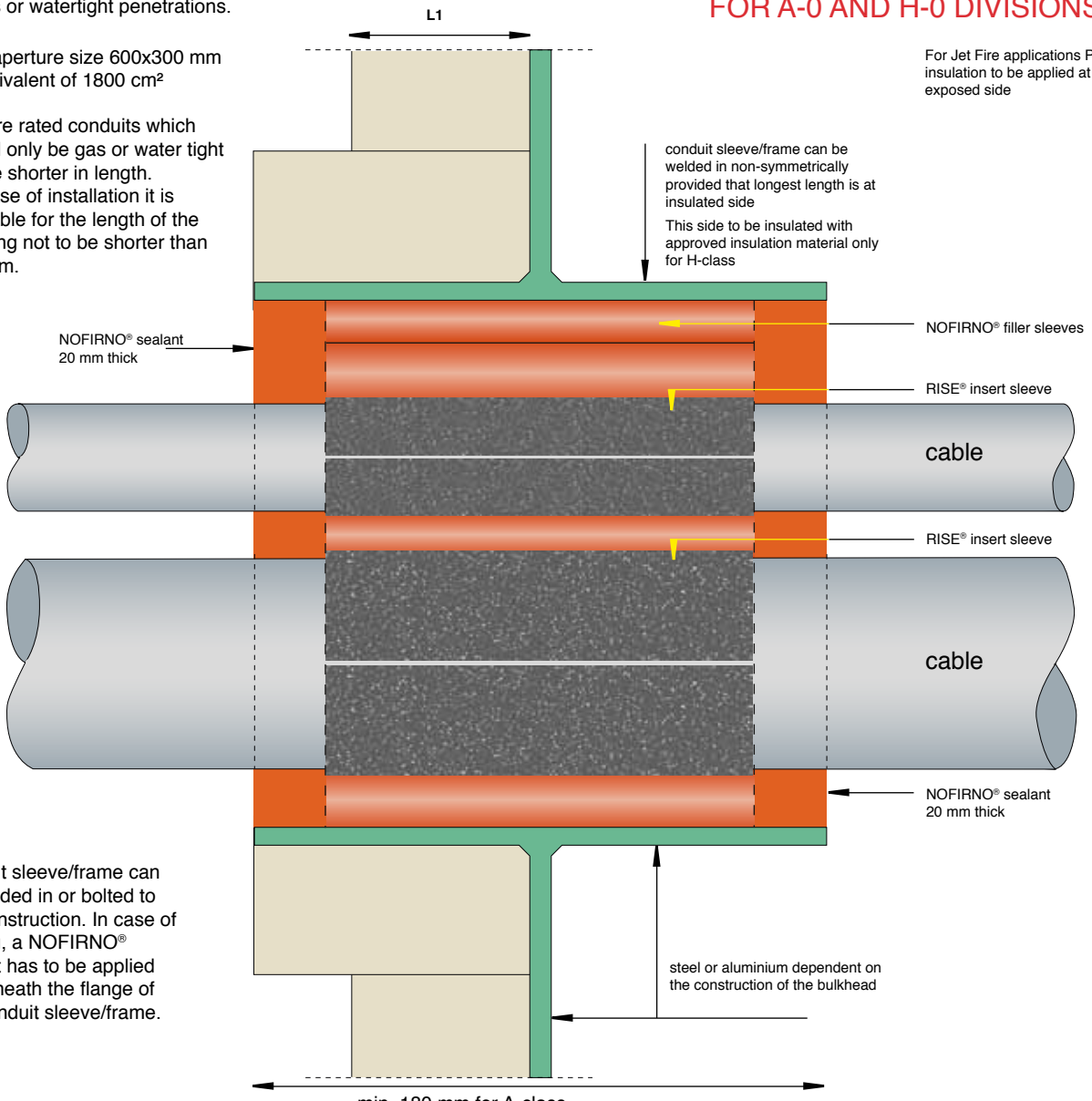
- APPROVED FOR ALL TYPES OF CABLES INCL. LAN AND CLX
- APPROVED FOR CABLE SIZES UP TO 105 MM OD AND UP TO 3x400 MM²
- APPROVED FOR BUNDLED LAN DATA CABLES
- MAX. BUNDLE SIZE 35 MM

Bundling of cables is not allowed for gas or watertight penetrations.

- NO EXTRA INSULATION REQUIRED AT THE FRONT OF THE PENETRATION AND/OR IN BETWEEN THE CABLES
- NO INSULATION REQUIRED FOR A-0 AND H-0 DIVISIONS

max. aperture size 600x300 mm or equivalent of 1800 cm²

Non-fire rated conduits which should only be gas or water tight can be shorter in length. For ease of installation it is advisable for the length of the coaming not to be shorter than 100 mm.



conduit sleeve/frame can be welded in or bolted to the construction. In case of bolting, a NOFIRNO® gasket has to be applied underneath the flange of the conduit sleeve/frame.

ask for the MED certificate with the stamped and signed detailed installation drawings

Specifications for A-class according to EC (MED) certificate 09156/C1 EC issued by Bureau Veritas. Drawings R0115E, R0116E, R0117E, R0170E, R0171E, R0172E, R0271E, R0272E and R0292E
For H-class DNV certificate F-19295. Drawings R0293E, R0294E and R0295E.

A0-A60 / H0-H120 MULTI-CABLE TRANSIT

NOFIRNO® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

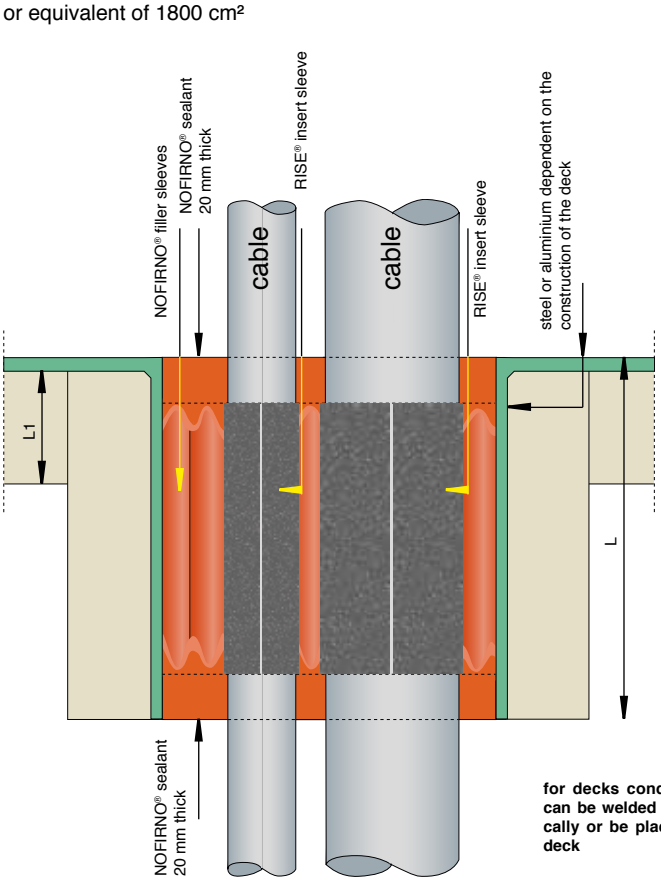
L1: A-60/H-120 approved deck insulation.

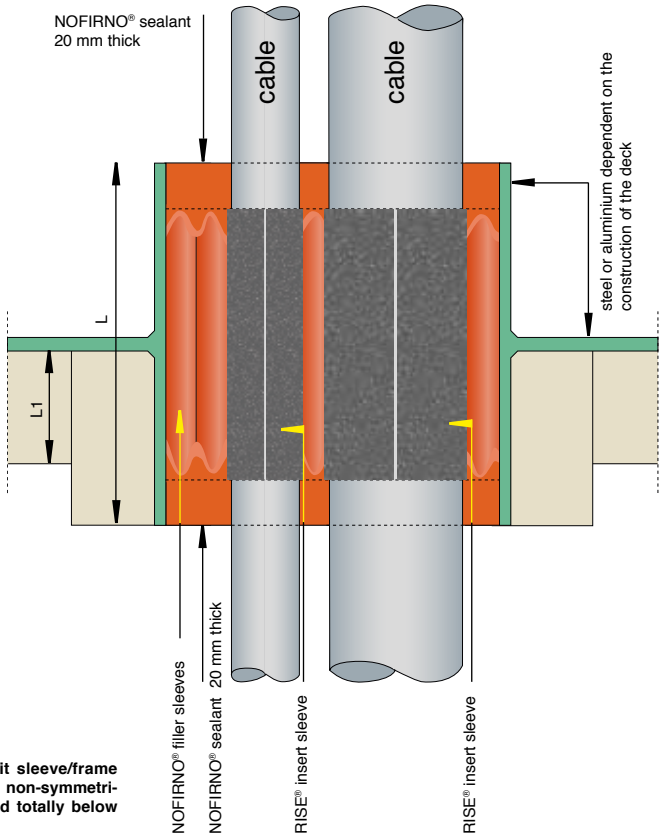
- APPROVED FOR ALL TYPES OF CABLES INCL. LAN AND CLX
- APPROVED FOR CABLE SIZES UP TO 105 MM OD AND UP TO 3x400 MM²
- APPROVED FOR BUNDLED LAN DATA CABLES
- MAX. BUNDLE SIZE 35 MM

Bundling of cables is not allowed for gas or watertight penetrations.

max. aperture size 600x300 mm
or equivalent of 1800 cm²

- NO EXTRA INSULATION REQUIRED AT THE FRONT OF THE PENETRATION AND/OR IN BETWEEN THE CABLES
- NO INSULATION REQUIRED FOR A-0 AND H-0 DIVISIONS





for decks conduit sleeve/frame can be welded in non-symmetrically or be placed totally below deck

L= min. 180 mm for A-class,
L= min. 250 mm for A0/H0-H120 and Jet Fire

conduit sleeve/frame can be welded in or bolted to the partition. In case of bolting, a NOFIRNO® gasket has to be applied underneath the flange of the conduit sleeve/frame.

ask for the MED certificate with the stamped and signed detailed installation drawings

Non-fire rated conduits which should only be gas or water tight can be shorter in length.
For ease of installation it is advisable for the length of the coaming not to be shorter than 100 mm.

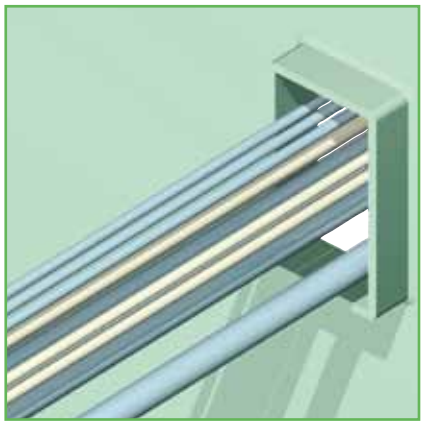
For Jet Fire applications PFP insulation to be applied at the exposed side

ask for the MED certificate with the stamped and signed detailed installation drawings

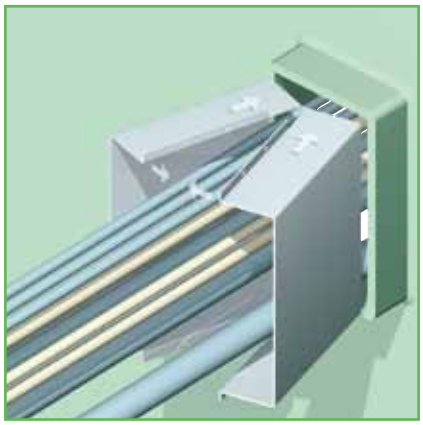
Specifications for A-class according to EC (MED) certificate 09156/C1 EC issued by Bureau Veritas.
Drawings R0115E, R0116E, R0117E, R0170E, R0171E, R0172E, R0271E, R0272E and R0292E
For H-class DNV certificate F-19295.
Drawings R0293E, R0294E and R0295E.

A0-A60 / H0-H120 MULTI-CABLE TRANSIT

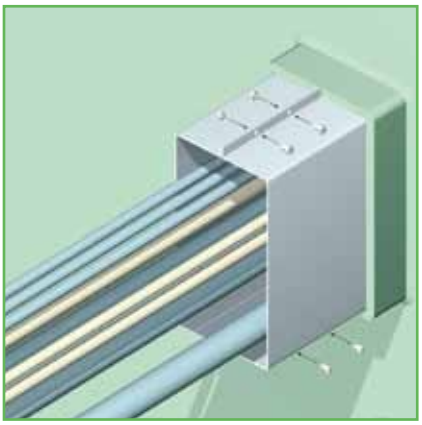
RISE® EXTEND-A-FRAMES FOR UPGRADING EXISTING BLOCK SYSTEM INSTALLATIONS



1) Remove all block components from the transit frame, if any. Remove any dirt or grease from the inside of the frame and the cable jackets.

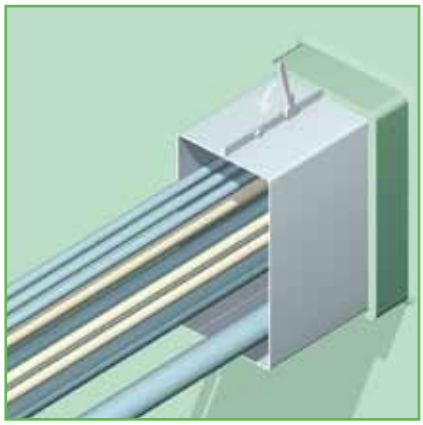


2) Position the two halves of the EXTEND-A-FRAME around the bundle of cables, then push the EXTEND-A-FRAME into the transit frame. The fitting must be very tight for stability reasons.

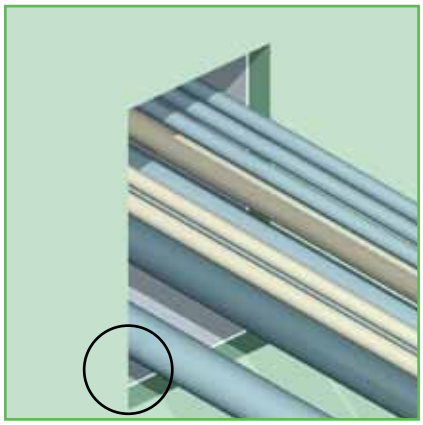


3) The flanges on the top and bottom of the EXTEND-A-FRAME must be firmly seated against the transit frame. Install the bolts and nuts on the top and bottom flanges. Tighten the bolts on top and bottom flanges.

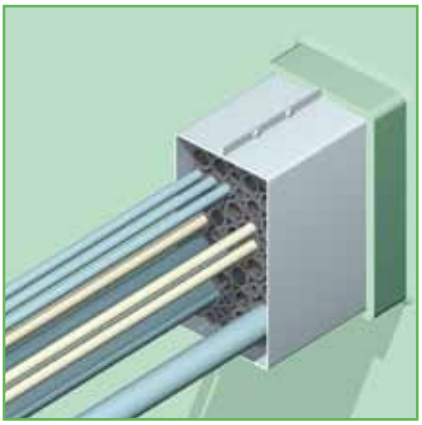
RISE®/EXTENDER instantly doubles the usable space inside any block system transit frame!



4) The flanges are 10 mm high, corresponding with the wall thickness of the block system transits. This enables the EXTEND-A-FRAMES to fit in multi-window transit units without any problems.



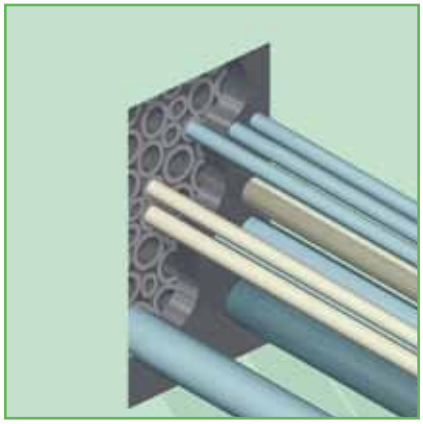
5) The EXTEND-A-FRAME, positioned in the transit frame, leaves 20 mm free at the back of the transit frame for the bonding of the FIWA® sealant to that transit frame. This is necessary to obtain a tight seal.



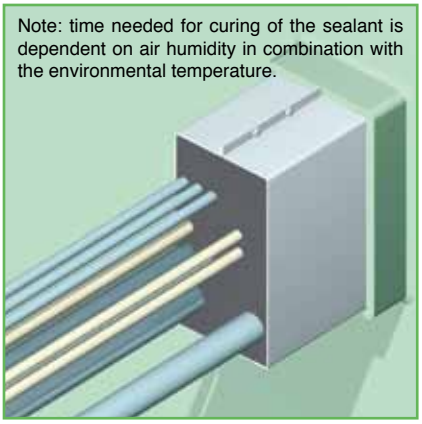
6) Place a RISE® insert sleeve around each cable. Any empty space is filled with RISE® filler sleeves. Note: EXTEND-A-FRAMES can also be used with the NOFIRNO® system.

Eliminates the need for cutting new penetrations in valuable bulkhead/deck space!

7) Center the RISE® sleeves within the conduit so as to leave 20 mm free space at the front and the back of the transit. A 20 mm layer of FIWA® or NOFIRNO® sealant is applied at both sides of the transit.



8) Refer to the step by step installation instructions for RISE® multi-cable penetrations for final finishing of the transit. Note: EXTEND-A-FRAMES can also be used with the NOFIRNO® system.



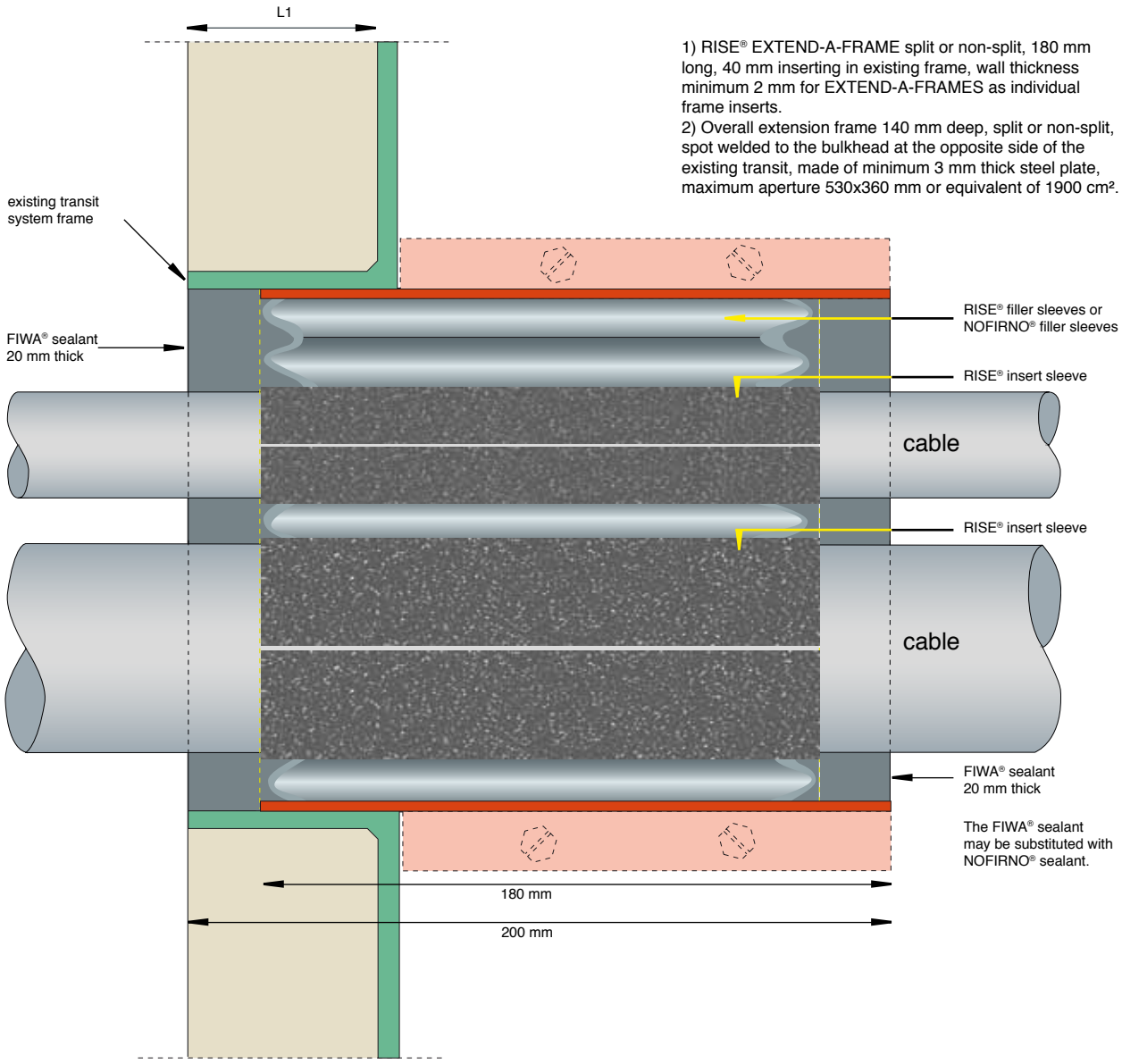
9) For optimum stability, the EXTEND-A-FRAME can be spot welded or bolted to the existing frame. For larger frame configurations, an option is to install a frame around the existing transit frame spot welded to the deck or bulkhead.

RISE® EXTEND-A-FRAMES FOR UPGRADING EXISTING BLOCK SYSTEM INSTALLATIONS

L1: A-60 approved bulkhead/deck insulation.

NO EXTRA INSULATION REQUIRED AT THE FRONT OF THE PENETRATION AND/OR IN BETWEEN THE CABLES

1) RISE® EXTEND-A-FRAME split or non-split, 180 mm long, 40 mm inserting in existing frame, wall thickness minimum 2 mm for EXTEND-A-FRAMES as individual frame inserts.
2) Overall extension frame 140 mm deep, split or non-split, spot welded to the bulkhead at the opposite side of the existing transit, made of minimum 3 mm thick steel plate, maximum aperture 530x360 mm or equivalent of 1900 cm².



ask for the MED certificate with the stamped and signed detailed installation drawings

specifications for A-class according to EC (MED) certificate 09156/C1 EC issued by Bureau Veritas.
Drawings R0066E, R0067E, R0101E and R0102E

For optimum stability, the EXTEND-A-FRAME can be spot welded to the existing frame.
For larger frame configurations an option is to install a frame around the existing transit frame spot welded to the bulkhead.

A0-A60 MULTI-CABLE TRANSIT

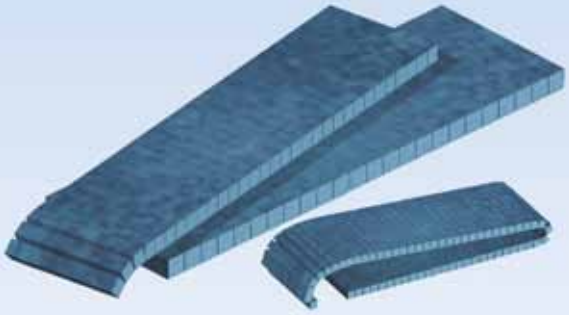
RIACNOF® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

RISE® cable sleeves

Note: maximum continuous service temperature of the RISE® sleeves not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

cable sleeves are supplied split lengthwise

ACTIFOAM® filler sheets



Note: maximum continuous service temperature of the ACTIFOAM® sheets not to exceed 70 °C.
Consult our technical support department in case of higher operating temperatures.

RIACNOF® (RISE-ACTIFOAM-NOFIRNO) multi-cable penetrations are a further development of the regular RISE® system. We have combined ACTIFIRE® and NOFIRNO® technology to obtain high fire ratings and cost-effective installation. The system is a cost-effective alternative to the RISE® filler sleeves to pack large void spaces in transits.
Use is made of RISE® rubber insert sleeves (placed around the cables) and ACTIFOAM® cell rubber filling. ACTIFOAM® rubber sheets are pre-slit to enable ease of filling. Single strips can be torn off easily to fill smaller voids in the penetration.
Based on the ACTIFIRE® technology, both rubber grades are activated when exposed to fire.
On both sides of the penetration, a layer of NOFIRNO® (non-fire consumable, non-intumescent, non-ageing) sealant is applied. Only halogen free components.

RISE® cable sleeve	cable diameter		sleeve length	article number
12/6	5 - 7		140	80.0051
14/8	7 - 9		140	80.0052
16/10	9 - 11		140	80.0053
18/12	11 - 13		140	80.0054
20/14	13 - 15		140	80.0055
22/16	15 - 17		140	80.0056
27/19	17 - 21		140	80.0057
31/23	21 - 25		140	80.0058
35/27	25 - 29		140	80.0059
39/31	29 - 33		140	80.0060
46/36	33 - 39		140	80.0061
52/42	39 - 45		140	80.0062
58/48	45 - 51		140	80.0063
64/54	51 - 57		140	80.0064
70/60	57 - 63		140	80.0065
12/6	5 - 7		160	80.0100
14/8	7 - 9		160	80.0101
16/10	9 - 11		160	80.0102
18/12	11 - 13		160	80.0103
20/14	13 - 15		160	80.0104
22/16	15 - 17		160	80.0105
27/19	17 - 21		160	80.0106
31/23	21 - 25		160	80.0107
35/27	25 - 29		160	80.0108
39/31	29 - 33		160	80.0109
46/36	33 - 39		160	80.0110
52/42	39 - 45		160	80.0111
58/48	45 - 51		160	80.0112
64/54	51 - 57		160	80.0113
70/60	57 - 63		160	80.0114
12/6	5 - 7		210	80.0200
14/8	7 - 9		210	80.0201
16/10	9 - 11		210	80.0202
18/12	11 - 13		210	80.0203
20/14	13 - 15		210	80.0204
22/16	15 - 17		210	80.0205
27/19	17 - 21		210	80.0206
31/23	21 - 25		210	80.0207
35/27	25 - 29		210	80.0208
39/31	29 - 33		210	80.0209
46/36	33 - 39		210	80.0210
52/42	39 - 45		210	80.0211
58/48	45 - 51		210	80.0212
64/54	51 - 57		210	80.0213
70/60	57 - 63		210	80.0214

all dimensions in mm

ACTIFOAM® filler sheets		sheet length	article number
300x140x10		140	83.2510
300x140x25		140	83.2513
300x160x10		160	83.2520
300x160x25		160	83.2523
600x140x25		140	83.2563
600x160x25		160	83.2573
600x140x25 (slits 50 mm)		140	83.2592
600x160x25 (slits 50 mm)		160	83.2593

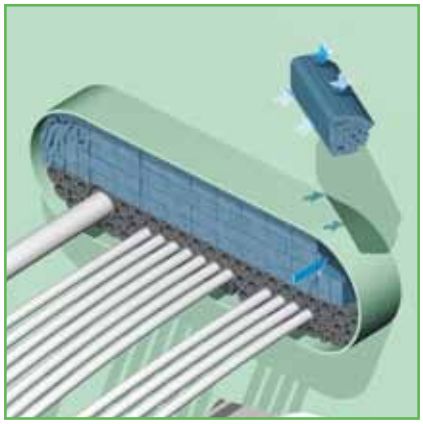
all dimensions in mm

ACTIFOAM

RIACNOF® MULTI-CABLE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

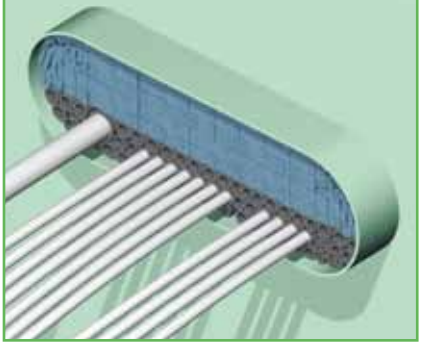
Note: maximum continuous service temperature of the RISE® sleeves not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

1) After the cables have been ducted, RISE® insert sleeves are applied around each cable. The set of sleeved cables is leveled with RISE® filler sleeves for ease of installation of the ACTIFOAM® filling.



2) ACTIFOAM® strips and pre-slit sheets are used to fill the larger remaining space in the conduit opening. Use is made of ACTIFOAM® pre-slit rubber sheets 300x140x10 mm (slits 10x10 mm) and 600x140x25 mm (slits 25x25 or 25x50 mm).

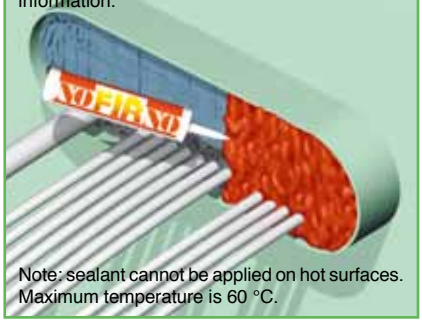
Before applying the sealant, it is advisable to perform a final check on the packing of insert, filler sleeves and ACTIFOAM®.



3) To obtain appropriate sealing, the 10 mm pre-slit sheets should be tightly rolled to leave a minimum of air gaps. Furthermore, the ACTIFOAM® filling should fit tightly in the conduit to obtain sufficient stability.

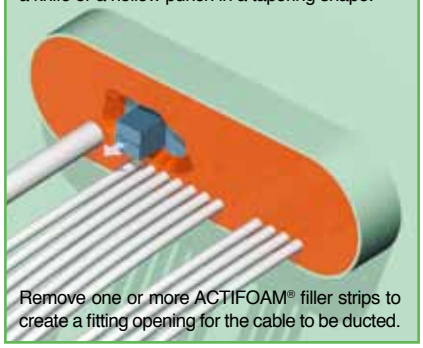
People with sensitive skin should use gloves when working with NOFIRNO®.

Please refer to the Safety Data Sheet for more information.



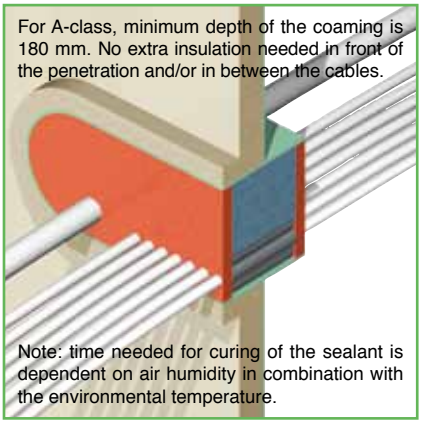
Note: sealant cannot be applied on hot surfaces. Maximum temperature is 60 °C.

Adding extra cables is an easy job. Cut away the sealant layer at both sides of the penetration with a knife or a hollow punch in a tapering shape.

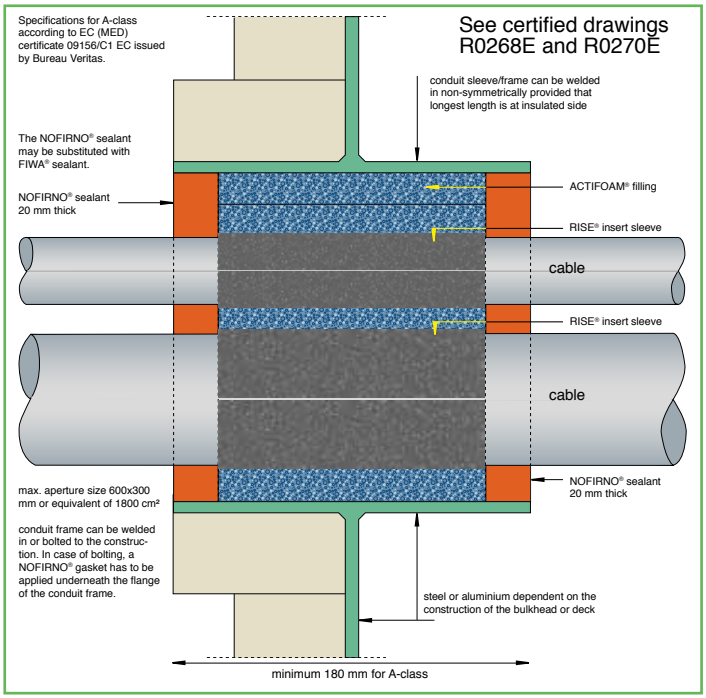


Remove one or more ACTIFOAM® filler strips to create a fitting opening for the cable to be ducted.

For A-class, minimum depth of the coaming is 180 mm. No extra insulation needed in front of the penetration and/or in between the cables.

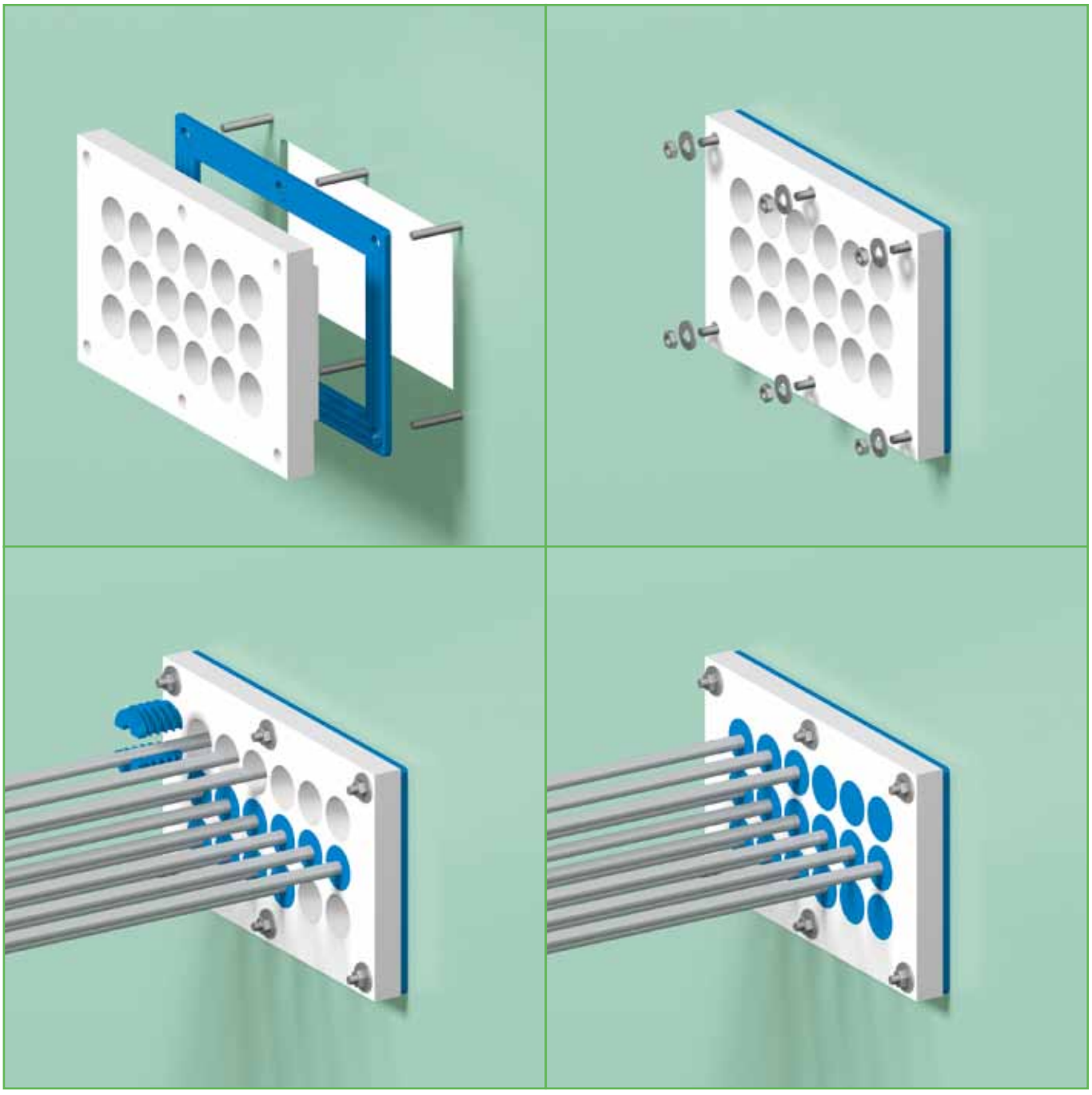


Note: time needed for curing of the sealant is dependent on air humidity in combination with the environmental temperature.



ask for the MED certificate with the stamped and signed detailed installation drawings

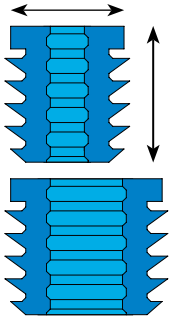
GLANDMOD - MULTI-GLAND SYSTEM
MULTI-MODULES - NOFIRNO GASKETS - CET-A-SIL PLUGS



GLANDMOD - MULTI-GLAND SYSTEM

effective alternative for cable gland systems
plugs/gasket made of NOFIRNO® rubber -
body of HMPE plastic
IP 67 rated - 1-2 meter water column tight
various configurations

GLANDMOD - MULTI-GLAND SYSTEM
MULTI-MODULES - NOFIRNO GASKETS - CET-A-SIL PLUGS



flange 15 mm
length 18 mm

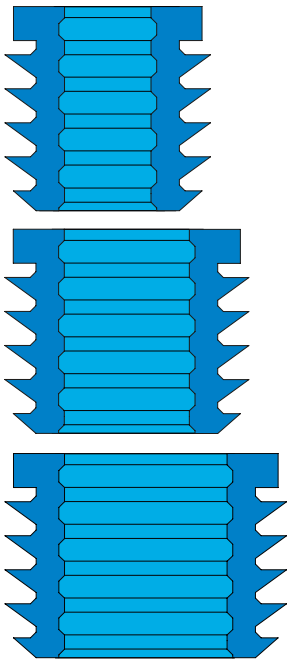
flange 20mm
length 18 mm

type	cable diameter	art. no.
15/0	blind	46.0100
15/4	3.7-4.7	46.0104
15/5	4.7-5.7	46.0105
15/6	5.7-6.7	46.0106
15/7	6.7-7.7	46.0107

CET-A-SIL SERIES 15

type	cable diameter	art. no.
20/0	blind	46.0200
20/4	3.7-4.7	46.0204
20/5	4.7-5.7	46.0205
20/6	5.7-6.7	46.0206
20/7	6.7-7.7	46.0207
20/8	7.7-8.7	46.0208
20/9	8.7-9.7	46.0209
20/10	9.7-10.7	46.0210

CET-A-SIL SERIES 20



flange 25 mm
length 27 mm

flange 30 mm
length 27 mm

flange 35 mm
length 27 mm

type	cable diameter	art. no.
25/0	blind	46.0300
25/8	7.7-8.7	46.0308
25/9	8.7-9.7	46.0309
25/10	9.7-10.7	46.0310
25/11	10.7-11.7	46.0311
25/12	11.7-12.7	46.0312
25/13	12.7-13.7	46.0313
25/14	13.7-14.7	46.0314

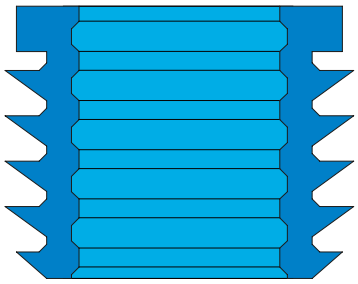
CET-A-SIL SERIES 25

type	cable diameter	art. no.
30/0	blind	46.0400
30/10	9.7-10.7	46.0410
30/11	10.7-11.7	46.0411
30/12	11.7-12.7	46.0412
30/13	12.7-13.7	46.0413
30/14	13.7-14.7	46.0414
30/15	14.7-15.7	46.0415
30/16	15.7-16.7	46.0416
30/17	16.7-17.7	46.0417

CET-A-SIL SERIES 30

type	cable diameter	art. no.
35/0	blind	46.0500
35/15	14.7-15.7	46.0515
35/16	15.7-16.7	46.0516
35/17	16.7-17.7	46.0517
35/18	17.7-18.7	46.0518
35/19	18.7-19.7	46.0519
35/20	19.7-20.7	46.0520
35/21	20.7-21.7	46.0521
35/22	21.7-22.7	46.0522

CET-A-SIL SERIES 35



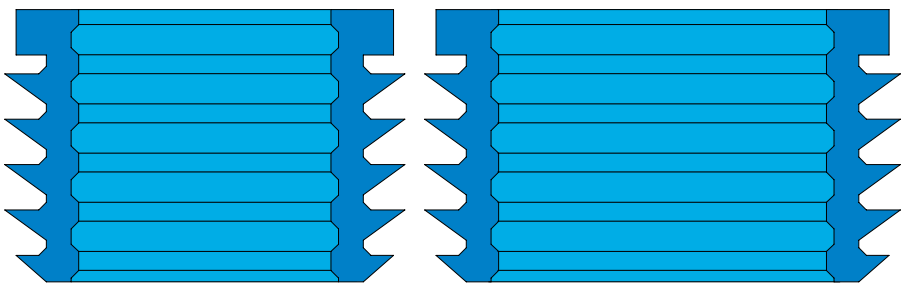
flange 43 mm
length 36 mm

type	cable diameter	art. no.
43/0	blind	46.0600
43/20	19.7-20.7	46.0620
43/21	20.7-21.7	46.0621
43/22	21.7-22.7	46.0622
43/23	22.7-23.7	46.0623
43/24	23.7-24.7	46.0624
43/25	24.7-25.7	46.0625
43/26	25.7-26.7	46.0626
43/27	26.7-27.7	46.0627
43/28	27.7-28.7	46.0628
43/29	28.7-29.7	46.0629

CET-A-SIL SERIES 43

type	cable diameter	art. no.
50/0	blind	46.0700
50/25	24.7-25.7	46.0725
50/26	25.7-26.7	46.0726
50/27	26.7-27.7	46.0727
50/28	27.7-28.7	46.0728
50/29	28.7-29.7	46.0729
50/30	29.7-30.7	46.0730
50/31	30.7-31.7	46.0731
50/32	31.7-32.7	46.0732
50/33	32.7-33.7	46.0733
50/34	33.7-34.7	46.0734

CET-A-SIL SERIES 50



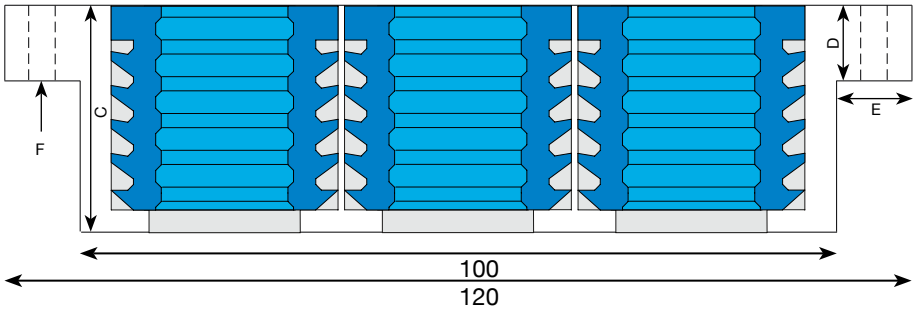
flange 50 mm
length 36 mm

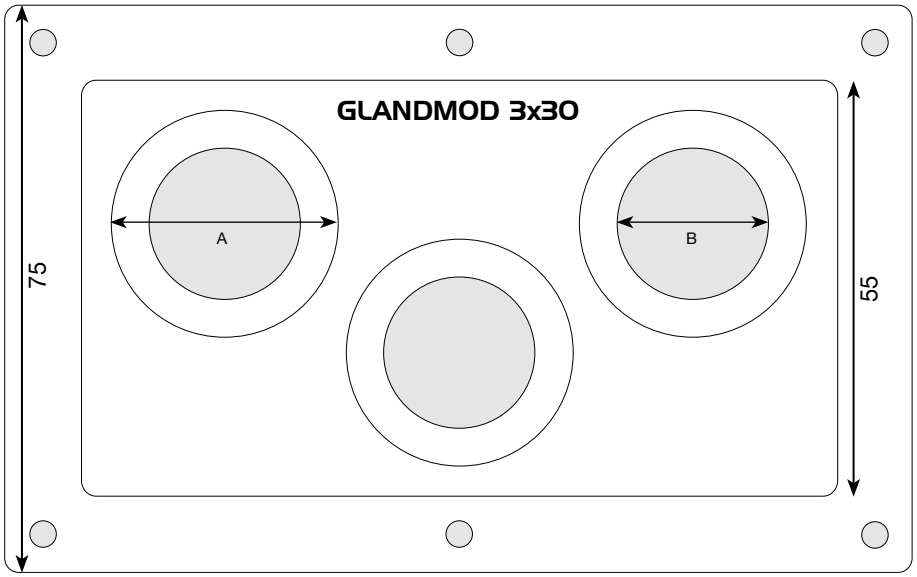
flange 60 mm
length 36 mm

60/0	blind	46.0800
60/30	29.7-30.7	46.0830
60/31	30.7-31.7	46.0831
60/32	31.7-32.7	46.0832
60/33	32.7-33.7	46.0833
60/34	33.7-34.7	46.0834
60/35	34.7-35.7	46.0835
60/36	35.7-36.7	46.0836
60/37	36.7-37.7	46.0837
60/38	37.7-38.7	46.0838
60/39	38.7-39.7	46.0839
60/40	39.7-40.7	46.0840

CET-A-SIL SERIES 60

GLANDMOD - MULTI-GLAND SYSTEM
MULTI-MODULES - NOFIRNO GASKETS - CET-A-SIL PLUGS





GLANDMOD SERIES 01:
outer dimensions 120x75 mm
recessed dimensions 100x55 mm

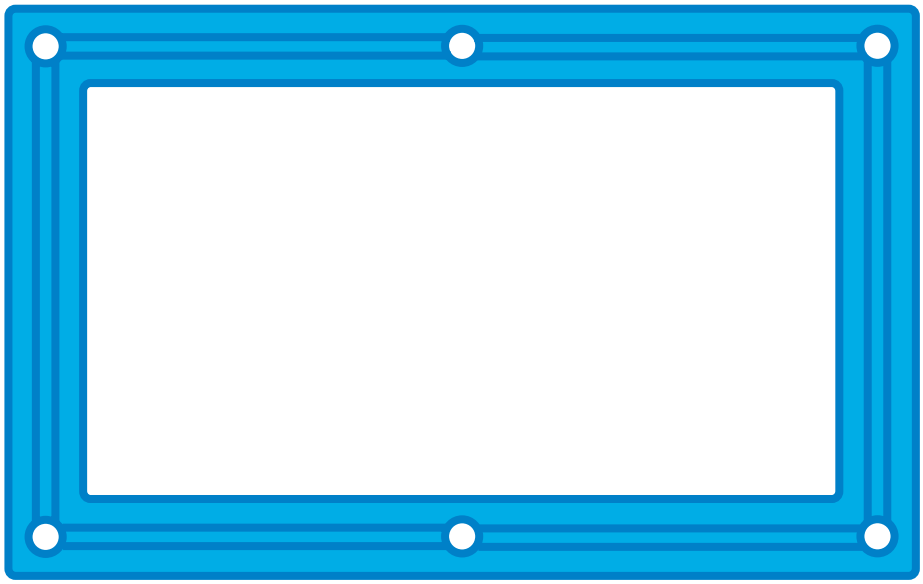
TYPE	A	B	C	D	E	F	art. no.
14x15	15	10	20	10	10	M4	60.9300
8x20	20	15	20	10	10	M4	60.9301
5x25	25	17.5	30	10	10	M4	60.9302
3x30	30	20	30	10	10	M4	60.9303

TYPE	conduit openings	plug series	cable size
14x15	14	15	3.7-7.7
8x20	8	20	3.7-9.7
5x25	5	25	7.7-14.7
3x30	3	30	9.7-17.7

GLANDMOD SERIES 02:
outer dimensions 230x130 mm
recessed dimensions 200x100 mm

TYPE	A	B	C	D	E	F	art. no.
18x30	30	20	30	10	15	M6	60.9310
IIx35	35	25	30	10	15	M6	60.9311
8x43	43	33	40	10	15	M6	60.9312
5x50	50	40	40	10	15	M6	60.9313

TYPE	conduit openings	plug series	cable size
18x30	18	30	9.7-17.7
IIx35	11	35	14.7-22.7
8x43	8	43	19.7-28.7
5x50	5	50	24.7-34.7



NOFIRNO GASKET SERIES 01
profiled, thickness overall 5 mm,
width 10 mm
dimensions outside 120x75 mm
dimensions inside 100x55 mm
art. nr. 51.9301

NOFIRNO GASKET SERIES 02
profiled, thickness overall 5 mm,
width 15 mm
dimensions outside 230x130 mm
dimensions inside 200x100 mm
art. nr. 51.9302

Note: the functionality with regard to tightness of the multi-gland system can be guaranteed only by application of the CET-A-SIL plugs in GLANDMOD modules. Application of CET-A-SIL plugs cannot be guaranteed in other conduit systems. Two standard series of the GLANDMOD modules are available. Ask for the drawings of the GLANDMOD modules. On request modules with various hole configurations can be made to size. The largest one so far made is a module 565 x 240 mm with 24 conduit openings 60 mm. For special sizes, please contact our sales department.

NOFIRNO® (MULTI-) PIPE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

NOFIRNO® filler sleeves

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

filler sleeves are supplied non-split

NOFIRNO® filler sleeve	sleeve length	article number
18/12 single	140	80.5002
18/12 multi	140	80.5052
18/12 single	160	80.5003
18/12 multi	160	80.5053
18/12 single	210	80.5004
18/12 multi	210	80.5054
27/19 single	140	80.5012
27/19 multi	140	80.5062
27/19 single	160	80.5013
27/19 multi	160	80.5063
27/19 single	210	80.5014
27/19 multi	210	80.5064

all dimensions in mm

Especially for single and multi-pipe penetrations, the multi-filler sleeves offer an advantage when filling the cavity between the conduit sleeve/frame and the ducted pipe. The sets are very flexible and can be wrapped around the ducted pipe. Furthermore, single filler sleeves can be torn off easily. The NOFIRNO® rubber has a good, long lasting memory, enabling a tight fit of the sleeves inside the conduit. This improves the overall mechanical stability of the sealing system during service life.

NOFIRNO® multi-filler sleeves

filler sleeves are supplied in multi-sets of 10 sleeves

The NOFIRNO® rubber grade has excellent properties and will not be consumed by the fire. The NOFIRNO® sealant immediately forms a protective layer and char when exposed to flames, in this way protecting the filling of the penetration seal.
The thermal insulation is very high because of the air volume inside the penetration. The air is tightly enclosed by the sealant layer at both sides even when one side is exposed to the fire. The NOFIRNO® system has been subjected to A-0, H-0 and even Jet Fires without being severely affected. Due to the superb behaviour of our various systems, the NOFIRNO® sealing system can be easily combined with RISE®.
The NOFIRNO rubber is absolutely HALOGEN FREE (tested according to Naval Engineering Standard NES 713: Issue 3). Furthermore, the NOFIRNO rubber has a low smoke index (NES 711: Issue 2: 1981) and a high oxygen index (ISO 4589-2: 1996).

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

article number 50.0102

NOFIRNO® is a paste-like compound which is simple to use. NOFIRNO® has a balanced viscosity and can be applied overhead.
After applying the sealant, it can be smoothed by means of a wet cloth or by hand. Because the sealant adheres very tightly, the cloth and hands should be wetted with water before use to prevent sealant from sticking to them.

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

NOFIRNO® (MULTI-) PIPE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

JET FIRE TEST ACCORDING TO ISO 22899-1:2007 AND ISO/CD 22899-2

Article 6.5 of ISO/CD 22899-2 mentions:

"There are concerns regarding the application and performance of passive fire protection materials and products when subjected to extreme fire events. Limited information is available how passive fire protection materials and products (developed for buildings only to withstand relatively slow build up fire tests such as ISO 834) perform if subjected to a fire exposure significantly more severe.
A fire protection material or system intended to withstand a conventional building fire for a specified period may not perform adequately in an extreme event scenario. Products that have demonstrated the ability to withstand a jet fire can be used to protect buildings more sensitive to extreme fires".

NOFIRNO® cable and pipe transits are successfully tested for a two hour Jet Fire exposure.

Article 9.1 of ISO/CD 22899-2 mentions:
"Whilst hydrocarbon furnace tests are designed to represent a particular type of fire, they do not reproduce the actual fire conditions. Parameters such as:
the balance between radiative and convective heat transfer, pressure fluctuations due to turbulence, erosive forces from high gas velocities, thermal shock and differential heating are not reproduced".

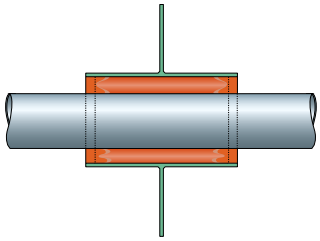
Jet Fire tests simulate the most onerous conditions of a hydrocarbon fueled fire on an offshore oil rig, or a missile strike on a military warship.

In some areas, in the flame temperatures of 1200 °C are reached. Heat flux vs. black body temperature: 250 kW/m² equals 1175 °C.

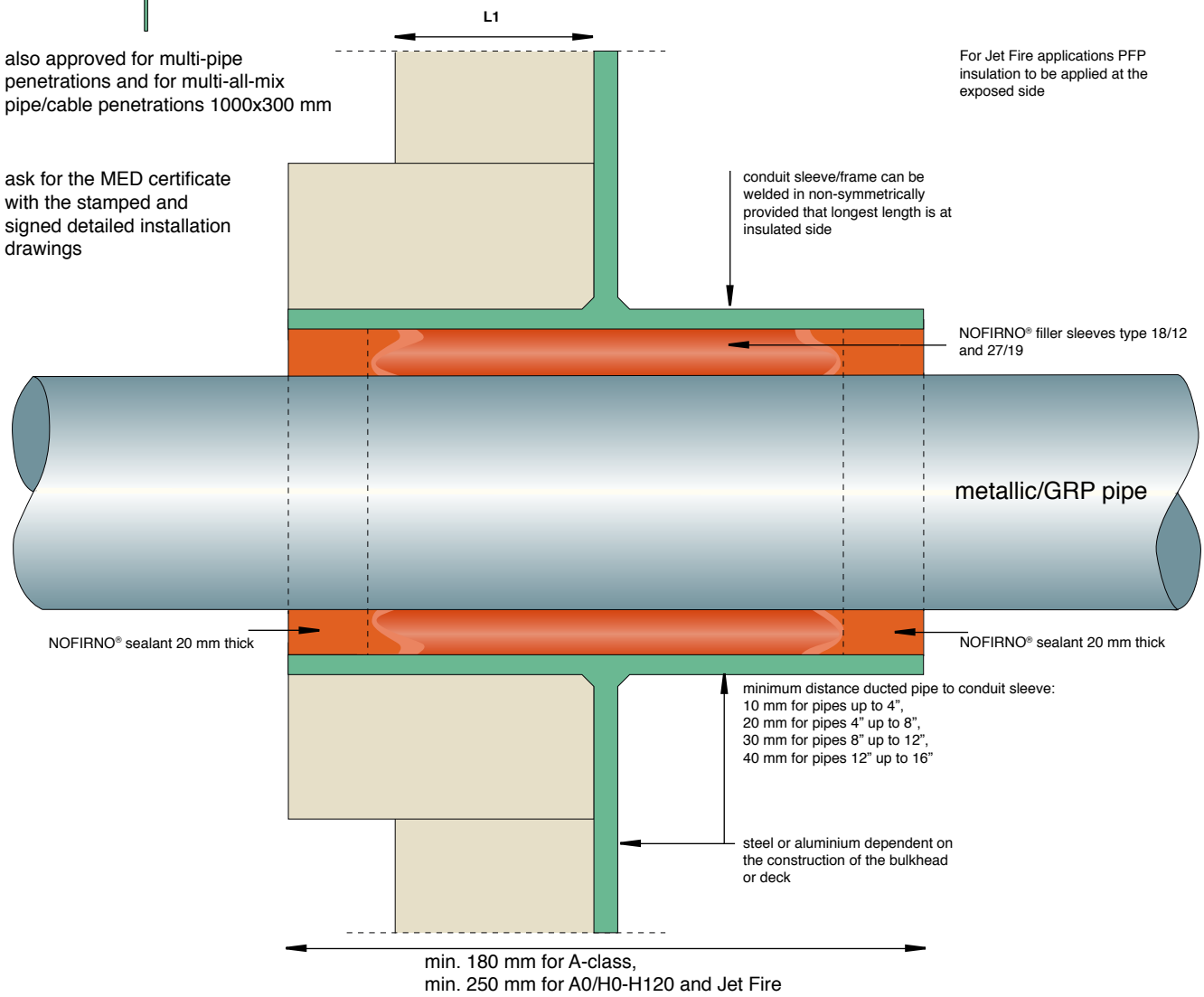
NOFIRNO® (MULTI-) PIPE TRANSIT SEALING SYSTEM

L1: A-60/H-120 approved bulkhead insulation.

- CAN BE USED FOR OFF CENTRE, EXCENTRICALLY AND ANGLED DUCTED PIPES
- FOR METALLIC AND GRP PIPES



NO INSULATION REQUIRED FOR A-0 AND H-0 DIVISIONS



Non-fire rated conduits which should only be gas or water tight can be shorter in length.
For ease of installation it is advisable for the length of the coaming not to be shorter than 100 mm.

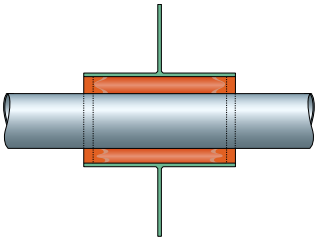
For steel/stainless steel pipes up to 408/1016 mm, copper/CuNi pipes up to 420 mm and GRP pipes up to 408 mm.
For length of insulation of the ducted pipes see certified drawings N009E, N0011E, N0018E, N0020E, R0207E and R0213E.

Specifications for A-class according to EC (MED) certificate MED-B-4908 issued by Det Norske Veritas. Drawings N0009E, N0011E, N0018E and N0020E, R0207E, R0213E.
For H-class DNV certificate F-19524. Drawings N0032E, N0033E, N0034E, N0035E, N0036E, N0037E and N0038E.

A0-A60 / H0-H120 METALLIC AND GRP PIPE TRANSIT

NOFIRNO® (MULTI-) PIPE TRANSIT SEALING SYSTEM

L1: A-60/H-120 approved deck insulation.

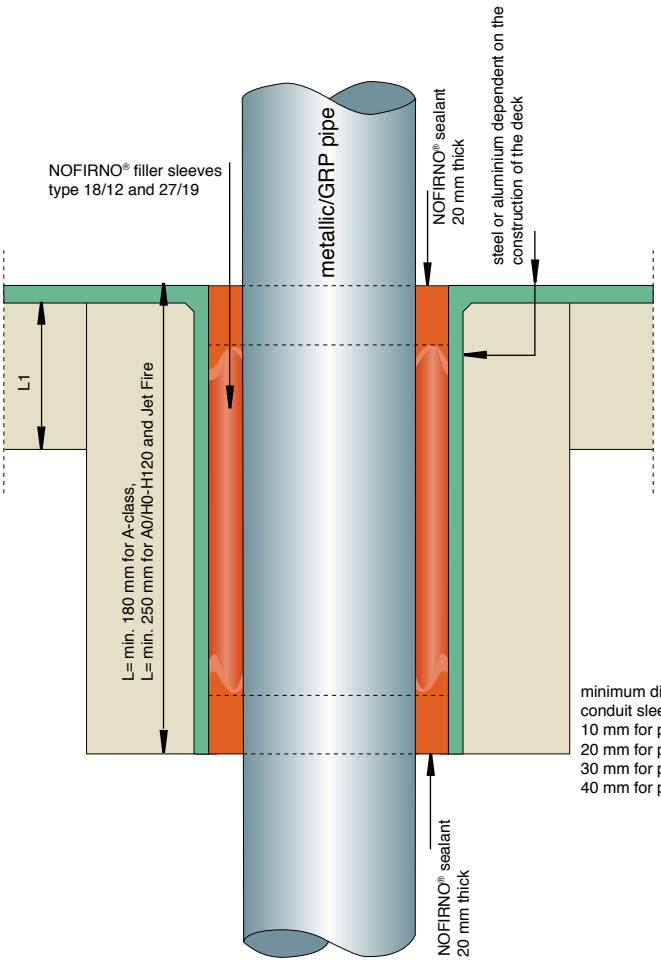


NO INSULATION REQUIRED FOR A-0 AND H-0 DIVISIONS

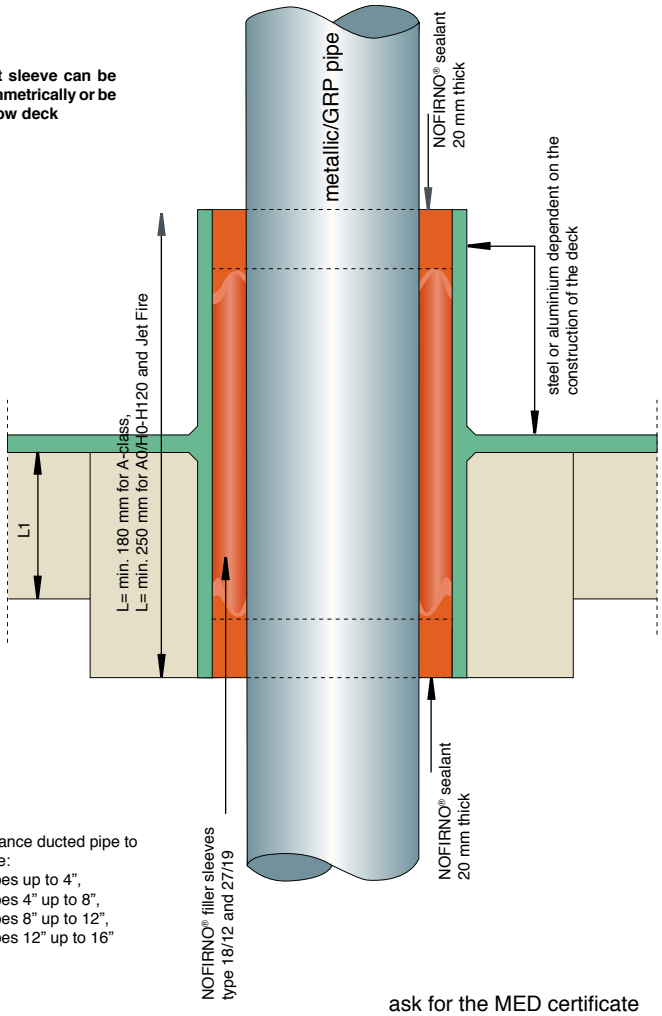
- CAN BE USED FOR OFF CENTRE, EXCENTRICALLY AND ANGLED DUCTED PIPES
- FOR METALLIC AND GRP PIPES

also approved for multi-pipe penetrations and for multi-all-mix pipe/cable penetrations 1000x300 mm

for decks conduit sleeve can be welded in non-symmetrically or be placed totally below deck



minimum distance ducted pipe to conduit sleeve:
10 mm for pipes up to 4",
20 mm for pipes 4" up to 8",
30 mm for pipes 8" up to 12",
40 mm for pipes 12" up to 16"



ask for the MED certificate with the stamped and signed detailed installation drawings

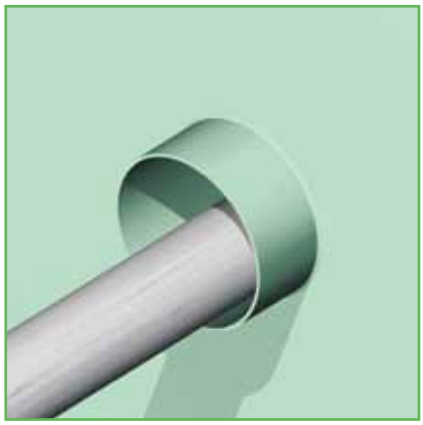
Non-fire rated conduits which should only be gas or water tight can be shorter in length.
For ease of installation it is advisable for the length of the coaming not to be shorter than 100 mm.

Specifications for A-class according to EC (MED) certificate MED-B-4908 issued by Det Norske Veritas. Drawings N0009E, N0011E, N0018E and N0020E, R0207E, R0213E.
For H-class DNV certificate F-19524. Drawings N0032E, N0033E, N0034E, N0035E, N0036E, N0037E and N0038E.

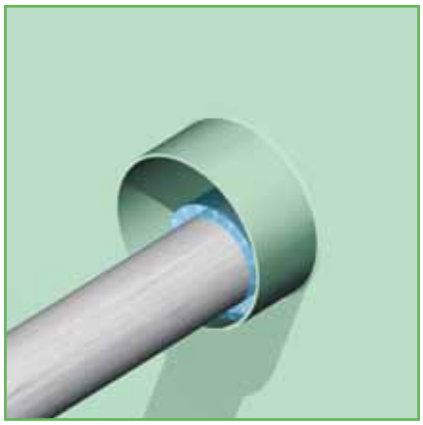
For steel/stainless steel pipes up to 408 mm, copper/CuNi pipes up to 420 mm and GRP pipes up to 408 mm.
For length of insulation of the ducted pipes see certified drawings N009E, N0011E, N0018E, N0020E, R0207E and R0213E.

A0-A60 / H0-H120 METALLIC AND GRP PIPE TRANSIT

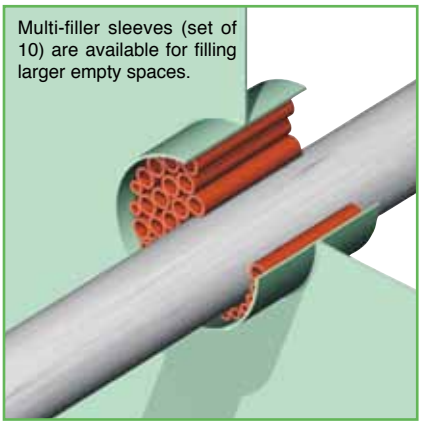
NOFIRNO® (MULTI-) PIPE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT



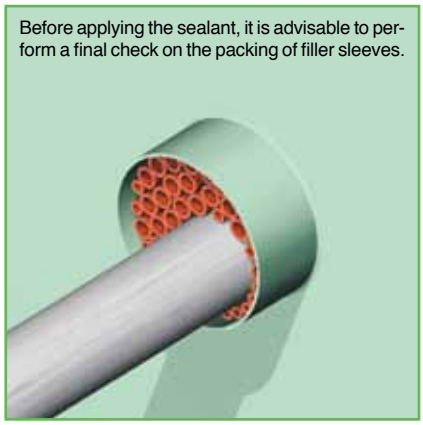
1) The metallic pipe can be passed through the conduit sleeve in any position, provided there is enough space between the sleeve and the ducted pipe (see next at 2).



2) Make sure that the minimum space between the pipe and the wall of the conduit sleeve is in accordance with the minimum allowed distance as certified.



3) The remaining free space in the conduit is filled with NOFIRNO® filler sleeves type 27/19 and 18/12. For ease of filling, the NOFIRNO® filler sleeves are supplied non-split. The ratio 27/19 to 18/12 should be about 2:1.



4) Push the filler sleeves into the conduit in such a way as to leave about 20 mm free space at the front. The whole set of filler sleeves should tightly fit into the conduit to provide sufficient mechanical stability.

5) A 20 mm thick layer of NOFIRNO® sealant is applied at each side of the con-duit. Clean and dry the conduit opening as well as the pipe thoroughly, and remove any dirt, rust or oil residues before applying the sealant.

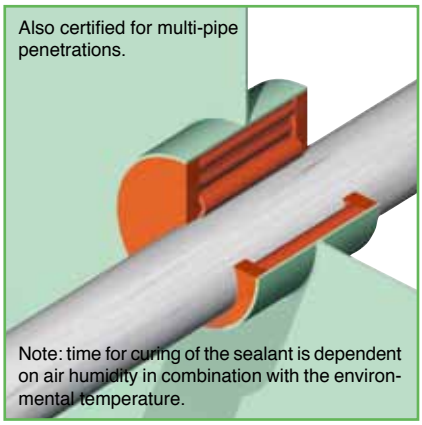
6) The conduit should be overfilled with NOFIRNO® sealant, because some sealant will be pushed between and into the empty filler sleeves during further finishing. This will contribute to obtain higher tightness ratings.

7) 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!

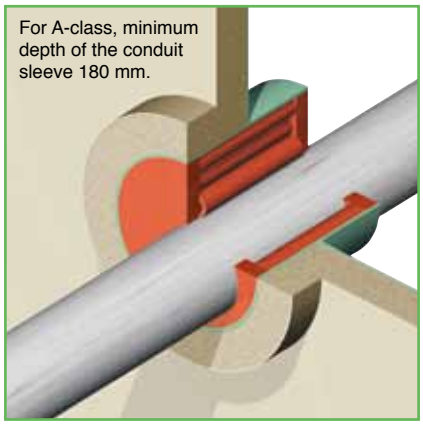
8) The cloth is then used to press down the sealant layer. People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

9) 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.

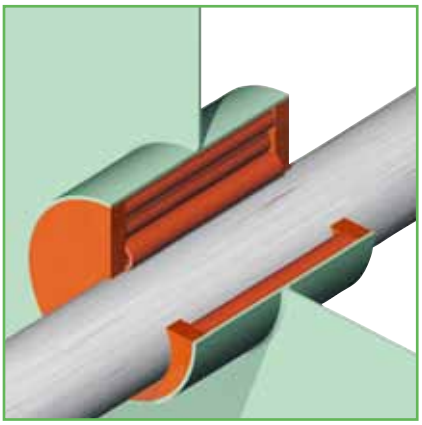
NOFIRNO® (MULTI-) PIPE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT



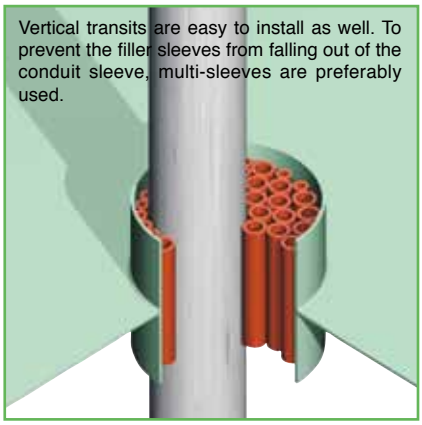
10) The conduit sleeve should be minimum 180 mm deep for A-60 class and 250 mm deep for A-0, H0-H120 and Jet Fire rated divisions.

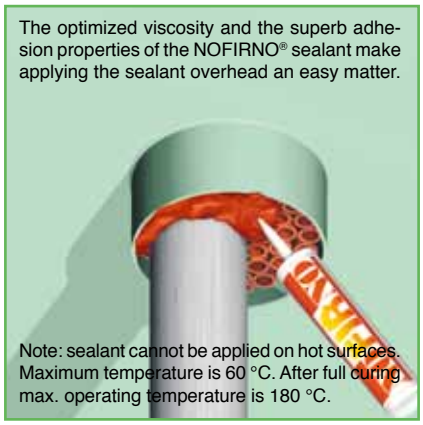


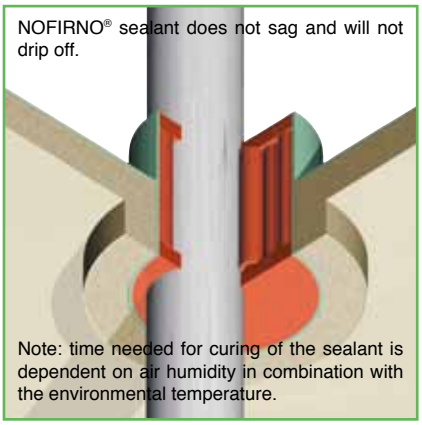
11) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. The ducted pipe has to be insulated according to the specifications on the certified drawings.

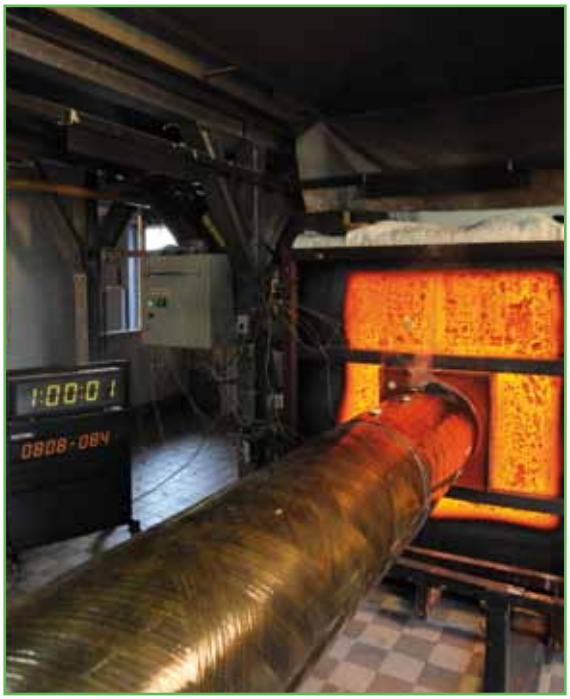


12) For A0- and H0-class penetrations the conduit sleeve/frame needs no insulation.



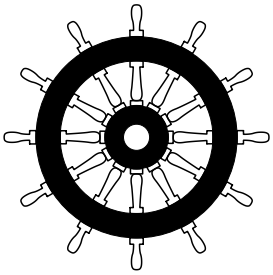






JET FIRE TESTED ACCORDING TO ISO 22899-1:2007 AND ISO/CD 22899-2

Specification is 0.3 kg/sec propane. 125 minutes is 7500 sec. This means 2250 kg propane in this test burned. Equals a volume of almost 1300 m³ propane.



NOFIRNO® single steel and GRP pipe penetrations have been successfully tested for A-0 and H-0 class without the use of any insulation.
Conduit depth 250 mm.


DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

CERTIFICATE NO. MED-B-4988

Penetrations through "A" class divisions: pipe, duct, trunk, etc penetrations

RISE/NOFIRNO - SINGLE AND MULTI PIPE AND MULTI-MIX DUCT + CABLE PENETRATION

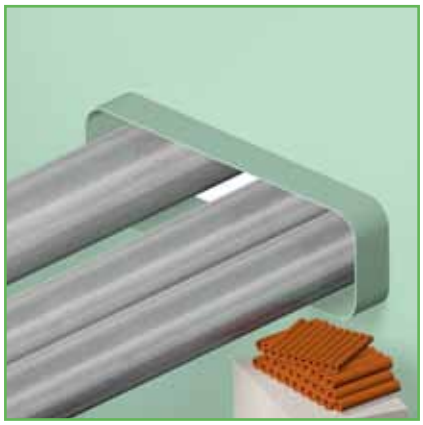
BEELE Engineering bv/CSD International bv

AALTEN, Netherlands

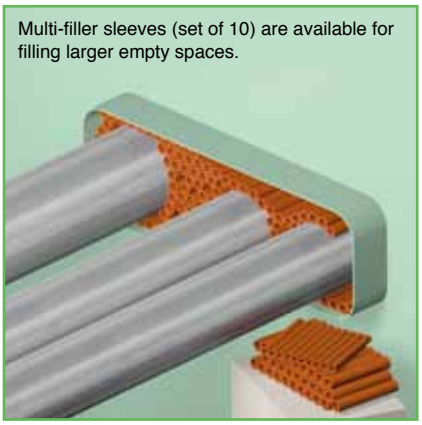
check for updates

NOFIRNO® (MULTI-) PIPE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT

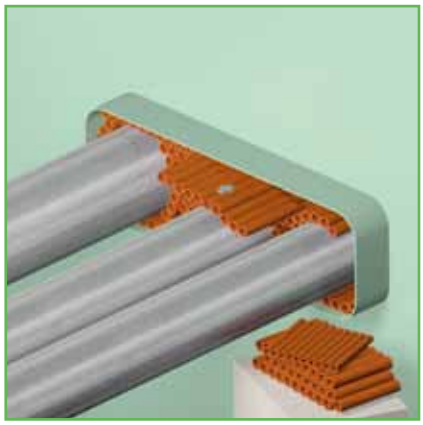
1) The metallic pipes can be passed through the conduit opening in any position. Make sure that the space between the pipes and the wall of the conduit and between the ducted pipes is in accordance with the minimum allowed distance as certified.



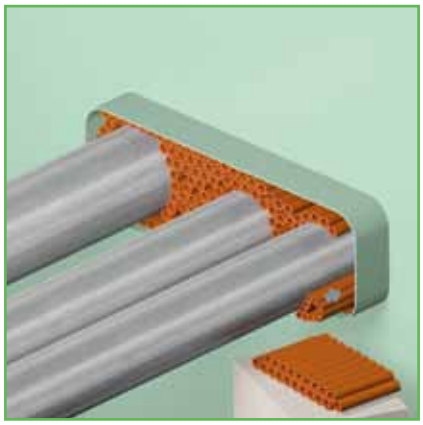
2) The open free space in the conduit opening has to be filled with NOFIRNO® filler sleeves type 27/19 and 18/12. For ease of filling, the filler sleeves are also supplied in multi-sets of 10 pieces. The filling ratio 18/12 to 27/19 should be maximum 1:2.



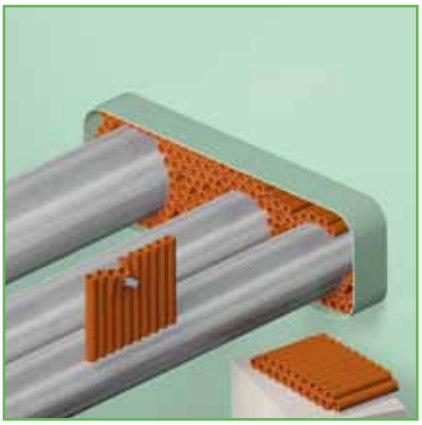
3) Before starting the installation work the ducted pipes and the wall of the conduit opening should be cleaned. Dirt, rust and oil residues should be removed. Start filling the larger open spaces in the conduit by inserting the sets of multi-filler sleeves.



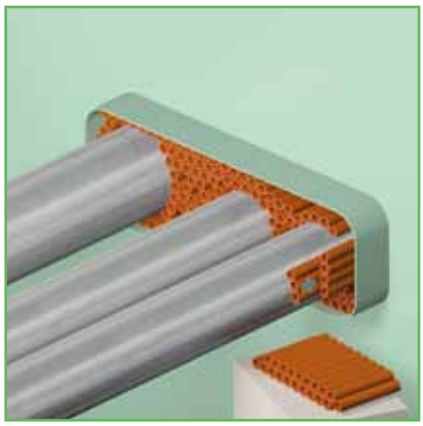
4) The installation of the NOFIRNO® sealing system is extremely fast when using the NOFIRNO® multi-filler sleeves. Besides, it makes it less complicated than using the single filler sleeves.



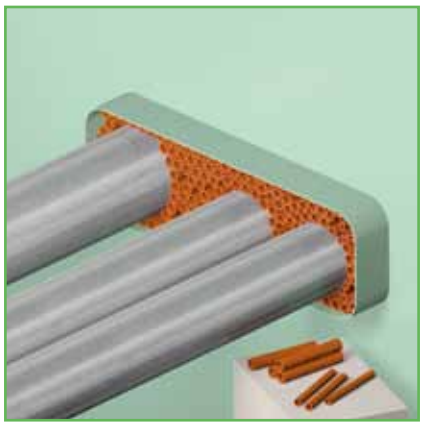
5) Due to the flexibility of the set of filler sleeves, the sets can be easily rolled up and then pushed into the narrow spaces. This is most helpful when installating floor penetrattions.



6) 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 sidewards. This is because of the strength of the intermediate rubber parts.



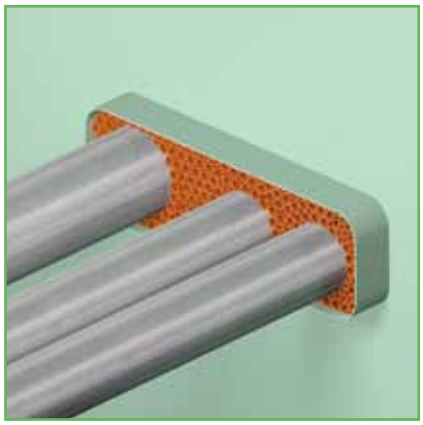
7) These parts of the sets of multi-filler sleeves are then pushed in the fitting remaining open spaces in the set of filling inside the conduit opening.



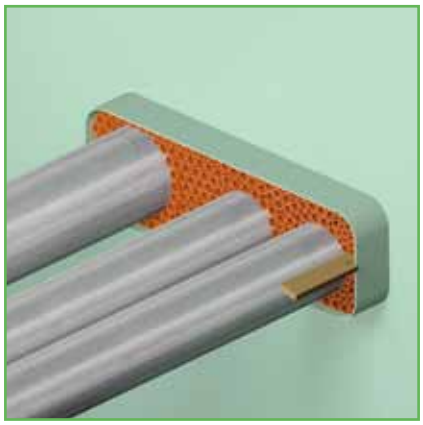
8) Single filler sleeves are used to fill the remaining small spaces in the set of fillers. Filling these spaces is of utmost importance to obtain a very tight fit of the filling inside the conduit frame.

9) The single filler sleeves are inserted in the open spaces. At this stage they can generally be pushed in by hand. At the final stage to create a very tight fit of the whole set of fillers, the sleeves can be inserted with the help of a flat nose pliers.

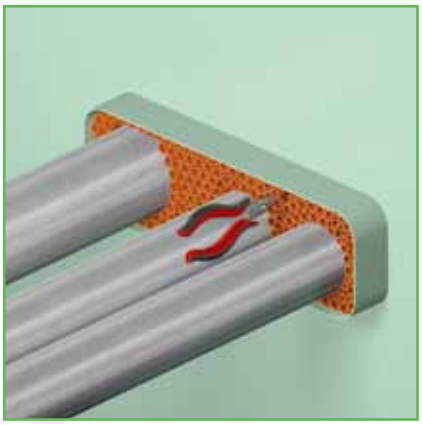
NOFIRNO® (MULTI-) PIPE TRANSIT SEALING SYSTEM - FIRESAFE/GAS & WATERTIGHT



10) A tight fit of the filling with filler sleeves is essential for the overall mechanical stability and the ultimate tightness ratings.

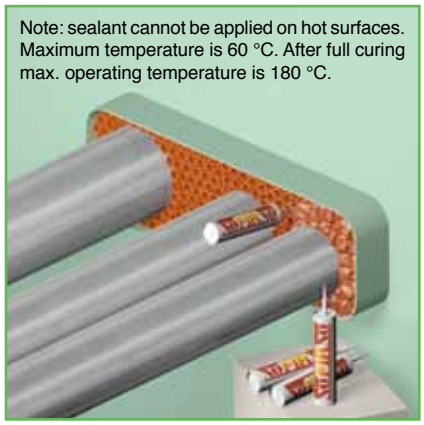


11) Push the filler sleeves into the conduit in such a way as to leave about 20 mm free space at the front and the back. The whole set of filler sleeves should fit tightly into the conduit to provide sufficient mechanical stability.



12) The surface structure of the rubber of the sleeves makes it easy to pull NOFIRNO® filler sleeves back which are too deep inserted. Before applying the sealant, it is advisable to perform a final check on the packing of (multi-) filler sleeves.

Note: sealant cannot be applied on hot surfaces. Maximum temperature is 60 °C. After full curing max. operating temperature is 180 °C.



13) A 20 mm thick layer of NOFIRNO® sealant is applied at each side of the conduit. When the application of the sealant is in a later stage, clean and dry the conduit opening and the pipes thoroughly. Remove any dirt, rust or oil residues before applying the sealant.

Use our professional sealant guns. Hand fatigue is prevented and optimum flow of the sealant is obtained.

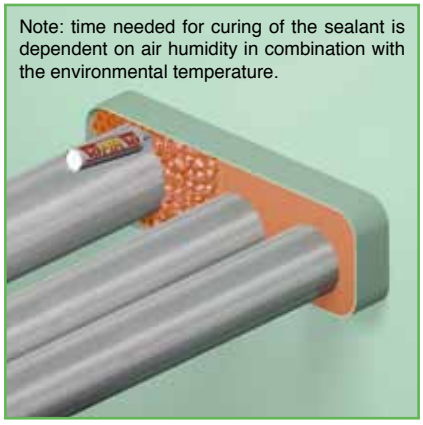
14) When working on larger conduits, the sealant should be applied in two or more parts. Due to the fast curing of the top layer of the sealant, the amount of sealant should not be more than can be finished within 10 minutes.

People with sensitive skin should use gloves when working with NOFIRNO®.

15) A cloth is sprayed with water. Note: do not use soap water!
The cloth is used to press down the sealant layer. Pressing down the NOFIRNO® sealant in a stiff way is absolutely vital for the mechanical stability of the sealing system.

16) The surface can be smoothed by hand. Wet the hands thoroughly with soap and water to avoid the NOFIRNO® sticking to the hands. A very neat surface is the result. Prevent soap water to be applied on the sealant surface on which the next sealant will be applied.

Note: time needed for curing of the sealant is dependent on air humidity in combination with the environmental temperature.



17) Then applying the sealant can be continued for the rest of the transit.
Smoothing and finishing in the same way as for the first part of the sealant layer

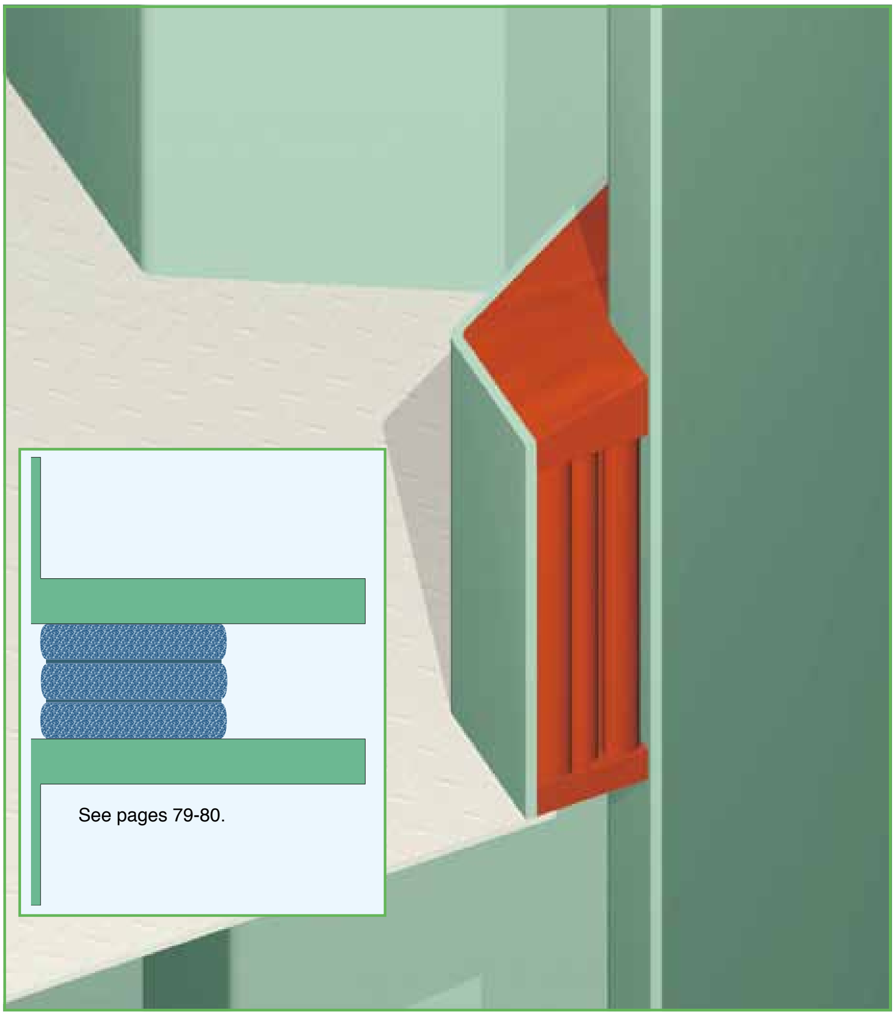
For A-class, minimum depth of the coaming 180 mm; for H-class 250 mm.

11) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. The ducted pipes have to be insulated according to the specifications on the certified drawings.

NOFIRNO

WE CARE

NOFIRNO® SEALING SYSTEM FOR STRUCTURAL GAPS - FIRESAFE/GAS & WATERTIGHT



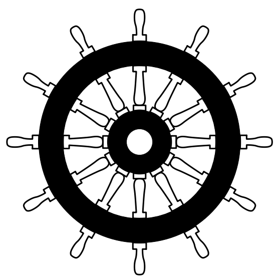
The optimized viscosity and the superb adhesion properties of the NOFIRNO® sealant make applying the sealant overhead at the bottom of the sealing system an easy matter. NOFIRNO® sealant does not sag and will not drip off. Furthermore, the viscosity of the sealant allows to form a sloped surface of the the top layer to ensure that water will drip off in case of leakages in the installation.

For fire safe sealing of horizontal gaps, for instance between walls and ceilings, use can be made of the ACTIFOAM®/ULTRA sandwich construction. The system can be inserted using a hammer and a piece of wood. Jet Fire rated, when covered at the exposed side with NOFIRNO® sealant.

For these type of special applications on offshore installations, so-called Design Verification Reports can be obtained on a case by case project basis. A DVR has been issued for both systems.

JET FIRE TESTED ACCORDING TO ISO 22899-1:2007 AND ISO/CD 22899-2

Specification is 0.3 kg/sec propane. 125 minutes is 7500 sec. This means 2250 kg propane in this test burned. Equals a volume of almost 1300 m³ propane.



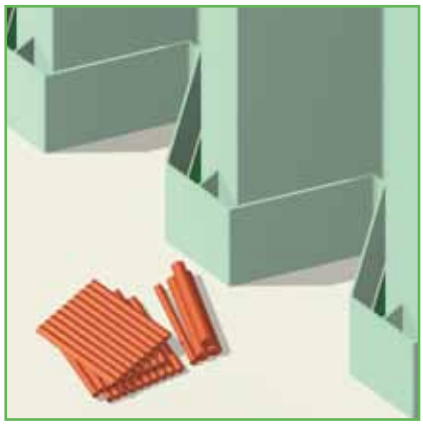
NOFIRNO® single steel and GRP pipe penetrations have been successfully tested for A-0 and H-0 class without the use of any insulation.
Condult depth 250 mm.

DNV

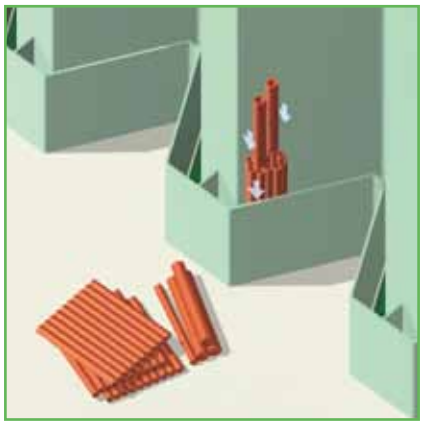
DESIGN VERIFICATION REPORT

- NOFIRNO Sealing System

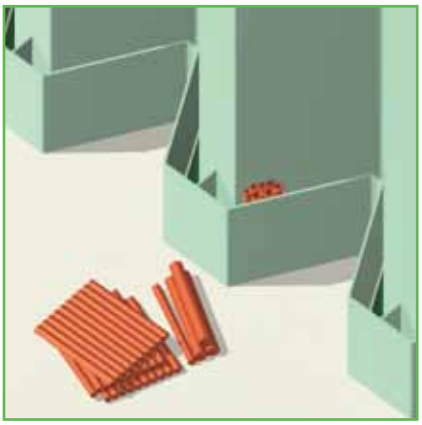
NOFIRNO® SEALING SYSTEM FOR STRUCTURAL GAPS - FIRESAFE/GAS & WATERTIGHT



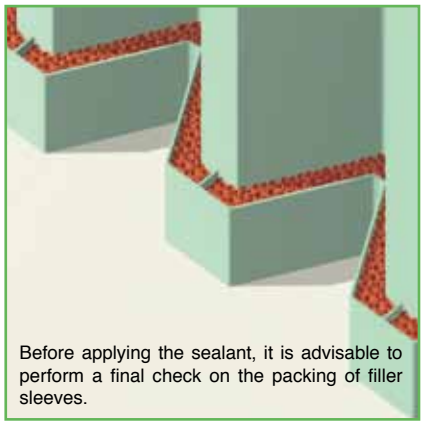
1) Based on the width and length of the gap to be sealed, partitions have to be put in place to ensure that the adhesive surface is in accordance with the maximum certified surface of 1800 cm².



2) NOFIRNO® filler sleeves are inserted in the gap to be sealed. A combination of multi-filler sleeves (set of 10 sleeves) and single filler sleeves type 18/12 and 27/19 can be used.

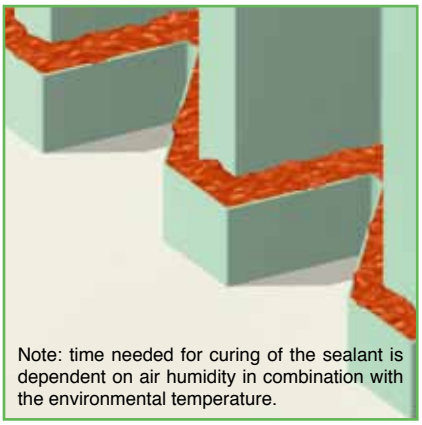


3) The ratio 27/19 to 18/12 should be about 2:1. For H/class and Jet Fire rated constructions the length of the sleeves is 210 mm. For ease of filling, the filler sleeves are also supplied in multi-sets of 10 pieces.



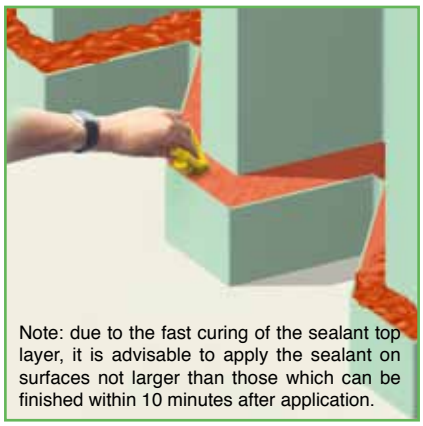
4) Push the filler sleeves into the conduit in such a way as to leave about 20 mm free space at the top and the bottom. The whole set of filler sleeves should fit tightly into the conduit to provide sufficient mechanical stability.

5) A 20 mm thick layer of NOFIRNO® sealant is applied at each side of the conduit. Clean and dry the conduit opening, and remove any dirt, rust or oil residues before applying the sealant.



6) An overfill of NOFIRNO® sealant has to be applied, because some sealant will be pushed between and into the empty filler sleeves during further finishing. This will contribute to obtain higher tightness ratings.

7) 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!



8) The cloth is then used to press down the sealant layer. People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

9) 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.

RISE®/ULTRA - SINGLE PLASTIC PIPE TRANSIT SEALING SYSTEM

CRUSHER® type C-FIT

Note: maximum continuous service temperature of the CRUSHERS® not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

CRUSHER® type WRAP

Note: maximum continuous service temperature of the CRUSHERS® not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

article number 50.0102

NOFIRNO® is a paste-like compound which is simple to use. NOFIRNO® has a balanced viscosity and can be applied overhead. After applying the sealant, it can be smoothed by means of a wet cloth or by hand. Because the sealant adheres very tightly, the cloth and hands should be wetted with water before use to prevent sealant from sticking to them.

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

plastic pipe OD	crusher® type	conduit opening		crusher® length	article number
16	37/16	37.2		140	80.2800
18	37/18	37.2		140	80.2801
20	37/20	37.2		140	80.2802
25	37/25	37.2		140	80.2803
32	54/32	54.5		140	80.2804
40	54/40	54.5		140	80.2805
50	82/50	82.5		140	80.2806
63	82/63	82.5		140	80.2807
75	107/75	107.1	*all dimensions in mm*	140	80.2808
90	131/90	131.7		140	80.2809
110	159/110	159.3		140	80.2810
125	159/125	159.3		140	80.2811
140	207/140	207.3		160	80.2812
160	207/160	207.3		160	80.2813
16	37/16	37.2		170	80.2840
18	37/18	37.2		170	80.2841
20	37/20	37.2		170	80.2842
25	37/25	37.2		170	80.2843
32	54/32	54.5		170	80.2844
40	54/40	54.5		170	80.2845
50	82/50	82.5		170	80.2846
63	82/63	82.5		170	80.2847
75	107/75	107.1	*all dimensions in mm*	170	80.2848
90	131/90	131.7		170	80.2849
110	159/110	159.3		170	80.2850
125	159/125	159.3		170	80.2851
140	207/140	207.3		190	80.2852
160	207/160	207.3		190	80.2853
16	35/16	35.9		140	80.2900
18	35/18	35.9		140	80.2901
20	41/20	41.1		140	80.2902
25	41/25	41.1		140	80.2903
32	53/32	53.9		140	80.2904
40	53/40	53.9		140	80.2905
50	77/50	80.7		140	80.2906
63	77/63	80.7		140	80.2907
75	105/75	105.3		140	80.2908
90	128/90	128.1	*all dimensions in mm*	140	80.2909
110	154/110	155.2		140	80.2910
125	154/125	155.2		140	80.2911
140	202/140	202.7		160	80.2912
160	202/160	202.7		160	80.2913
16	35/16	35.9		170	80.2940
18	35/18	35.9		170	80.2941
20	41/20	41.1		170	80.2942
25	41/25	41.1		170	80.2943
32	53/32	53.9		170	80.2944
40	53/40	53.9		170	80.2945
50	77/50	77.9		170	80.2414
63	77/63	77.9		170	80.2415
75	105/75	105.3		170	80.2948
90	128/90	128.1	*all dimensions in mm*	170	80.2949
110	154/110	155.2		170	80.2950
125	154/125	155.2		170	80.2951
140	202/140	202.7		190	80.2952
160	202/160	202.7		190	80.2953
wrap 1000x140x2.5 mm					80.2512
wrap 1000x160x2.5 mm					80.2513
wrap 1000x170x2.5 mm					80.2514
wrap 1000x190x2.5 mm					80.2515
wrap 1000x210x2.5 mm			*all dimensions in mm*		80.2516

RISE®/ULTRA - SINGLE PLASTIC PIPE TRANSIT SEALING SYSTEM

CRUSHER® type C-FIT

Note: maximum continuous service temperature of the CRUSHERS® not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

CRUSHER® type WRAP

Note: maximum continuous service temperature of the CRUSHERS® not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

article number 50.0102

NOFIRNO® is a paste-like compound which is simple to use. NOFIRNO® has a balanced viscosity and can be applied overhead. After applying the sealant, it can be smoothed by means of a wet cloth or by hand. Because the sealant adheres very tightly, the cloth and hands should be wetted with water before use to prevent sealant from sticking to them.

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

plastic pipe OD	crusher® type	conduit opening	crusher® length	article number
16	30/16	30	140	80.2720
18	30/18	30	140	80.2721
20	40/20	40	140	80.2722
25	40/25	40	140	80.2723
32	50/32	50	140	80.2724
40	50/40	50	140	80.2725
40	60/40	60	140	80.2726
50	70/50	70	140	80.2727
50	80/50	80	140	80.2728
63	80/63	80	140	80.2729
63	90/63	90	140	80.2730
75	100/75	100	140	80.2731
75	110/75	110	140	80.2732
90	125/90	125	140	80.2733
110	150/110	150	140	80.2734
125	160/125	160	140	80.2735
140	200/140	200	160	80.2736
160	200/160	200	160	80.2737
16	30/16	30	170	80.2760
18	30/18	30	170	80.2761
20	40/20	40	170	80.2403
25	40/25	40	170	80.2404
32	50/32	50	170	80.2764
40	50/40	50	170	80.2765
40	60/40	60	170	80.2766
50	70/50	70	170	80.2767
50	80/50	80	170	80.2768
63	80/63	80	170	80.2769
63	90/63	90	170	80.2770
75	100/75	100	170	80.2771
75	110/75	110	170	80.2772
90	125/90	125	170	80.2773
110	150/110	150	170	80.2774
125	160/125	160	170	80.2775
140	200/140	200	190	80.2776
160	200/160	200	190	80.2777

all dimensions in mm

RISE®/ULTRA - SPECIAL SIZES C-FIT CRUSHERS

plastic pipe OD	crusher® type	conduit opening	crusher® length	article number
20	40/20		170	80.2403
25	40/25		170	80.2404
32	48/32		170	80.2406
25	51/25		170	80.2408
32	51/32		170	80.2409
40	64/40		170	80.2411
48	77/48		170	80.2413
50	77/50		170	80.2414
60	77/60		170	80.2415
63	77/63		170	80.2416
76	100/76		170	80.2419
89	125/89		170	80.2421
90	130/90		170	80.2956
110	138/110		170	80.2650
114	142/114		170	80.2957
110	149/110		170	80.2425
114	149/114		170	80.2426
140	180/140		190	80.2652
140	198/140		190	80.2429

all dimensions in mm

RISE®/ULTRA - SINGLE PLASTIC PIPE TRANSIT SEALING SYSTEM

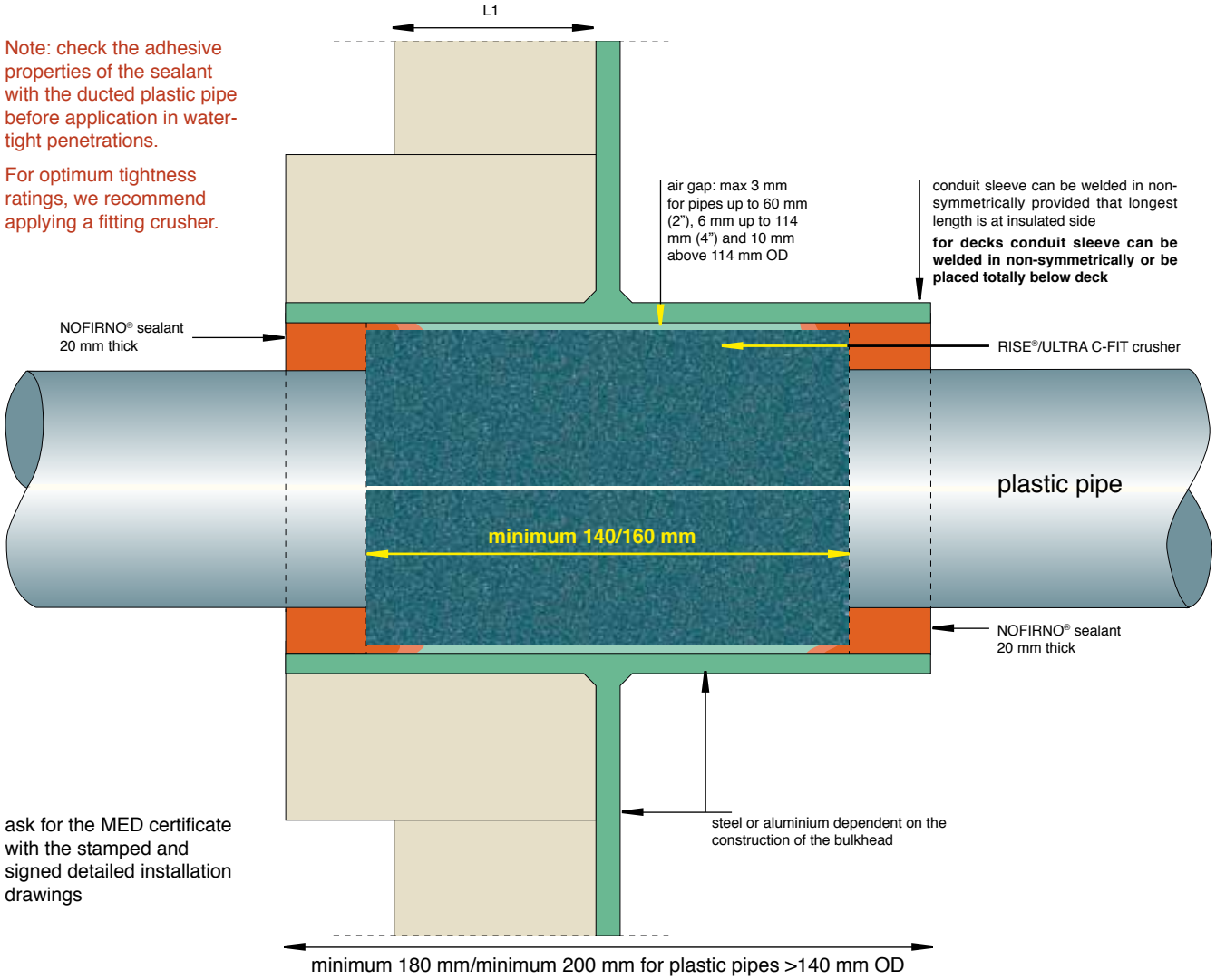
L1: A-60 approved bulkhead/deck insulation.

In case RISE®/ULTRA crushers are not available for conduit sleeves applied in the field, a CRUSHER® can be made to size by wrapping RISE®/ULTRA sheets around the ducted pipe.
In this case the CRUSHER® must fit tightly inside the conduit sleeve to obtain sufficient mechanical stability.

- FOR ALL PLASTIC PIPES (ABS, PE, PB, PP-R, PVC) UP TO 160 MM OD
- FOR PIPES WITH WALL THICKNESS UP TO 10 MM

Note: check the adhesive properties of the sealant with the ducted plastic pipe before application in water-tight penetrations.

For optimum tightness ratings, we recommend applying a fitting crusher.



ask for the MED certificate with the stamped and signed detailed installation drawings

for fire rated, gas or watertight conduits

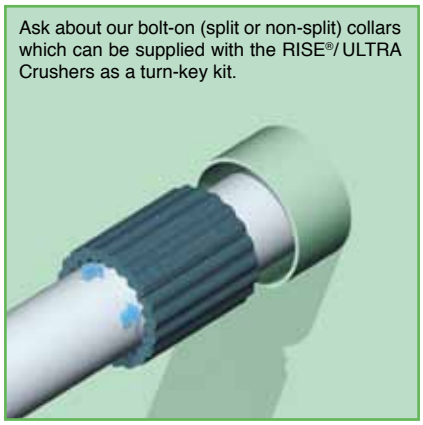
for fire rated, airtight conduits: minimum 5 mm sealant at both sides

Specifications for A-class according to EC (MED) certificate MED-B-5068 issued by Det Norske Veritas. Drawings R0256E, R0257E, R0258E, R0262E, R0264E, RO265 and R0267E.

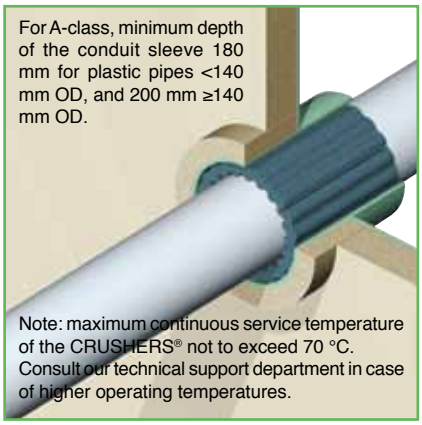
A0-A60 PLASTIC PIPE TRANSIT

RISE®/ULTRA - SINGLE PLASTIC PIPE TRANSIT SEALING SYSTEM

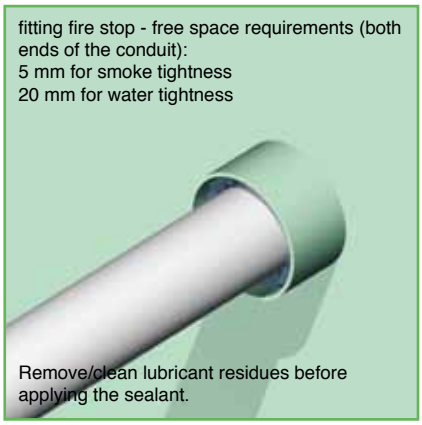
1) The fitting RISE®/ULTRA C-FIT crusher, which is split lengthwise, is folded around the ducted plastic pipe in front of the conduit sleeve.



2) In case of a tight fitting crusher, the outside of the crusher and the inner wall of the conduit should be treated with CSD® lubricant for ease of installation. Push the crusher into the conduit sleeve. Check for a tight fit.

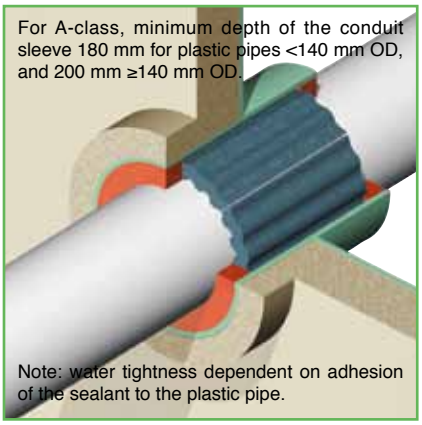


3) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or the lower side of the deck. The ducted pipe does not need to be insulated.



1a) Push the crusher into the conduit sleeve in such a way as to leave about 5 mm, alternatively 20 mm free space, depending on the application, at the front and back side.

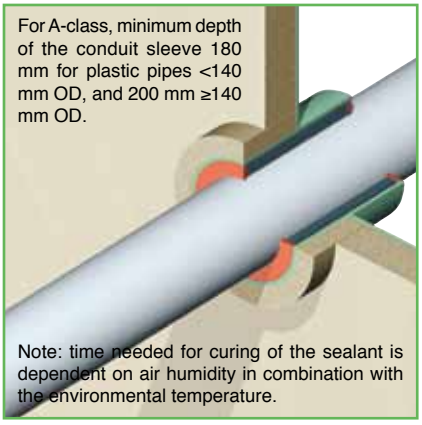
2a) For airtight penetrations, a NOFIRNO® sealant layer with thickness min. 5 mm is applied at both sides of the penetration. For watertight penetrations the sealant layer has to be 20 mm thick at both sides of the penetration.



3a) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or the lower side of the deck. The ducted pipe does not need to be insulated.

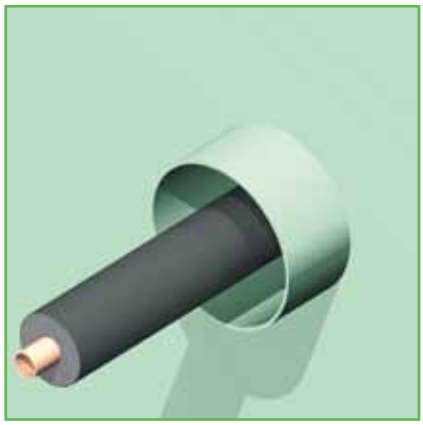
1b) In case no fitting RISE®/ULTRA crusher is available, use can be made of RISE®/ULTRA sheets to be wrapped around the plastic pipe. RISE®/ULTRA wraps are used also for conduit openings which are a bit oversized.

2b) A layer of NOFIRNO® sealant is applied at each side of the conduit. Clean and dry the inside of the conduit sleeve and the outside of the plastic pipe thoroughly, removing any dirt, rust or oil/lubricant residues before applying the sealant.



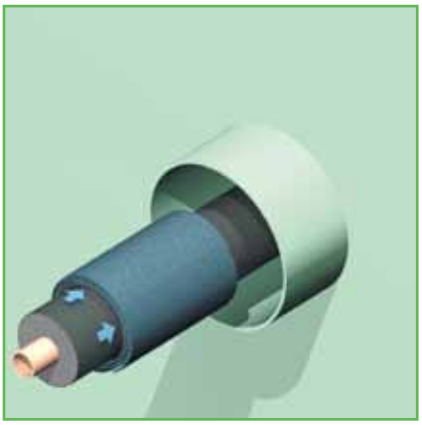
3b) The surface can be smoothed by hand. Just wet the hands thoroughly with soap and water. No dirty hands when working with NOFIRNO® and a very neat surface is the result.

RISE®/ULTRA - PRE-INSULATED PIPE TRANSIT SEALING SYSTEM



1) For fire rated penetrations of pre-insulated pipes (for instance for chilled water lines), by applying RISE®/ULTRA there is now no need to remove the insulation inside the penetration. This prevents condensation problems.

2) A RISE®/ULTRA sheet 210mm wide, 2.5 mm thick is wrapped to the required thickness around the thermal insulation.
The system can be used for insulated steel and copper pipes.



3) Push the crusher wrap into the conduit sleeve in such a way as to leave about 20 mm free space at the front and back side.

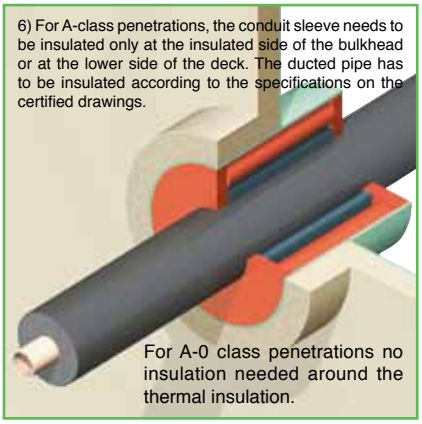
4) NOFIRNO® sleeves are used to fill larger open spaces in the conduit opening. A minimum 20 mm thick layer of NOFIRNO® sealant is applied at each side of the conduit.

People with sensitive skin should use gloves when working with NOFIRNO®.

5) Clean and dry the conduit sleeve inside and the surface of the thermal insulation thoroughly and remove any dirt, rust or oil/lubricant residues before applying the sealant.

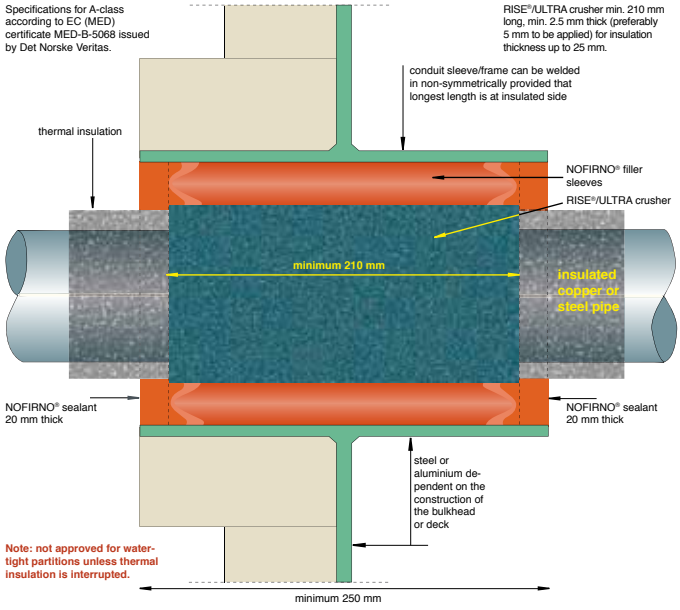
Please refer to the Safety Data Sheet for more information.

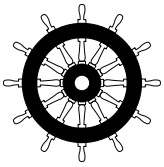
6) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. The ducted pipe has to be insulated according to the specifications on the certified drawings.



For A-0 class penetrations no insulation needed around the thermal insulation.

See certified drawings
R0246E, R0247E, R0248E and R0249E



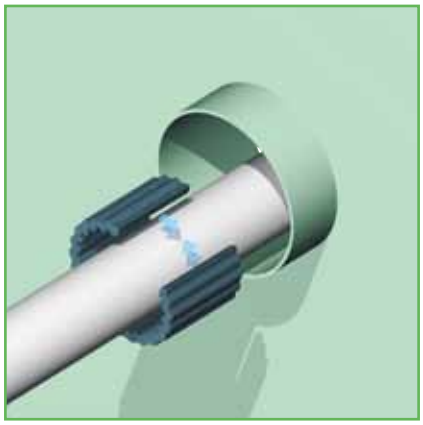


ask for the MED certificate with the stamped and signed detailed installation drawings

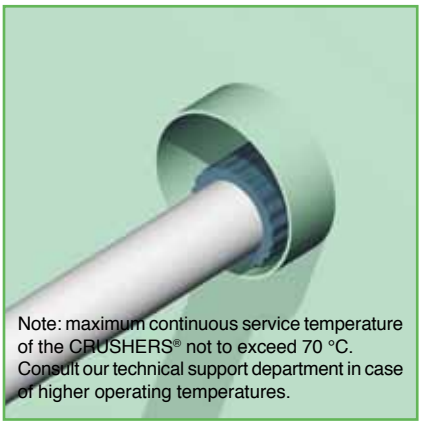
DET NORSKE VERITAS
EC TYPE-EXAMINATION CERTIFICATE
CERTIFICATE NO. MED-B-5068
Penetrations through A class divisions
RISE/ULTRA CRUSHER NOFIRNO - SINGLE AND MULTI-PLASTIC PIPE AND MULTI-MIX PIPE + CABLE PENETRATION
BEELE Engineering bv/CSD International bv
AALTEN, Netherlands
check for updates

RISE®/ULTRA - SINGLE PLASTIC PIPE TRANSIT SEALING SYSTEM

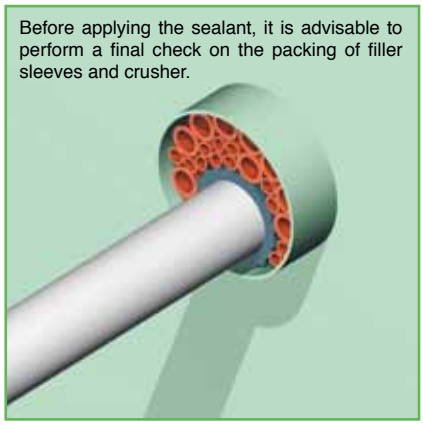
1) For larger oversized and/or off centre ducted plastic pipes, the conduit should preferably not be totally filled with RISE®/ULTRA crushers or wraps.



2) A RISE®/ULTRA crusher or wrap with the required minimum thickness is folded around the ducted plastic pipe in front of the conduit.



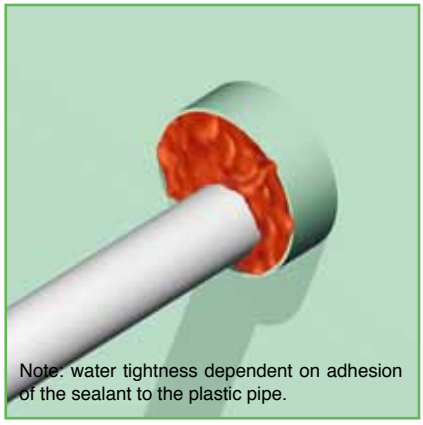
3) Push the crusher into the conduit sleeve in such a way as to leave 20 mm free space at the front and back side.



4) Push the NOFIRNO® filler sleeves into the conduit in such a way as to leave about 20 mm free space at the front. The whole set of filler sleeves should fit tightly into the conduit to provide sufficient mechanical stability.

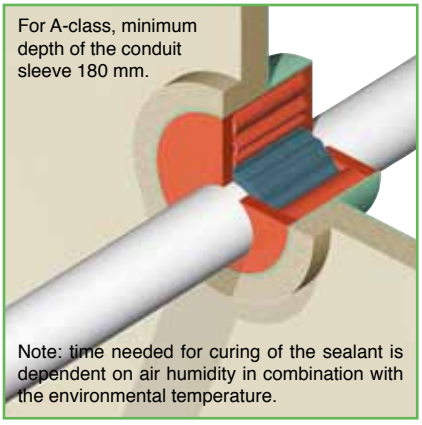
5) A 20 mm thick layer of NOFIRNO® sealant is applied at each side of the conduit. Clean and dry the inside of the conduit sleeve and the outside of the plastic pipe thoroughly, removing any dirt, rust or oil/lubricant residues before applying the sealant.

6) The optimized viscosity and the superb adhesion properties of the NOFIRNO® sealant make applying the sealant overhead an easy matter. NOFIRNO® sealant does not sag and will not drip off.



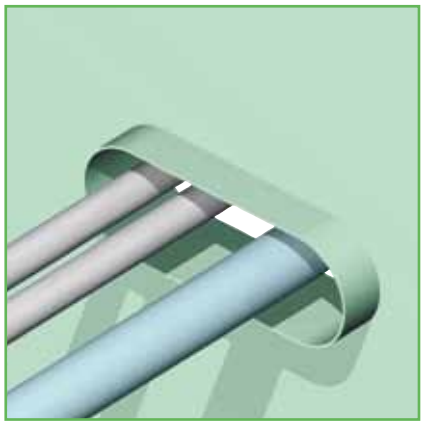
7) The conduit should be overfilled with NOFIRNO® sealant, because some sealant will be pushed between and into the empty filler sleeves during further finishing. This will contribute to obtain higher tightness ratings.

8) 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.

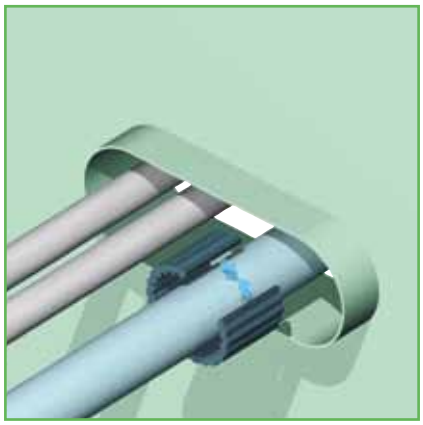


9) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or the lower side of the deck. The ducted pipe does not need to be insulated.

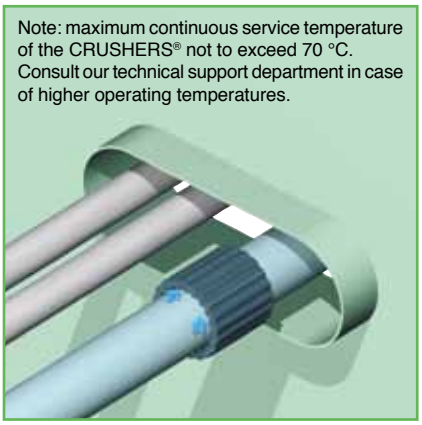
NOFIRNO® MULTI-PLASTIC/METALLIC PIPE TRANSIT SEALING SYSTEM



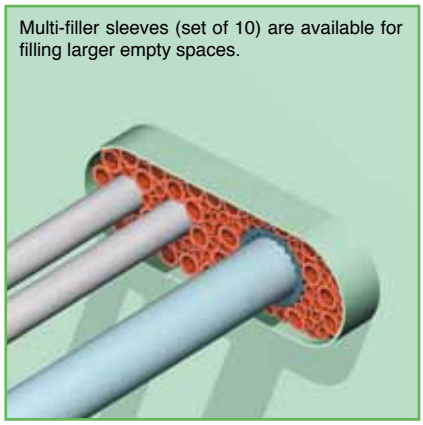
1) The metallic and plastic pipe(s) can be passed through the conduit sleeve in any position, provided there is enough space between the sleeve and the ducted pipe(s).



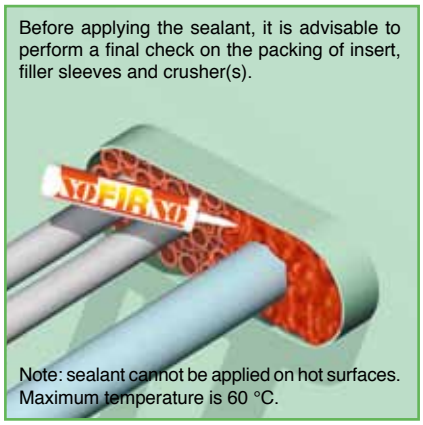
2) Make sure that the minimum space between the metallic pipe(s) and the wall of the conduit sleeve is in accordance with the minimum allowed distance as certified. Place a fitting RISE®/ULTRA crusher around the ducted plastic pipe(s).



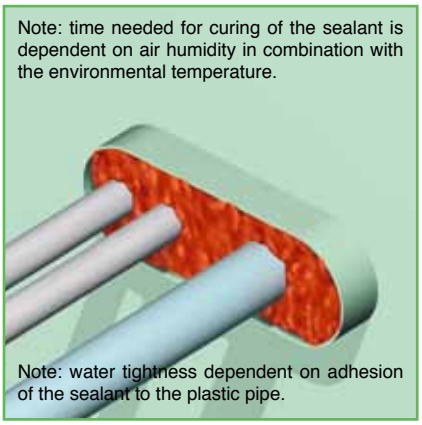
3) Push the RISE®/ULTRA crusher/wrap into the conduit sleeve in such a way as to leave 20 mm free space at the front and back side.



4) The remaining free space in the conduit is filled with NOFIRNO® filler sleeves type 27/19 and 18/12. For ease of filling, the NOFIRNO® filler sleeves are supplied non-split. The ratio 27/19 to 18/12 should be about 2:1.

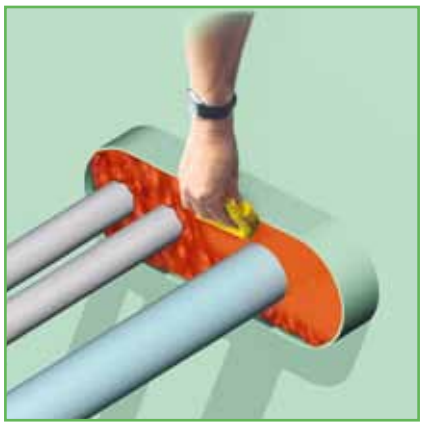


5) A 20 mm thick layer of NOFIRNO® sealant is applied at each side of the conduit. Clean and dry the conduit opening and the pipes thoroughly, and remove any dirt, rust or oil residues before applying the sealant.



6) The conduit should be overfilled with NOFIRNO® sealant, because some sealant will be pushed between and into the empty filler sleeves during further finishing. This will contribute to obtain higher tightness ratings.

7) 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!



8) The cloth is then used to press down the sealant layer. People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

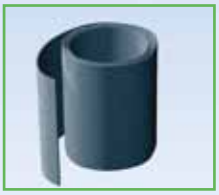
9) The surface can be smoothed by hand. Just wet the hands thoroughly with soap and water. No dirty hands when working with NOFIRNO® and a very neat surface is the result.

NOFIRNO®/MULTI-ALL-MIX® CABLE/ PIPE TRANSIT SEALING SYSTEM

CRUSHER® type C-FIT

Note: maximum continuous service temperature of the CRUSHERS® not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

CRUSHER® type WRAP



plastic pipe OD	crusher® type	crusher® length	article number
16	30/16	140	80.2720
18	30/18	140	80.2721
20	40/20	140	80.2722
25	40/25	140	80.2723
32	50/32	140	80.2724
40	50/40	140	80.2725
50	70/50	140	80.2726
63	80/63	140	80.2727
75	100/75	140	80.2728
90	125/90	140	80.2729
110	150/110	140	80.2730
125	160/125	140	80.2731
140	180/140	140	80.2732
160	200/160	140	80.2733
wrap 1000x140x2.5 mm			80.2512

all dimensions in mm

RISE® cable sleeves

Note: maximum continuous service temperature of the RISE® sleeves not to exceed 70 °C. Consult our technical support department in case of higher operating temperatures.

cable sleeves are supplied split lengthwise

RISE® cable sleeve	cable diameter	sleeve length	article number
12/6	5 - 7	140	80.0051
14/8	7 - 9	140	80.0052
16/10	9 - 11	140	80.0053
18/12	11 - 13	140	80.0054
20/14	13 - 15	140	80.0055
22/16	15 - 17	140	80.0056
27/19	17 - 21	140	80.0057
31/23	21 - 25	140	80.0058
35/27	25 - 29	140	80.0059
39/31	29 - 33	140	80.0060
46/36	33 - 39	140	80.0061
52/42	39 - 45	140	80.0062
58/48	45 - 51	140	80.0063
64/54	51 - 57	140	80.0064
70/60	57 - 63	140	80.0065

all dimensions in mm

article number 50.0102

NOFIRNO® is a paste-like compound which is simple to use. NOFIRNO® has a balanced viscosity and can be applied overhead. After applying the sealant, it can be smoothed by means of a wet cloth or by hand. Because the sealant adheres very tightly, the cloth and hands should be wetted with water before use to prevent sealant from sticking to them.

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

NOFIRNO® filler sleeve		sleeve length	article number
18/12 single		140	80.5002
18/12 multi		140	80.5052
27/19 single		140	80.5012
27/19 multi	all dimensions in mm	140	80.5062

NOFIRNO® filler sleeves

filler sleeves are supplied non-split, single and multi (set of 10)

NOFIRNO®/MULTI-ALL-MIX® CABLE/ PIPE TRANSIT SEALING SYSTEM

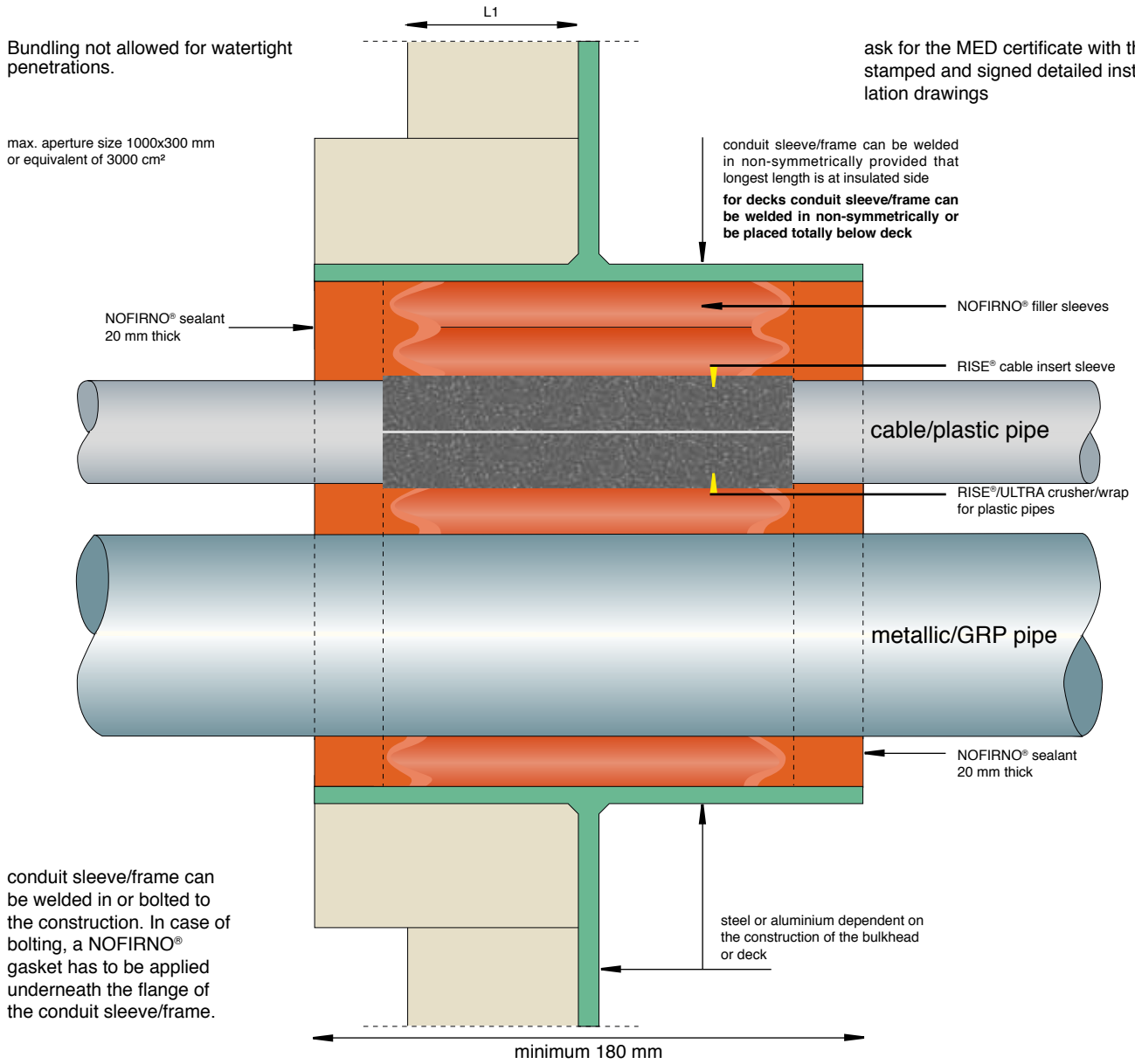
L1: A-60 approved bulkhead/deck insulation

- APPROVED FOR STEEL/SS PIPES UP TO 168 MM OD
- APPROVED FOR COPPER/CuNi PIPES UP TO 108 MM OD
- APPROVED FOR PLASTIC PIPES UP TO 160 MM OD
- APPROVED FOR ALL TYPES OF CABLES INCL. LAN AND CLX
- APPROVED FOR CABLE SIZES UP TO 105 MM OD
- APPROVED FOR CABLE SETS OF MAX. 25 LAN CABLES 5-6 MM - MAX BUNDLE SIZE 35 MM

NO EXTRA INSULATION REQUIRED AT THE FRONT OF THE PENETRATION AND/OR IN BETWEEN THE CABLES OR PLASTIC PIPES

Bundling not allowed for watertight penetrations.

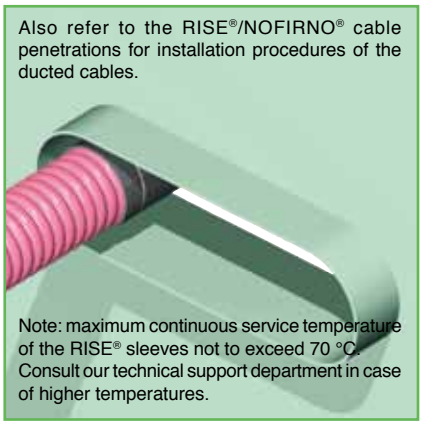
ask for the MED certificate with the stamped and signed detailed installation drawings



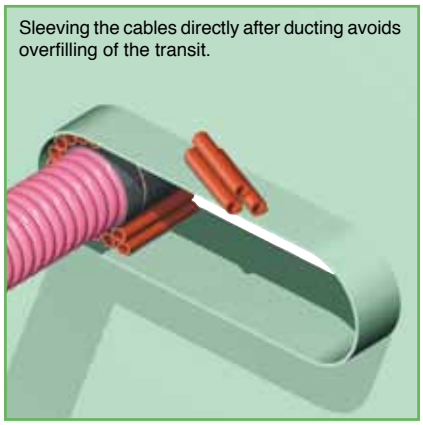
Specifications for A-class according to EC (MED) certificate MED-B-4908 issued by Det Norske Veritas. Drawings N0015E, N0016E and N0017E

A0-A60 MULTI-ALL-MIX® PIPE/CABLE TRANSIT

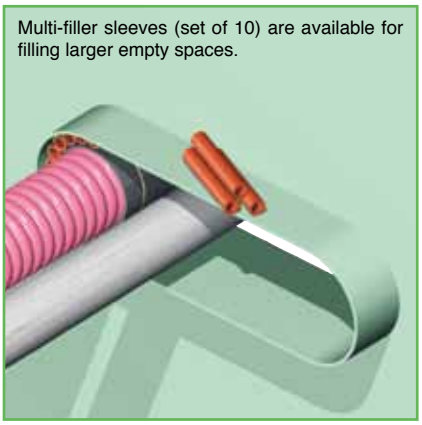
NOFIRNO®/MULTI-ALL-MIX®
CABLE/PIPE TRANSIT SEALING SYSTEM



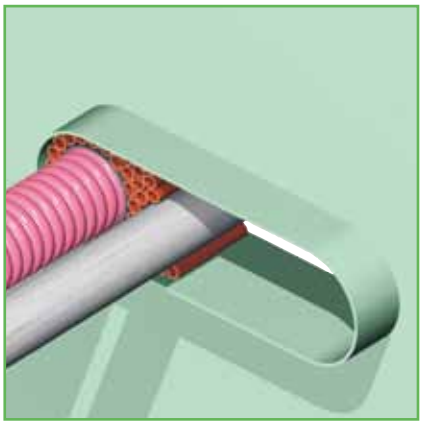
1) The cables can be ducted through the conduit sleeve/frame in random order.
After the cables have been ducted, RISE® insert sleeves are applied around each cable.



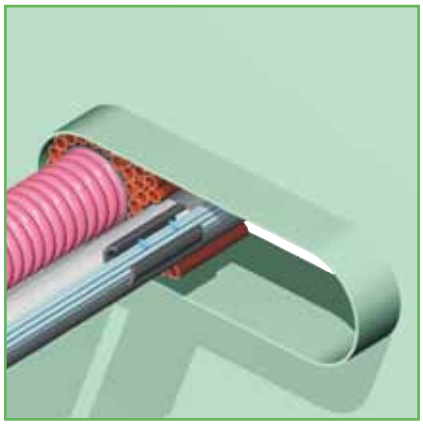
2) The RISE® insert sleeves are split lengthwise and can therefore be fitted around the cables in front of the conduit. For cable sizes > 64 mm a RISE® wrap with thickness 5 mm is applied. The wraps can be fixed with a tie-wrap (or similar).



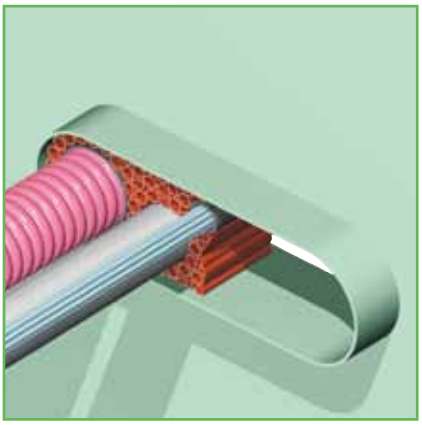
3) The system is also approved for ducting steel/stainless steel pipes. The minimum interspacing should be followed according to the specifications on the approved installation drawings.



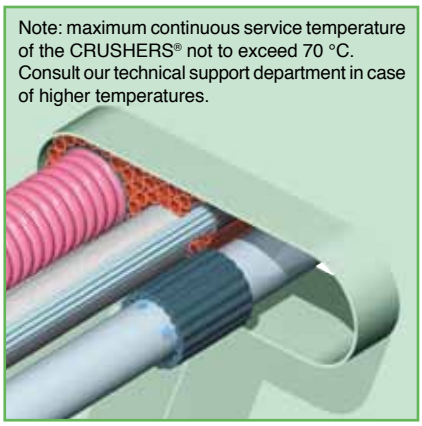
4) Separation of the metallic pipes is provided by NOFIRNO® filler sleeves all around the ducted pipe(s). NOFIRNO® filler sleeves are available in sizes 18/12 and 27/19 and are non-split for ease of installation.



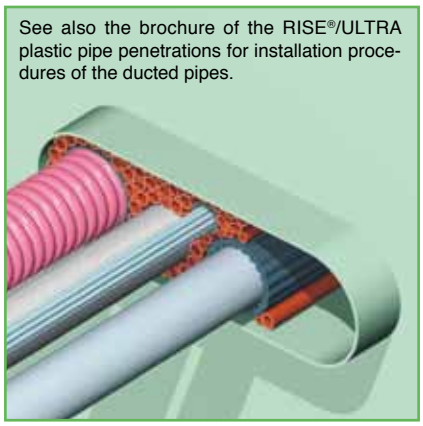
5) Bundled cable sets are allowed in the NOFIRNO® multi-all-mix® sealing system, using only a single RISE® insert sleeve.
See the approved installation drawings for details.



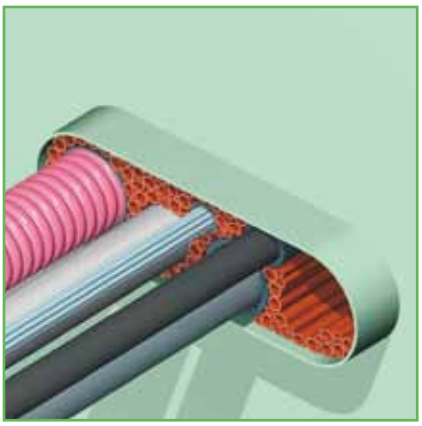
6) Open spaces in the conduit are afterwards filled with NOFIRNO® filler sleeves type 27/19 and 18/12. The ratio 27/19 to 18/12 should be about 2:1. NOFIRNO® multi-filler sleeves can be used for filling the larger open spaces.



7) Plastic pipes can also be ducted through the multi-all-mix® transit.
Place a RISE®/ULTRA crusher around the ducted pipe in front of the penetration. RISE®/ULTRA crushers are split lengthwise.

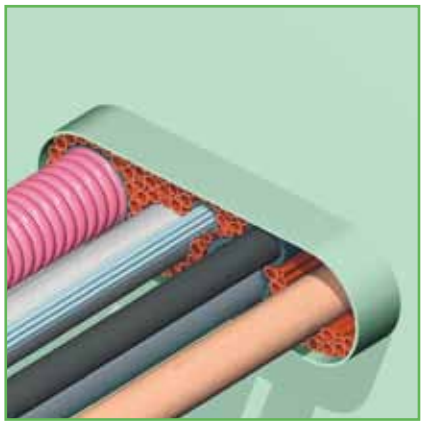


8) Push the insert/filler sleeves and the crusher into the conduit in such a way as to leave about 20 mm free space at both sides of the transit. This space is needed to apply the NOFIRNO® sealant at a later stage.

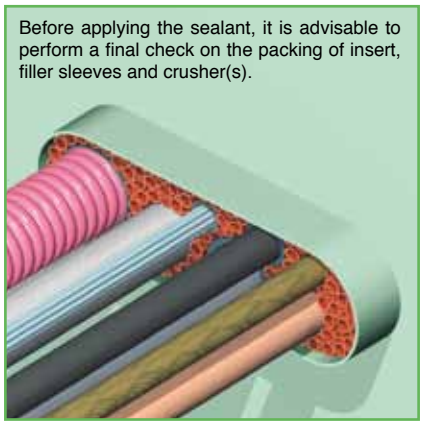


9) The system also allows for insulated chilled water lines (without interrupting the insulation), and multi-beverage lines. A RISE®/ULTRA crusher or wrap is placed around the insulation, and inserted into the penetration.

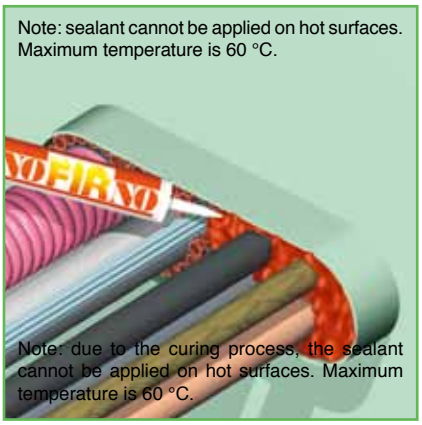
NOFIRNO®/MULTI-ALL-MIX®
CABLE/PIPE TRANSIT SEALING SYSTEM



10) Copper/CuNi pipes can also be ducted through the multi-all-mix penetration. Separation of the metallic pipes is provided by NOFIRNO® filler sleeves all around the ducted pipe(s).



11) Also GRP pipes are allowed. Separation of the GRP pipes is provided by NOFIRNO® filler sleeves all around the ducted pipe(s). The remaining open spaces in the transit are filled with NOFIRNO® single and multi-filler sleeves.



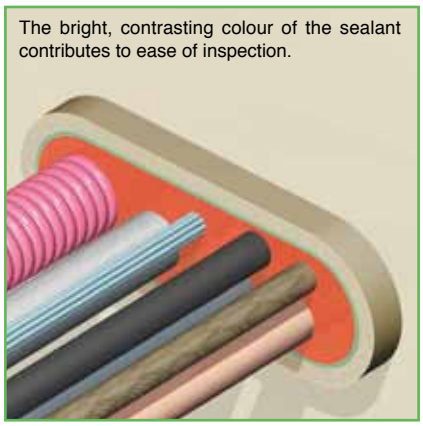
12) The whole set of crushers, insert and filler sleeves should tightly fit into the conduit. Clean and dry the inside of the conduit sleeve and the cables/pipes thoroughly, removing any dirt, rust or oil/lubricant residues before applying the sealant.

13) The conduit should be overfilled with NOFIRNO® sealant, because some sealant will be pushed between and into the empty filler sleeves during further finishing. This will contribute to obtain higher tightness ratings.

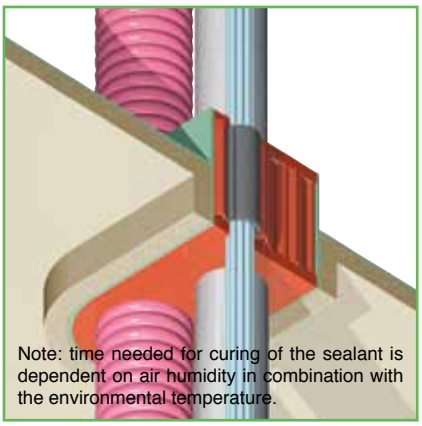
14) To smooth the surface of the NOFIRNO® sealant layer, a cloth is sprayed with water. This prevents the sealant from sticking to the cloth. Note: do not use soap water!

15) The cloth is then used to press down the sealant layer. People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information.

16) 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.



17) For A-class penetrations, the conduit sleeve/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 for cables and plastic pipes.



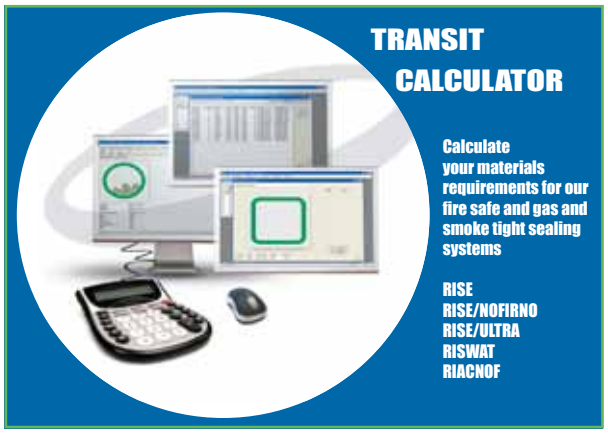
18) The optimized viscosity and the superb adhesion properties of the NOFIRNO® sealant make applying the sealant overhead an easy matter. NOFIRNO® sealant does not sag and will not drip off.

WE CARE

RISE CRUSHER

NOFIRNO

NOFIRNO®, RIACNOF®, RISE® AND RISE®/ULTRA CABLE/PIPE TRANSIT SEALING SYSTEM



Free material calculation software. Download at our web-site http://www.beele.com.
After entering the dimensions of the conduit opening and the amount and outer diameters of the ducted cables or pipes, the software calculates the amount of RISE® or RISWAT® insert sleeves, the RISE® , RISWAT® or NO-FIRNO® filler sleeves, the ACTIFOAM® spare filling sheets, the RISE® or RISE®/ULTRA crushers and the DRIFIL®, FIWA® or NOFIRNO® sealant. It is easy to switch between the several systems and also between A-class, H-class, EMC and watertight penetrations. After entering the dimensions and amount and sizes of cables/pipes, a drawing appears on the screen showing also the remaining free space in the conduit opening. Furthermore, the filling rate of the cable penetrations is shown. Warnings appear for deviations of the certified configurations and for overfilling the transits or exceeding filling rates.
For a created project, all calculated transits can be stored in a database. Order/calculation forms can be shown on screen for project totals and single transits. The material lists can be printed and/or exported to MS Word.

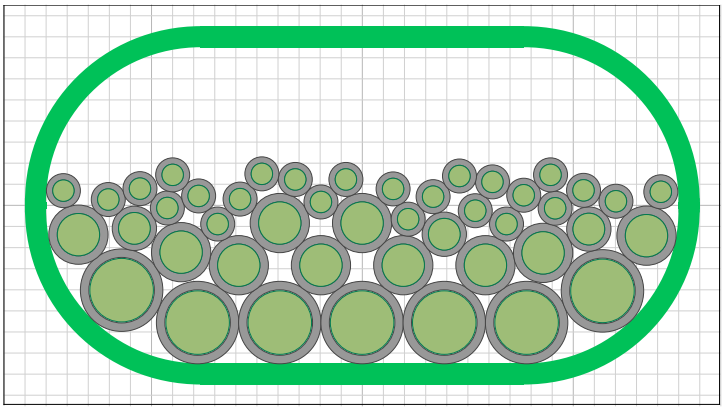
The material list of a transit shows the options which can be entered to make a calculation of the materials needed:

1) transit dimensions.
2) the depth of a transit is automatically selected based on the entered data at class (A, B, H-class or watertight) but can be changed. In this case, a warning appears that this is a deviation of the certification.
3) selection of the sealing system (cable, pipe).
4) the quantity of duplicate transits in the project.
5) the filling rate is calculated on the basis of the entered cable amounts and dimensions
6) percentage of spare for later extensions
7) where appropriate a selection can be made for EMC rated penetrations
8) type of sealant can be selected (FIWA® or NOFIRNO® for fire rated transits and DRIFIL®, FIWA® or NOFIRNO® for watertight transits)

The material list displays the selected system, cable (or pipe) specifications, and the sealing material requirements. All transits in a project can be selected to create a similar list for all materials for the whole project.

Program-version of Transit-calculator: 3.9.2 (10 Dec 2009)
Always use the most recent version when creating a new material-list!

Material list for transit 'transit E222CS'



Created on:	16-1-2010 11:37:17
Created by:	Smith
Last modified:	16-1-2010 11:40:00
Modified by:	Smith

Transit specifications:	**(All dimensions in mm)**
Width:	300,00
Height:	150,00
Corner radius:	73,50
Depth:	180,00
Transit type:	Cable
Transit used in this project:	1 time
Filling rate:	26,2%
Spare on cable set:	10,0%
Class:	A-class
EMC:	None
Sealant:	20mm (both sides)

Check the Type Approval Certificates for limitations in sizes !

Material specifications:

Type of filler sleeves:	standard
FIWA sealant:	cartridges 310 ml

Cable specifications:

Cables (OD)	Amount
10,00	25
15,00	3
20,00	10
30,00	7

Total amount of cables: 45

RISE materials needed:

Insert sleeves	Amount	Length
16/10	25	140,00 mm
20/14	3	140,00 mm
27/19	10	140,00 mm
39/31	7	140,00 mm

Filler sleeves	Amount	Length
18/12	13	140,00 mm
27/19	26	140,00 mm

FIWA sealant

(incl. overfill)	1677 ml (6 cartridges)

slipsil

WE CARE

SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

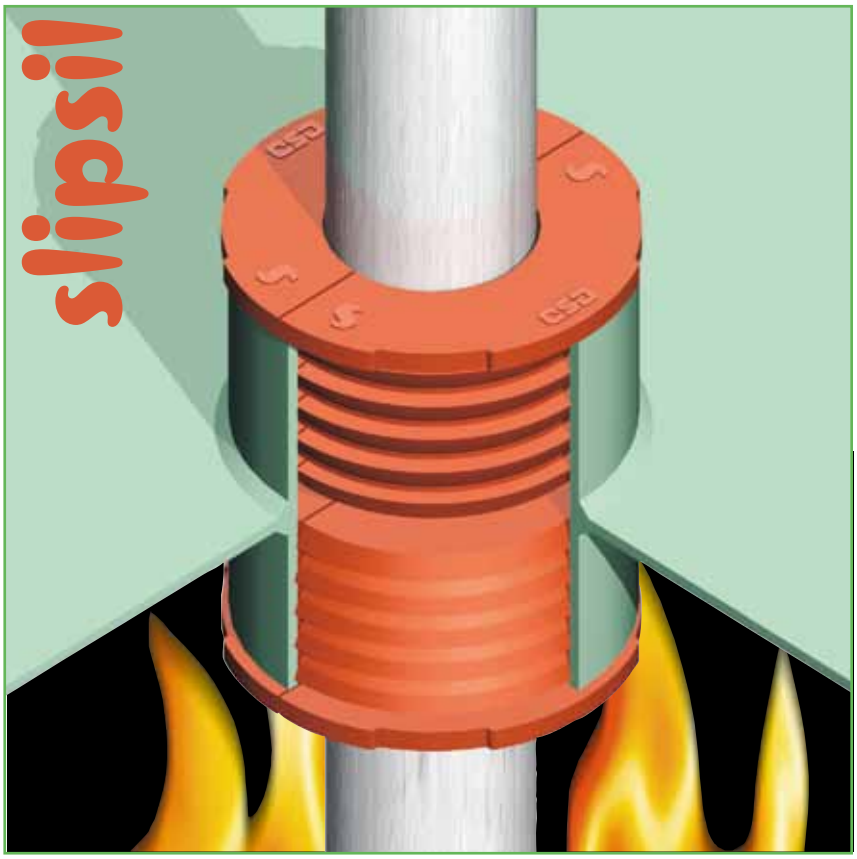
Cutting Edge NOFIRNO® and LEAXEAL® technology for optimum performance under harshest conditions:

- SYSTEM WILL NOT BE CONSUMED WHEN EXPOSED TO FIRE
- SEALING PLUGS ARE MADE OF INERT SILICONE RUBBER
- IN CASE OF FIRE: NON-TOXIC, LOW SMOKE INDEX
- CE (MED) CERTIFICATES FOR A-0 UP TO A-60
- APPROVED WATER TIGHT UP TO 2.5 BAR
- APPROVED GAS TIGHT UP TO 1 BAR
- SHORTEST POSSIBLE CONDUIT LENGTH
- WIDE TEMPERATURE RANGE: CAN BE USED FOR STEAM LINES AND ALSO IN ARCTIC CONDITIONS
- HIGH LEVEL OF SOUND DAMPING/EMC ATTENUATION
- SHOCK AND VIBRATION PROOF
- NO MECHANICAL STRESSES TRANSFERRED TO THE DIVISION
- UP TO 50 YEARS SERVICE LIFE
- CAPABLE OF ABSORBING TEMPERATURE CHANGES
- WEATHERING, UV AND OZONE RESISTANT
- PROVIDES CATHODIC PROTECTION
- ALLOWS LONGITUDINAL/RADIAL MOVEMENT
- FOR METALLIC, GRP AND PLASTIC PIPES AND CABLES
- EXTREMELY SIMPLE TO INSTALL
- INSULATION ONLY AT THE INSULATED SIDE OF THE DIVISION
- NO INSULATION REQUIRED FOR METALLIC AND GRP PIPES PASSING THROUGH A-0 DIVISIONS
- SYSTEM PREVENTS CORROSION INSIDE THE TRANSIT
- APPROVED FOR STEEL AND ALUMINIUM PARTITIONS
- MAINTENANCE FRIENDLY

SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

FIRE SAFETY WITHOUT ANY EXTRAS - NOW ACHIEVABLE

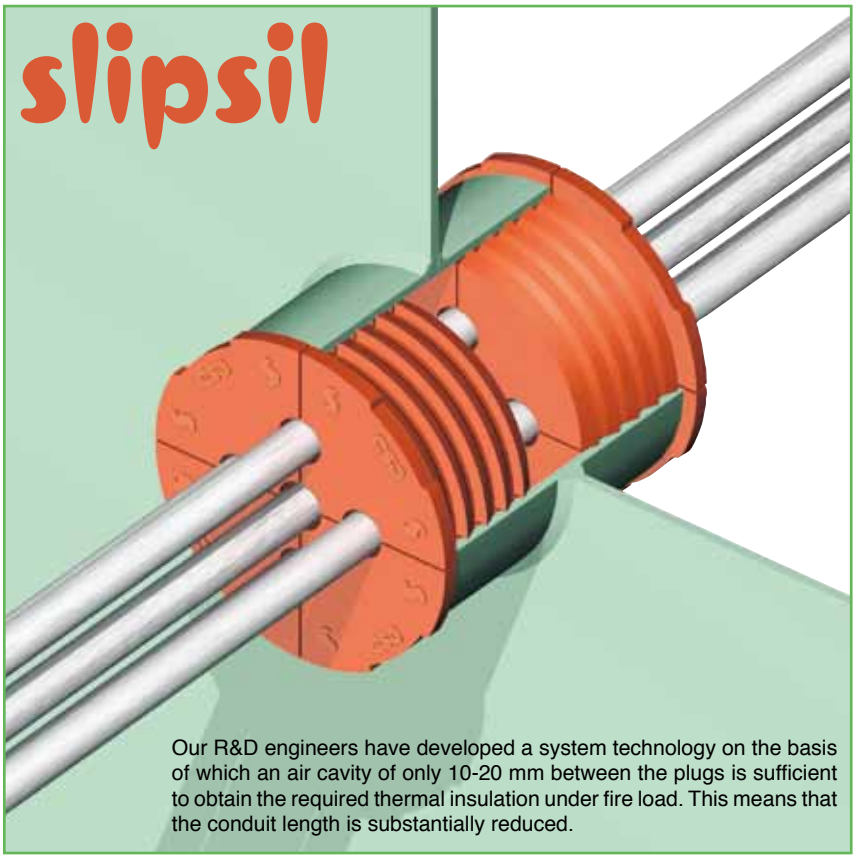
Synthetic rubbers are combustible.
Rubber grades can be made only more or less fire retardant with the help of fire suppressant ingredients. The drawback of filling rubbers with large amounts of additives is that the mechanical properties might suffer. The hardness of the vulcanized products of such compounds might be reasonably high. Both features have an impact on the sealing capacity and the long term behaviour.
Hardening and permanent deformation of the product during service life also have a negative impact on performance.
NOFIRNO® rubber is halogen free, does not harden during service life, has outstanding weathering properties, does not shrink during fire exposure, has an oxygen index of 55% (>30% is flame retardant) and a low smoke index.
NOFIRNO® rubber can be used in a very wide temperature range (-50 °C - +180 °C). Optimum fire safety guaranteed.



Because the plugs prevent direct contact between the service pipe and the sleeve, different types of pipes can be passed through steel or aluminium constructions without the problems of joints and electric couples. Pipe penetrations sealed with plugs can be shorter in length than the common methods, in this way saving weight. With the use of SLIPSIL® sealing plugs, vibrations and noise transmission will be easily absorbed. Another advantage of the SLIPSIL® sealing plugs is that mechanical tensions between the bulkhead/deck and the service pipes are avoided. SLIPSIL® offers the possibility of using various pipe materials!

The plugs offer also a high degree of water tightness!

The design of the SLIPSIL® plugs is based on the LEAXEAL® technology, developed by BEELE Engineering, to obtain longest service life and highest tightness ratings.



Our R&D engineers have developed a system technology on the basis of which an air cavity of only 10-20 mm between the plugs is sufficient to obtain the required thermal insulation under fire load. This means that the conduit length is substantially reduced.

LEAXEAL

slipsil

WE CARE

SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

PLUG SERIES	CONDUIT SLEEVE	PLUG LENGTH	PIPE DIAMETER
25	24.5 - 25.6	54 --------	5 - 12
27	26.5 - 27.6	54	5 - 15
28	27.5 - 28.5	54	5 - 15
30	29.5 - 30.5	54	5 - 16
32	31.5 - 32.5	54	5 - 16
34	33.5 - 34.5	54	5 - 18
35	34.5 - 35.7	54	5 - 20
37	36.5 - 37.7	54	5 - 20
40	39.5 - 40.7	54	5 - 22
41	40.5 - 41.7	54	5 - 25
43	42.5 - 43.7	54	5 - 28
50	49.5 - 50.7	66	6 - 32
53	52.0 - 53.7	66	6 - 34
55	54.0 - 55.7	66	6 - 34
57	56.0 - 57.7	66	14 - 40
60	59.0 - 60.7	66	14 - 40
62	61.0 - 62.7	66	14 - 40
67	66.0 - 67.7	66	22 - 50
68	67.0 - 68.7	66	20 - 50
70	69.0 - 70.7	66	22 - 50
75	74.0 - 75.7	66	22 - 50
78	77.0 - 78.7	66	22 - 50
80	79.0 - 80.7	66	28 - 60
82	81.0 - 82.7	66	28 - 60
90	89.0 - 90.7	66	40 - 64
94	93.0 - 94.7	66	40 - 64
97	96.0 - 97.7	66	40 - 64
100	99.0 - 100.7	66	40 - 75
102	101.0 - 102.7	66	40 - 75
103	102.0 - 103.7	66	26 - 75
105	104.0 - 105.7	66	40 - 75
107	106.0 - 107.7	66	40 - 76
110	109.0 - 110.7	66	48 - 80
118	117.5 - 119.2	66	60 - 90
122	121.0 - 122.7	66	60 - 92
125	124.0 - 125.7	66	60 - 92
128	127.0 - 128.7	66	60 - 92
131	130.5 - 132.2	66 --------	60 - 92
146	145.0 - 146.7	79	88 - 120
150	149.0 - 150.7	79	88 - 125
152	151.0 - 152.7	79	88 - 125
154	153.0 - 154.7	79	88 - 125
156	155.0 - 156.7	79	88 - 125
160	159.0 - 160.7	79	88 - 125
190	189.0 - 190.7	79	110-160
200	199.0 - 200.7	79	110-160
203	202.0 - 203.7	79	110-168
207	206.0 - 207.7	79	110-168
250	249.0 - 250.7	91	160-200
260	259.0 - 260.7	91	160-219
300	299.0 - 300.7	91	160-250
339	338.5 - 340.2	91 --------	200-273

all dimensions in mm (CONDUIT SLEEVE)

flange of plug 7 mm thick (PLUG LENGTH)

flange of plug 8 mm thick (PLUG LENGTH)

all dimensions in mm (PIPE DIAMETER)

To select the right type of sealing plug, look for the plug series to be used on the basis of the outer diameter of the service pipe. Then make a choice for the plug type in the table of the selected plug series.
For instance: a copper pipe of 42 mm OD has to be ducted. Select the plug series on the basis of the ID of the conduit sleeve to be used and the OD of the duced pipe (67 up to 107 can be your choice). When a conduit sleeve 88.9x3.2 mm (ID = 82.5 mm) will be used a sealing plug 82/42-44 is the right choice. If a 54 mm OD copper pipe has to be ducted through a sleeve with an ID of 107.1 mm, plug type 107/54-56 has to be selected. See the tables of the series 82 and 107 on page 39 and 40.
Note: the sealing plugs with a thin wall (like for instance 53/34) are not easy to install in undersized conduit openings. It is advisable to select a larger plug series (for instance 60/34-36).

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SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

cable/ pipe diameter	plug type	article number
blind	25/0	40.0100
5-6	25/5-6	40.0105
6-7	25/6-7	40.0106
7-8	25/7-8	40.0107
8-9	25/8-9	40.0108
9-10	25/9-10	40.0109
10-11	25/10-11	40.0110
11-12	25/11-12	40.0111
12	25/12	40.0112
blind	27/0	40.0200
5-6	27/5-6	40.0205
6-7	27/6-7	40.0206
7-8	27/7-8	40.0207
8-9	27/8-9	40.0208
9-10	27/9-10	40.0209
10-11	27/10-11	40.0210
11-12	27/11-12	40.0211
12-13	27/12-13	40.0212
13-14	27/13-14	40.0213
14-15	27/14-15	40.0214
15	27/15	40.0215
blind	28/0	40.0300
5-6	28/5-6	40.0305
6-7	28/6-7	40.0306
7-8	28/7-8	40.0307
8-9	28/8-9	40.0308
9-10	28/9-10	40.0309
10-11	28/10-11	40.0310
11-12	28/11-12	40.0311
12-13	28/12-13	40.0312
13-14	28/13-14	40.0313
14-15	28/14-15	40.0314
15	28/15	40.0315
blind	30/0	40.0400
5-6	30/5-6	40.0405
6-7	30/6-7	40.0406
7-8	30/7-8	40.0407
8-9	30/8-9	40.0408
9-10	30/9-10	40.0409
10-11	30/10-11	40.0410
11-12	30/11-12	40.0411
12-13	30/12-13	40.0412
13-14	30/13-14	40.0413
14-15	30/14-15	40.0414
15-16	30/15-16	40.0415
16	30/16	40.0416
blind	32/0	40.0500
5-6	32/5-6	40.0505
6-7	32/6-7	40.0506
7-8	32/7-8	40.0507
8-9	32/8-9	40.0508
9-10	32/9-10	40.0509
10-11	32/10-11	40.0510
11-12	32/11-12	40.0511
12-13	32/12-13	40.0512
13-14	32/13-14	40.0513
14-15	32/14-15	40.0514
15-16	32/15-16	40.0515
16	32/16	40.0516

all dimensions in mm

cable/ pipe diameter	plug type	article number
blind	34/0	40.0600
5-6	34/5-6	40.0605
6-7	34/6-7	40.0606
7-8	34/7-8	40.0607
8-9	34/8-9	40.0608
9-10	34/9-10	40.0609
10-11	34/10-11	40.0610
11-12	34/11-12	40.0611
12-13	34/12-13	40.0612
13-14	34/13-14	40.0613
14-15	34/14-15	40.0614
15-16	34/15-16	40.0615
16-17	34/16-17	40.0616
17-18	34/17-18	40.0617
18	34/18	40.0618
blind	35/0	40.0700
5-6	35/5-6	40.0705
6-7	35/6-7	40.0706
7-8	35/7-8	40.0707
8-9	35/8-9	40.0708
9-10	35/9-10	40.0709
10-11	35/10-11	40.0710
11-12	35/11-12	40.0711
12-13	35/12-13	40.0712
13-14	35/13-14	40.0713
14-15	35/14-15	40.0714
15-16	35/15-16	40.0715
16-17	35/16-17	40.0716
17-18	35/17-18	40.0717
18-19	35/18-19	40.0718
19-20	35/19-20	40.0719
20	35/20	40.0720
blind	37/0	40.0800
5-6	37/5-6	40.0805
6-7	37/6-7	40.0806
7-8	37/7-8	40.0807
8-9	37/8-9	40.0808
9-10	37/9-10	40.0809
10-11	37/10-11	40.0810
11-12	37/11-12	40.0811
12-13	37/12-13	40.0812
13-14	37/13-14	40.0813
14-15	37/14-15	40.0814
15-16	37/15-16	40.0815
16-17	37/16-17	40.0816
17-18	37/17-18	40.0817
18-19	37/18-19	40.0818
19-20	37/19-20	40.0819
20	37/20	40.0820
blind	40/0	40.0900
5-6	40/5-6	40.0905
6-7	40/6-7	40.0906
7-8	40/7-8	40.0907
8-9	40/8-9	40.0908
9-10	40/9-10	40.0909
10-11	40/10-11	40.0910
11-12	40/11-12	40.0911
12-14	40/12-14	40.0912
14-16	40/14-16	40.0913
16-18	40/16-18	40.0914

all dimensions in mm

cable/ pipe diameter	plug type	article number
18-20	40/18-20	40.0915
20-21	40/20-21	40.0916
21-22	40/21-22	40.0917
22	40/22	40.0918
	40 multi is max. 2x10, 3x7, 5x7	
blind	41/0	40.1000
5-6	41/5-6	40.1005
6-7	41/6-7	40.1006
7-8	41/7-8	40.1007
8-9	41/8-9	40.1008
9-10	41/9-10	40.1009
10-11	41/10-11	40.1010
11-12	41/11-12	40.1011
12-14	41/12-14	40.1012
14-16	41/14-16	40.1013
16-18	41/16-18	40.1014
18-20	41/18-20	40.1015
20-22	41/20-22	40.1016
22-23	41/22-23	40.1017
23-24	41/23-24	40.1018
24-25	41/24-25	40.1019
25	41/25	40.1020
	41 multi is max. 2x10, 3x7, 5x7	
blind	43/0	40.1100
5-6	43/5-6	40.1105
6-7	43/6-7	40.1106
7-8	43/7-8	40.1107
8-9	43/8-9	40.1108
9-10	43/9-10	40.1109
10-12	43/10-12	40.1110
12-14	43/12-14	40.1111
14-16	43/14-16	40.1112
16-18	43/16-18	40.1113
18-20	43/18-20	40.1114
20-22	43/20-22	40.1115
22-24	43/22-24	40.1116
24-25	43/24-25	40.1117
25-26	43/25-26	40.1118
26-27	43/26-27	40.1119
27-28	43/27-28	40.1120
28	43/28	40.1121
	43 multi is max. 2x10, 3x7, 5x7	
blind	50/0	40.1200
6-7	50/6-7	40.1205
7-8	50/7-8	40.1206
8-9	50/8-9	40.1207
9-10	50/9-10	40.1208
10-12	50/10-12	40.1209
12-14	50/12-14	40.1210
14-16	50/14-16	40.1211
16-18	50/16-18	40.1212
18-20	50/18-20	40.1213
20-22	50/20-22	40.1214
22-24	50/22-24	40.1215
24-26	50/24-26	40.1216
26-28	50/26-28	40.1217
28-29	50/28-29	40.1218
29-30	50/29-30	40.1219
30-31	50/30-31	40.1220
31-32	50/31-32	40.1221

all dimensions in mm

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SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

all dimensions in mm

cable/ pipe diameter	plug type	article number
32	50/32	40.1222
	50 multi is max. 2x15, 3x8, 5x8	
blind	53/0	40.1300
6-7	53/6-7	40.1305
7-8	53/7-8	40.1306
8-9	53/8-9	40.1307
9-10	53/9-10	40.1308
10-12	53/10-12	40.1309
12-14	53/12-14	40.1310
14-16	53/14-16	40.1311
16-18	53/16-18	40.1312
18-20	53/18-20	40.1313
20-22	53/20-22	40.1314
22-24	53/22-24	40.1315
24-26	53/24-26	40.1316
26-28	53/26-28	40.1317
28-30	53/28-30	40.1318
30-31	53/30-31	40.1319
31-32	53/31-32	40.1320
32-33	53/32-33	40.1321
33-34	53/33-34	40.1322
34	53/34	40.1323
	53 multi is max. 2x15, 3x10, 5x10	
blind	55/0	40.1400
6-7	55/6-7	40.1405
7-8	55/7-8	40.1406
8-9	55/8-9	40.1407
9-10	55/9-10	40.1408
10-12	55/10-12	40.1409
12-14	55/12-14	40.1410
14-16	55/14-16	40.1411
16-18	55/16-18	40.1412
18-20	55/18-20	40.1413
20-22	55/20-22	40.1414
22-24	55/22-24	40.1415
24-26	55/24-26	40.1416
26-28	55/26-28	40.1417
28-30	55/28-30	40.1418
30-31	55/30-31	40.1419
31-32	55/31-32	40.1420
32-33	55/32-33	40.1421
33-34	55/33-34	40.1422
34	55/34	40.1423
	55 multi is max. 2x15, 3x10, 5x10	
blind	57/0	40.1500
14-16	57/14-16	40.1511
16-18	57/16-18	40.1512
18-20	57/18-20	40.1513
20-22	57/20-22	40.1514
22-24	57/22-24	40.1515
24-26	57/24-26	40.1516
26-28	57/26-28	40.1517
28-30	57/28-30	40.1518
30-32	57/30-32	40.1519
32-34	57/32-34	40.1520
34-36	57/34-36	40.1521
36-37	57/36-37	40.1522
37-38	57/37-38	40.1523
38-39	57/38-39	40.1524
39-40	57/39-40	40.1525
40	57/40	40.1526
blind	60/0	40.1600
14-16	60/14-16	40.1611
16-18	60/16-18	40.1612
18-20	60/18-20	40.1613
20-22	60/20-22	40.1614
22-24	60/22-24	40.1615
24-26	60/24-26	40.1616
26-28	60/26-28	40.1617
28-30	60/28-30	40.1618
30-32	60/30-32	40.1619
32-34	60/32-34	40.1620
34-36	60/34-36	40.1621
36-37	60/36-37	40.1622
37-38	60/37-38	40.1623
38-39	60/38-39	40.1624
39-40	60/39-40	40.1625
40	60/40	40.1626
	60 multi is max. 2x15, 3x10	
blind	62/0	40.1700
14-16	62/14-16	40.1711
16-18	62/16-18	40.1712
18-20	62/18-20	40.1713
20-22	62/20-22	40.1714
22-24	62/22-24	40.1715
24-26	62/24-26	40.1716
26-28	62/26-28	40.1717
28-30	62/28-30	40.1718
30-32	62/30-32	40.1719
32-34	62/32-34	40.1720
34-36	62/34-36	40.1721
36-37	62/36-37	40.1722
37-38	62/37-38	40.1723
38-39	62/38-39	40.1724
39-40	62/39-40	40.1725
40	62/40	40.1726
	62 multi is max. 2x15, 3x10	
blind	67/0	40.1800
22-24	67/22-24	40.1815
24-26	67/24-26	40.1816
26-28	67/26-28	40.1817
28-30	67/28-30	40.1818
30-32	67/30-32	40.1819
32-34	67/32-34	40.1820
34-36	67/34-36	40.1821
36-38	67/36-38	40.1822
38-40	67/38-40	40.1823
40-42	67/40-42	40.1824
42-44	67/42-44	40.1825
44-46	67/44-46	40.1826
46-48	67/46-48	40.1827
48-50	67/48-50	40.1828
50	67/50	40.1829
blind	68/0	40.1900
20-22	68/20-22	40.1914
22-24	68/22-24	40.1915
24-26	68/24-26	40.1916
26-28	68/26-28	40.1917
28-30	68/28-30	40.1918
30-32	68/30-32	40.1919
32-34	68/32-34	40.1920
34-36	68/34-36	40.1921
36-38	68/36-38	40.1922
38-40	68/38-40	40.1923
40-42	68/40-42	40.1924
42-44	68/42-44	40.1925
44-46	68/44-46	40.1926
46-48	68/46-48	40.1927
48-50	68/48-50	40.1928
50	68/50	40.1929
	68 multi is max. 2x22, 3x12, 5x12	
blind	70/0	40.2000
20-22	70/20-22	40.2014
22-24	70/22-24	40.2015
24-26	70/24-26	40.2016
26-28	70/26-28	40.2017
28-30	70/28-30	40.2018
30-32	70/30-32	40.2019
32-34	70/32-34	40.2020
34-36	70/34-36	40.2021
36-38	70/36-38	40.2022
38-40	70/38-40	40.2023
40-42	70/40-42	40.2024
42-44	70/42-44	40.2025
44-46	70/44-46	40.2026
46-48	70/46-48	40.2027
48-50	70/48-50	40.2028
50	70/50	40.2029
	70 multi is max. 2x22, 3x12	
blind	75/0	40.2100
22-24	75/22-24	40.2115
24-26	75/24-26	40.2116
26-28	75/26-28	40.2117
28-30	75/28-30	40.2118
30-32	75/30-32	40.2119
32-34	75/32-34	40.2120
34-36	75/34-36	40.2121
36-38	75/36-38	40.2122
38-40	75/38-40	40.2123
40-42	75/40-42	40.2124
42-44	75/42-44	40.2125
44-46	75/44-46	40.2126
46-48	75/46-48	40.2127
48-50	75/48-50	40.2128
50	75/50	40.2129
blind	78/0	40.2200
22-24	78/22-24	40.2215
24-26	78/24-26	40.2216
26-28	78/26-28	40.2217
28-30	78/28-30	40.2218
30-32	78/30-32	40.2219
32-34	78/32-34	40.2220
34-36	78/34-36	40.2221
36-38	78/36-38	40.2222
38-40	78/38-40	40.2223
40-42	78/40-42	40.2224
42-44	78/42-44	40.2225
44-46	78/44-46	40.2226
46-48	78/46-48	40.2227

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SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

all dimensions in mm

cable/ pipe diameter	plug type	article number
48-50	78/48-50	40.2228
50-52	78/50-52	40.2229
52-53	78/52-53	40.2230
53-54	78/53-54	40.2231
54	78/54	40.2232
	78 multi is max. 2x22, 3x15, 5x15	
blind	80/0	40.2300
28-30	80/28-30	40.2318
30-32	80/30-32	40.2319
32-34	80/32-34	40.2320
34-36	80/34-36	40.2321
36-38	80/36-38	40.2322
38-40	80/38-40	40.2323
40-42	80/40-42	40.2324
42-44	80/42-44	40.2325
44-46	80/44-46	40.2326
46-48	80/46-48	40.2327
48-50	80/48-50	40.2328
50-52	80/50-52	40.2329
52-54	80/52-54	40.2330
54-56	80/54-56	40.2331
56-58	80/56-58	40.2332
58-60	80/58-60	40.2333
60	80/60	40.2334
	80 multi is max. 2x22, 3x15, 5x15	
blind	82/0	40.2400
28-30	82/28-30	40.2418
30-32	82/30-32	40.2419
32-34	82/32-34	40.2420
34-36	82/34-36	40.2421
36-38	82/36-38	40.2422
38-40	82/38-40	40.2423
40-42	82/40-42	40.2424
42-44	82/42-44	40.2425
44-46	82/44-46	40.2426
46-48	82/46-48	40.2427
48-50	82/48-50	40.2428
50-52	82/50-52	40.2429
52-54	82/52-54	40.2430
54-56	82/54-56	40.2431
56-58	82/56-58	40.2432
58-60	82/58-60	40.2433
60	82/60	40.2434
	82 multi is max. 2x22, 3x15, 5x15	
blind	90/0	40.2500
40-42	90/40-42	40.2520
42-44	90/42-44	40.2521
44-46	90/44-46	40.2522
46-48	90/46-48	40.2523
48-50	90/48-50	40.2524
50-52	90/50-52	40.2525
52-54	90/52-54	40.2526
54-56	90/54-56	40.2527
56-58	90/56-58	40.2528
58-60	90/58-60	40.2529
60-62	90/60-62	40.2530
62-64	90/62-64	40.2531
64	90/64	40.2532
	90 multi is max. 2x25, 3x15	

all dimensions in mm

cable/ pipe diameter	plug type	article number
blind	94/0	40.2600
40-42	94/40-42	40.2620
42-44	94/42-44	40.2621
44-46	94/44-46	40.2622
46-48	94/46-48	40.2623
48-50	94/48-50	40.2624
50-52	94/50-52	40.2625
52-54	94/52-54	40.2626
54-56	94/54-56	40.2627
56-58	94/56-58	40.2628
58-60	94/58-60	40.2629
60-62	94/60-62	40.2630
62-64	94/62-64	40.2631
64	94/64	40.2632
blind	97/0	40.2700
40-42	97/40-42	40.2720
42-44	97/42-44	40.2721
44-46	97/44-46	40.2722
46-48	97/46-48	40.2723
48-50	97/48-50	40.2724
50-52	97/50-52	40.2725
52-54	97/52-54	40.2726
54-56	97/54-56	40.2727
56-58	97/56-58	40.2728
58-60	97/58-60	40.2729
60-62	97/60-62	40.2730
62-64	97/62-64	40.2731
64	97/64	40.2732
blind	100/0	40.2800
40-42	100/40-42	40.2820
42-44	100/42-44	40.2821
44-46	100/44-46	40.2822
46-48	100/46-48	40.2823
48-50	100/48-50	40.2824
50-52	100/50-52	40.2825
52-54	100/52-54	40.2826
54-56	100/54-56	40.2827
56-58	100/56-58	40.2828
58-60	100/58-60	40.2829
60-62	100/60-62	40.2830
62-64	100/62-64	40.2831
64-66	100/64-66	40.2832
66-68	100/66-68	40.2833
68-70	100/68-70	40.2834
70-72	100/70-72	40.2835
72-74	100/72-74	40.2836
74-75	100/74-75	40.2837
75	100/75	40.2838
blind	102/0	40.2900
40-42	102/40-42	40.2920
42-44	102/42-44	40.2921
44-46	102/44-46	40.2922
46-48	102/46-48	40.2923
48-50	102/48-50	40.2924
50-52	102/50-52	40.2925
52-54	102/52-54	40.2926
54-56	102/54-56	40.2927
56-58	102/56-58	40.2928
58-60	102/58-60	40.2929
60-62	102/60-62	40.2930

all dimensions in mm

cable/ pipe diameter	plug type	article number
62-64	102/62-64	40.2931
64-66	102/64-66	40.2932
66-68	102/66-68	40.2933
68-70	102/68-70	40.2934
70-72	102/70-72	40.2935
72-74	102/72-74	40.2936
74-75	102/74-75	40.2937
75	102/75	40.2938
blind	103/0	40.3000
26-28	103/26-28	40.3013
28-30	103/28-30	40.3014
32-34	103/32-34	40.3016
40-42	103/40-42	40.3020
42-44	103/42-44	40.3021
44-46	103/44-46	40.3022
46-48	103/46-48	40.3023
48-50	103/48-50	40.3024
50-52	103/50-52	40.3025
52-54	103/52-54	40.3026
54-56	103/54-56	40.3027
56-58	103/56-58	40.3028
58-60	103/58-60	40.3029
60-62	103/60-62	40.3030
62-64	103/62-64	40.3031
64-66	103/64-66	40.3032
66-68	103/66-68	40.3033
68-70	103/68-70	40.3034
70-72	103/70-72	40.3035
72-74	103/72-74	40.3036
74-75	103/74-75	40.3037
75	103/75	40.3038
blind	105/0	40.3100
40-42	105/40-42	40.3120
42-44	105/42-44	40.3121
44-46	105/44-46	40.3122
46-48	105/46-48	40.3123
48-50	105/48-50	40.3124
50-52	105/50-52	40.3125
52-54	105/52-54	40.3126
54-56	105/54-56	40.3127
56-58	105/56-58	40.3128
58-60	105/58-60	40.3129
60-62	105/60-62	40.3130
62-64	105/62-64	40.3131
64-66	105/64-66	40.3132
66-68	105/66-68	40.3133
68-70	105/68-70	40.3134
70-72	105/70-72	40.3135
72-74	105/72-74	40.3136
74-75	105/74-75	40.3137
75	105/75	40.3138
blind	107/0	40.3200
40-42	107/40-42	40.3220
42-44	107/42-44	40.3221
44-46	107/44-46	40.3222
46-48	107/46-48	40.3223
48-50	107/48-50	40.3224
50-52	107/50-52	40.3225
52-54	107/52-54	40.3226

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SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

cable/ pipe diameter	plug type	article number
54-56	107/54-56	40.3227
56-58	107/56-58	40.3228
58-60	107/58-60	40.3229
60-62	107/60-62	40.3230
62-64	107/62-64	40.3231
64-66	107/64-66	40.3232
66-68	107/66-68	40.3233
68-70	107/68-70	40.3234
70-72	107/70-72	40.3235
72-74	107/72-74	40.3236
74-75	107/74-75	40.3237
75-76	107/75-76	40.3238
76	107/76	40.3239
blind	110/0	40.3300
48-50	110/48-50	40.3324
50-52	110/50-52	40.3325
52-54	110/52-54	40.3326
54-56	110/54-56	40.3327
56-58	110/56-58	40.3328
58-60	110/58-60	40.3329
60-62	110/60-62	40.3330
62-64	110/62-64	40.3331
64-66	110/64-66	40.3332
66-68	110/66-68	40.3333
68-70	110/68-70	40.3334
70-72	110/70-72	40.3335
72-74	110/72-74	40.3336
74-76	110/74-76	40.3337
76-78	110/76-78	40.3338
78-80	110/78-80	40.3339
80	110/80	40.3340
blind	118/0	40.3400
60-62	118/60-62	40.3430
62-64	118/62-64	40.3431
64-66	118/64-66	40.3432
66-68	118/66-68	40.3433
68-70	118/68-70	40.3434
70-72	118/70-72	40.3435
72-74	118/72-74	40.3436
74-76	118/74-76	40.3437
76-78	118/76-78	40.3438
78-80	118/78-80	40.3439
80-82	118/80-82	40.3440
82-84	118/82-84	40.3441
84-86	118/84-86	40.3442
86-88	118/86-88	40.3443
88-90	118/88-90	40.3444
90	118/90	40.3445
blind	122/0	40.3500
60-62	122/60-62	40.3530
62-64	122/62-64	40.3531
64-66	122/64-66	40.3532
66-68	122/66-68	40.3533
68-70	122/68-70	40.3534
70-72	122/70-72	40.3535
72-74	122/72-74	40.3536
74-76	122/74-76	40.3537
76-78	122/76-78	40.3538
78-80	122/78-80	40.3539
80-82	122/80-82	40.3540

all dimensions in mm

cable/ pipe diameter	plug type	article number
82-84	122/82-84	40.3541
84-86	122/84-86	40.3542
86-88	122/86-88	40.3543
88-90	122/88-90	40.3544
90-92	122/90-92	40.3545
92	122/92	40.3546
blind	125/0	40.3600
60-62	125/60-62	40.3630
62-64	125/62-64	40.3631
64-66	125/64-66	40.3632
66-68	125/66-68	40.3633
68-70	125/68-70	40.3634
70-72	125/70-72	40.3635
72-74	125/72-74	40.3636
74-76	125/74-76	40.3637
76-78	125/76-78	40.3638
78-80	125/78-80	40.3639
80-82	125/80-82	40.3640
82-84	125/82-84	40.3641
84-86	125/84-86	40.3642
86-88	125/86-88	40.3643
88-90	125/88-90	40.3644
90-92	125/90-92	40.3645
92	125/92	40.3646
100	125/100	40.3650
blind	128/0	40.3700
60-62	128/60-62	40.3730
62-64	128/62-64	40.3731
64-66	128/64-66	40.3732
66-68	128/66-68	40.3733
68-70	128/68-70	40.3734
70-72	128/70-72	40.3735
72-74	128/72-74	40.3736
74-76	128/74-76	40.3737
76-78	128/76-78	40.3738
78-80	128/78-80	40.3739
80-82	128/80-82	40.3740
82-84	128/82-84	40.3741
84-86	128/84-86	40.3742
86-88	128/86-88	40.3743
88-90	128/88-90	40.3744
90-92	128/90-92	40.3745
92	128/92	40.3746
blind	131/0	40.3800
60-62	131/60-62	40.3830
62-64	131/62-64	40.3831
64-66	131/64-66	40.3832
66-68	131/66-68	40.3833
68-70	131/68-70	40.3834
70-72	131/70-72	40.3835
72-74	131/72-74	40.3836
74-76	131/74-76	40.3837
76-78	131/76-78	40.3838
78-80	131/78-80	40.3839
80-82	131/80-82	40.3840
82-84	131/82-84	40.3841
84-86	131/84-86	40.3842
86-88	131/86-88	40.3843
88-90	131/88-90	40.3844
90-92	131/90-92	40.3845
92	131/92	40.3846

all dimensions in mm

cable/ pipe diameter	plug type	article number
blind	146/0	40.3900
88-90	146/88-90	40.3920
90-92	146/90-92	40.3921
92-94	146/92-94	40.3922
94-96	146/94-96	40.3923
96-98	146/96-98	40.3924
98-100	146/98-100	40.3925
100-102	146/100-102	40.3926
102-104	146/102-104	40.3927
104-106	146/104-106	40.3928
106-108	146/106-108	40.3929
108-110	146/108-110	40.3930
110-112	146/110-112	40.3931
112-114	146/112-114	40.3932
114-116	146/114-116	40.3933
116-118	146/116-118	40.3934
118-120	146/118-120	40.3935
120	146/120	40.3936
blind	150/0	40.4000
88-90	150/88-90	40.4020
90-92	150/90-92	40.4021
92-94	150/92-94	40.4022
94-96	150/94-96	40.4023
96-98	150/96-98	40.4024
98-100	150/98-100	40.4025
100-102	150/100-102	40.4026
102-104	150/102-104	40.4027
104-106	150/104-106	40.4028
106-108	150/106-108	40.4029
108-110	150/108-110	40.4030
110-112	150/110-112	40.4031
112-114	150/112-114	40.4032
114-116	150/114-116	40.4033
116-118	150/116-118	40.4034
118-120	150/118-120	40.4035
120-122	150/120-122	40.4036
122-124	150/122-124	40.4037
124-125	150/124-125	40.4038
125	150/125	40.4039
blind	152/0	40.4100
88-90	152/88-90	40.4120
90-92	152/90-92	40.4121
92-94	152/92-94	40.4122
94-96	152/94-96	40.4123
96-98	152/96-98	40.4124
98-100	152/98-100	40.4125
100-102	152/100-102	40.4126
102-104	152/102-104	40.4127
104-106	152/104-106	40.4128
106-108	152/106-108	40.4129
108-110	152/108-110	40.4130
110-112	152/110-112	40.4131
112-114	152/112-114	40.4132
114-116	152/114-116	40.4133
116-118	152/116-118	40.4134
118-120	152/118-120	40.4135
120-122	152/120-122	40.4136
122-124	152/122-124	40.4137
124-125	152/124-125	40.4138
125	152/125	40.4139

all dimensions in mm

SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

all dimensions in mm

cable/ pipe diameter	plug type	article number
blind	154/0	40.4200
88-90	154/88-90	40.4220
90-92	154/90-92	40.4221
92-94	154/92-94	40.4222
94-96	154/94-96	40.4223
96-98	154/96-98	40.4224
98-100	154/98-100	40.4225
100-102	154/100-102	40.4226
102-104	154/102-104	40.4227
104-106	154/104-106	40.4228
106-108	154/106-108	40.4229
108-110	154/108-110	40.4230
110-112	154/110-112	40.4231
112-114	154/112-114	40.4232
114-116	154/114-116	40.4233
116-118	154/116-118	40.4234
118-120	154/118-120	40.4235
120-122	154/120-122	40.4236
122-124	154/122-124	40.4237
124-125	154/124-125	40.4238
125	154/125	40.4239
blind	156/0	40.4300
88-90	156/88-90	40.4320
90-92	156/90-92	40.4321
92-94	156/92-94	40.4322
94-96	156/94-96	40.4323
96-98	156/96-98	40.4324
98-100	156/98-100	40.4325
100-102	156/100-102	40.4326
102-104	156/102-104	40.4327
104-106	156/104-106	40.4328
106-108	156/106-108	40.4329
108-110	156/108-110	40.4330
110-112	156/110-112	40.4331
112-114	156/112-114	40.4332
114-116	156/114-116	40.4333
116-118	156/116-118	40.4334
118-120	156/118-120	40.4335
120-122	156/120-122	40.4336
122-124	156/122-124	40.4337
124-125	156/124-125	40.4338
125	156/125	40.4339
blind	160/0	40.4400
88-90	160/88-90	40.4420
90-92	160/90-92	40.4421
92-94	160/92-94	40.4422
94-96	160/94-96	40.4423
96-98	160/96-98	40.4424
98-100	160/98-100	40.4425
100-102	160/100-102	40.4426
102-104	160/102-104	40.4427
104-106	160/104-106	40.4428
106-108	160/106-108	40.4429
108-110	160/108-110	40.4430
110-112	160/110-112	40.4431
112-114	160/112-114	40.4432
114-116	160/114-116	40.4433
116-118	160/116-118	40.4434
118-120	160/118-120	40.4435
120-122	160/120-122	40.4436
122-124	160/122-124	40.4437

all dimensions in mm

cable/ pipe diameter	plug type	article number
124-125	160/124-125	40.4438
125	160/125	40.4439
blind	190/0	40.4500
110-112	190/110	40.4520
114-116	190/114	40.4523
125-127	190/125	40.4528
139-141	190/139	40.4533
142-144	190/142	40.4534
150-152	190/150	40.4538
153-155	190/153	40.4541
159-161	190/159	40.4543
blind	200/0	40.4600
110-112	200/110	40.4620
114-116	200/114	40.4623
120-122	200/120	40.4626
122-124	200/122	40.4627
125-127	200/125	40.4628
133-135	200/133	40.4631
135-137	200/135	40.4632
139-141	200/139	40.4633
141-143	200/141	40.4634
159-161	200/159	40.4643
blind	203/0	40.4700
110-112	203/110	40.4720
114-116	203/114	40.4723
125-127	203/125	40.4728
133-135	203/133	40.4731
139-141	203/139	40.4733
141-143	203/141	40.4734
159-161	203/159	40.4743
162-164	200/162	40.4744
168-170	203/168	40.4748
blind	207/0	40.4800
110-112	207/110	40.4820
114-116	207/114	40.4823
125-127	207/125	40.4828
129-131	207/129	40.4829
133-135	207/133	40.4831
139-141	207/139	40.4833
156-158	207/156	40.4842
159-161	207/159	40.4843
168-170	207/168	40.4848
160	250/160	40.5010
168	250/168	40.5014
171	250/171	40.5015
180	250/180	40.5020
200	250/200	40.5030
160	260/160	40.5210
168	260/168	40.5214
200	260/200	40.5230
204	260/204	40.5232
219	260/219	40.5239
200	300/200	40.5321
219	300/219	40.5330
225	300/225	40.5333
250	300/250	40.5346
219	339/219	40.5518
273	339/273	40.5545

multi-sealing plugs for 2, 3 or 5 same diameter cables/pipes

type code: series/2xcable diameter
For instance 40/2x6-7

type code: series/3xcable diameter
For instance 40/3x6-7

type code: series/5xcable diameter
For instance 40/5x6-7

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SLIPSIL® MULTI-SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

cable/ pipe diameter	plug type	article number
6-7	40/2x6-7	40.0926
7-8	40/2x7-8	40.0927
8-9	40/2x8-9	40.0928
9-10	40/2x9-10	40.0929
10-11	40/2x10-11	40.0930
6-7	41/2x6-7	40.1026
7-8	41/2x7-8	40.1027
8-9	41/2x8-9	40.1028
9-10	41/2x9-10	40.1029
10-11	41/2x10-11	40.1030
6-7	43/2x6-7	40.1126
7-8	43/2x7-8	40.1127
8-9	43/2x8-9	40.1128
9-10	43/2x9-10	40.1129
10-11	43/2x10-11	40.1130
6-7	50/2x6-7	40.1231
7-8	50/2x7-8	40.1232
8-9	50/2x8-9	40.1233
9-10	50/2x9-10	40.1234
10-11	50/2x10-11	40.1235
11-12	50/2x11-12	40.1236
12-13	50/2x12-13	40.1237
13-14	50/2x13-14	40.1238
14-15	50/2x14-15	40.1239
15-16	50/2x15-16	40.1240
6-7	53/2x6-7	40.1331
7-8	53/2x7-8	40.1332
8-9	53/2x8-9	40.1333
9-10	53/2x9-10	40.1334
10-11	53/2x10-11	40.1335
11-12	53/2x11-12	40.1336
12-13	53/2x12-13	40.1337
13-14	53/2x13-14	40.1338
14-15	53/2x14-15	40.1339
15-16	53/2x15-16	40.1340
6-7	55/2x6-7	40.1431
7-8	55/2x7-8	40.1432
8-9	55/2x8-9	40.1433
9-10	55/2x9-10	40.1434
10-11	55/2x10-11	40.1435
11-12	55/2x11-12	40.1436
12-13	55/2x12-13	40.1437
13-14	55/2x13-14	40.1438
14-15	55/2x14-15	40.1439
15-16	55/2x15-16	40.1440
11-12	60/2x11-12	40.1636
12-13	60/2x12-13	40.1637
13-14	60/2x13-14	40.1638
14-15	60/2x14-15	40.1639
15-16	60/2x15-16	40.1640
11-12	62/2x11-12	40.1736
12-13	62/2x12-13	40.1737
13-14	62/2x13-14	40.1738
14-15	62/2x14-15	40.1739
15-16	62/2x15-16	40.1740

all dimensions in mm

cable/ pipe diameter	plug type	article number
11-12	68/2x11-12	40.1936
12-13	68/2x12-13	40.1937
13-14	68/2x13-14	40.1938
14-15	68/2x14-15	40.1939
15-16	68/2x15-16	40.1940
16-17	68/2x16-17	40.1941
17-18	68/2x17-18	40.1942
18-19	68/2x18-19	40.1943
19-20	68/2x19-20	40.1944
20-21	68/2x20-21	40.1945
21-22	68/2x21-22	40.1946
22-23	68/2x22-23	40.1947
11-12	70/2x11-12	40.2036
12-13	70/2x12-13	40.2037
13-14	70/2x13-14	40.2038
14-15	70/2x14-15	40.2039
15-16	70/2x15-16	40.2040
16-17	70/2x16-17	40.2041
17-18	70/2x17-18	40.2042
18-19	70/2x18-19	40.2043
19-20	70/2x19-20	40.2044
20-21	70/2x20-21	40.2045
21-22	70/2x21-22	40.2046
22-23	70/2x22-23	40.2047
12-13	78/2x12-13	40.2241
13-14	78/2x13-14	40.2242
14-15	78/2x14-15	40.2243
15-16	78/2x15-16	40.2244
16-17	78/2x16-17	40.2245
17-18	78/2x17-18	40.2246
18-19	78/2x18-19	40.2247
19-20	78/2x19-20	40.2248
20-21	78/2x20-21	40.2249
21-22	78/2x21-22	40.2250
22-23	78/2x22-23	40.2251
12-13	80/2x12-13	40.2341
13-14	80/2x13-14	40.2342
14-15	80/2x14-15	40.2343
15-16	80/2x15-16	40.2344
16-17	80/2x16-17	40.2345
17-18	80/2x17-18	40.2346
18-19	80/2x18-19	40.2347
19-20	80/2x19-20	40.2348
20-21	80/2x20-21	40.2349
21-22	80/2x21-22	40.2350
22-23	80/2x22-23	40.2351
12-13	82/2x12-13	40.2441
13-14	82/2x13-14	40.2442
14-15	82/2x14-15	40.2443
15-16	82/2x15-16	40.2444
16-17	82/2x16-17	40.2445
17-18	82/2x17-18	40.2446
18-19	82/2x18-19	40.2447
19-20	82/2x19-20	40.2448
20-21	82/2x20-21	40.2449
21-22	82/2x21-22	40.2450
22-23	82/2x22-23	40.2451

all dimensions in mm

cable/ pipe diameter	plug type	article number
15-16	90/2x15-16	40.2541
16-17	90/2x16-17	40.2542
17-18	90/2x17-18	40.2543
18-19	90/2x18-19	40.2544
19-20	90/2x19-20	40.2545
20-21	90/2x20-21	40.2546
21-22	90/2x21-22	40.2547
22-23	90/2x22-23	40.2548
23-24	90/2x23-24	40.2549
24-25	90/2x24-25	40.2550
25-26	90/2x25-26	40.2551

* multi-plugs for other plug series are made upon customer request. The listed sizes are standard items. For other sizes, please contact our sales department.

SLIPSIL® multi-sealing plugs for two up to five same diameter cables or pipes consist of two or four equal parts, so that they can be installed after the cables or pipes have been laid. For selecting the right type of sealing plug, look for the plug series from the tables.

type code: series/2xcable diameter
For instance 40/2x6-7

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SLIPSIL® MULTI-SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

all dimensions in mm

cable/ pipe diameter	plug type	article number
6-7	40/3x6-7	40.0936
7-8	40/3x7-8	40.0937
6-7	41/3x6-7	40.1036
7-8	41/3x7-8	40.1037
6-7	43/3x6-7	40.1136
7-8	43/3x7-8	40.1137
6-7	50/3x6-7	40.1241
7-8	50/3x7-8	40.1242
8-9	50/3x8-9	40.1243
6-7	53/3x6-7	40.1341
7-8	53/3x7-8	40.1342
8-9	53/3x8-9	40.1343
9-10	53/3x9-10	40.1344
10-11	53/3x10-11	40.1345
6-7	55/3x6-7	40.1441
7-8	55/3x7-8	40.1442
8-9	55/3x8-9	40.1443
9-10	55/3x9-10	40.1444
10-11	55/3x10-11	40.1445
6-7	60/3x6-7	40.1646
7-8	60/3x7-8	40.1647
8-9	60/3x8-9	40.1648
9-10	60/3x9-10	40.1649
10-11	60/3x10-11	40.1650
6-7	62/3x6-7	40.1746
7-8	62/3x7-8	40.1747
8-9	62/3x8-9	40.1748
9-10	62/3x9-10	40.1749
10-11	62/3x10-11	40.1750
6-7	68/3x6-7	40.1951
7-8	68/3x7-8	40.1952
8-9	68/3x8-9	40.1953
9-10	68/3x9-10	40.1954
10-11	68/3x10-11	40.1955
11-12	68/3x11-12	40.1956
12-13	68/3x12-13	40.1957
6-7	70/3x6-7	40.2051
7-8	70/3x7-8	40.2052
8-9	70/3x8-9	40.2053
9-10	70/3x9-10	40.2054
10-11	70/3x10-11	40.2055
11-12	70/3x11-12	40.2054
12-13	70/3x12-13	40.2055
10-11	78/3x10-11	40.2256
11-12	78/3x11-12	40.2257
12-13	78/3x12-13	40.2258
13-14	78/3x13-14	40.2259
14-15	78/3x14-15	40.2260
15-16	78/3x15-16	40.2261

all dimensions in mm

cable/ pipe diameter	plug type	article number
10-11	80/3x10-11	40.2356
11-12	80/3x11-12	40.2357
12-13	80/3x12-13	40.2358
13-14	80/3x13-14	40.2359
14-15	80/3x14-15	40.2360
15-16	80/3x15-16	40.2361
10-11	82/3x10-11	40.2456
11-12	82/3x11-12	40.2457
12-13	82/3x12-13	40.2458
13-14	82/3x13-14	40.2459
14-15	82/3x14-15	40.2460
15-16	82/3x15-16	40.2461
10-11	90/3x10-11	40.2556
11-12	90/3x11-12	40.2557
12-13	90/3x12-13	40.2558
13-14	90/3x13-14	40.2559
14-15	90/3x14-15	40.2560
15-16	90/3x15-16	40.2561
6-7	40/5x6-7	40.0941
7-8	40/5x7-8	40.0942
6-7	41/5x6-7	40.1041
7-8	41/5x7-8	40.1042
6-7	43/5x6-7	40.1141
7-8	43/5x7-8	40.1142
6-7	50/5x6-7	40.1251
7-8	50/5x7-8	40.1252
8-9	50/5x8-9	40.1253
6-7	53/5x6-7	40.1351
7-8	53/5x7-8	40.1352
8-9	53/5x8-9	40.1353
9-10	53/5x9-10	40.1354
10-11	53/5x10-11	40.1355
6-7	55/5x6-7	40.1451
7-8	55/5x7-8	40.1452
8-9	55/5x8-9	40.1453
9-10	55/5x9-10	40.1454
10-11	55/5x10-11	40.1455
6-7	68/5x6-7	40.1961
7-8	68/5x7-8	40.1962
8-9	68/5x8-9	40.1963
9-10	68/5x9-10	40.1964
10-11	68/5x10-11	40.1965
11-12	68/5x11-12	40.1966
12-13	68/5x12-13	40.1967
10-11	78/5x10-11	40.2266
11-12	78/5x11-12	40.2267
12-13	78/5x12-13	40.2268
13-14	78/5x13-14	40.2269
14-15	78/5x14-15	40.2270
15-16	78/5x15-16	40.2271

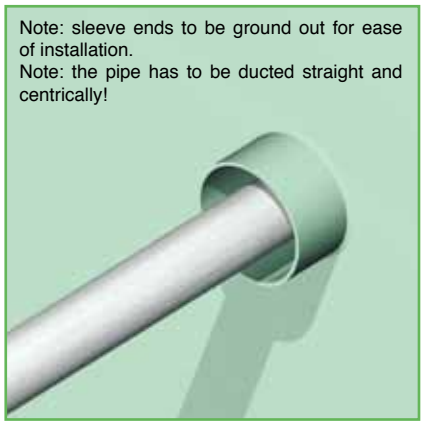
cable/ pipe diameter	plug type	article number
10-11	80/5x10-11	40.2366
11-12	80/5x11-12	40.2367
12-13	80/5x12-13	40.2368
13-14	80/5x13-14	40.2369
14-15	80/5x14-15	40.2370
15-16	80/5x15-16	40.2371
10-11	82/5x10-11	40.2466
11-12	82/5x11-12	40.2467
12-13	82/5x12-13	40.2468
13-14	82/5x13-14	40.2469
14-15	82/5x14-15	40.2470
15-16	82/5x15-16	40.2471

* multi-plugs for other plug series are made upon customer request. The listed sizes are standard items. For other sizes, please contact our sales department.
* the tooling for the multi-plugs 5x is very expensive. Specials only on request based on quantities.

type code: series/3xcable diameter
For instance 40/3x6-7

type code: series/5xcable diameter
For instance 40/5x6-7

SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

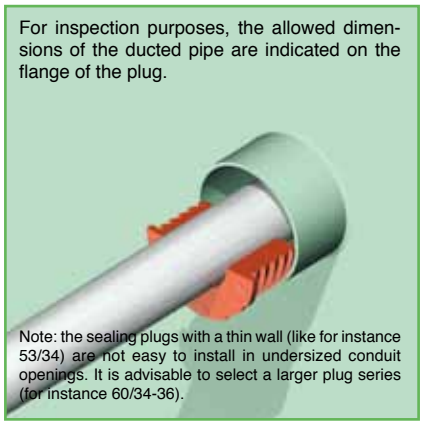


1) Before starting the installation procedure, any dirt, oil residues or welding spots should be removed from the conduit sleeve. For ease of installation, it is advisable to grind out the front side of the sleeve. Ask for the fitting CSD® conduit sleeves.

2) Then the inside wall of the conduit sleeve is treated with CSD® lubricant along a distance which approximately corresponds to the length of the sealing plug.

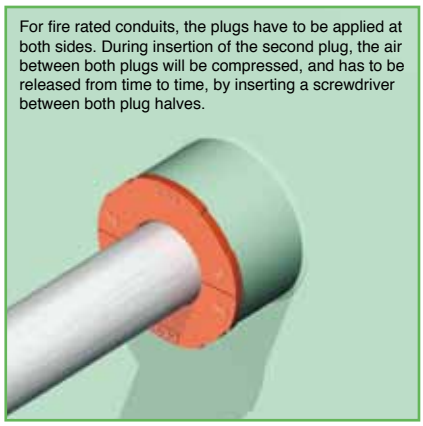
3) The inside surfaces of both segments of the SLIPSIL® sealing plug are then treated with CSD® lubricant.
For selecting the right sealing plug, look for the plug series and the plug type in this series on the basis of the ID of the sleeve and the OD of the ducted pipe.

4) The segments of the SLIPSIL® sealing plug are also treated with CSD® lubricant on the outside.
Please refer to the Safety Data Sheet of the CSD® lubricant for more information.

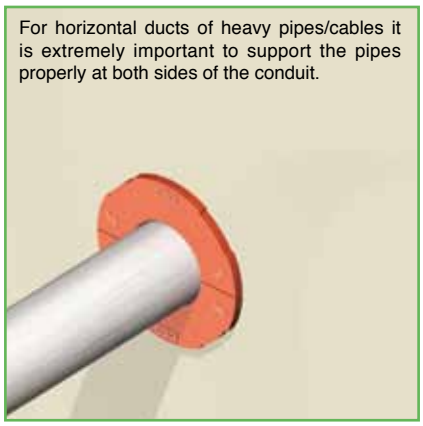


5) Both segments of the SLIPSIL® sealing plug are placed around the ducted pipe and then pushed into the conduit sleeve as far as the first serration. The first serration is smaller than the other serrations to make this procedure very easy.

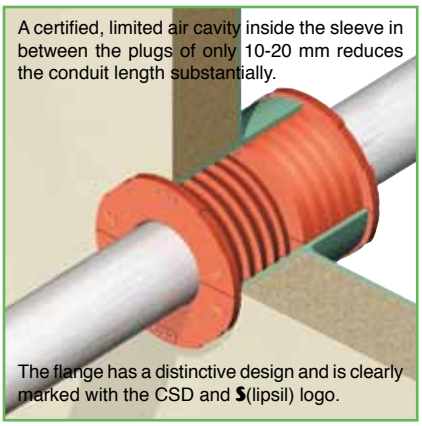
6) Then both segments of the SLIPSIL® sealing plug are pushed by hand evenly, serration by serration, further into the conduit sleeve.



7) The flanged edge of the sealing plug must be flush against the front side of the conduit sleeve. The flange has a distinctive design and is clearly marked with the CSD® and S(lipsil)® logo.

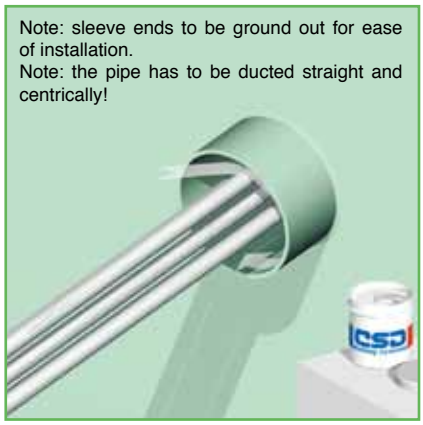


8) Note: tightness and installation are optimum at nominal sizes (for instance for 60/34-36 optimum is 60 mm ID of the sleeve and 34 mm OD of the ducted pipe).



9) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. The ducted pipe has to be insulated according to the specifications on the certified drawings.

SLIPSIL® MULTI-SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

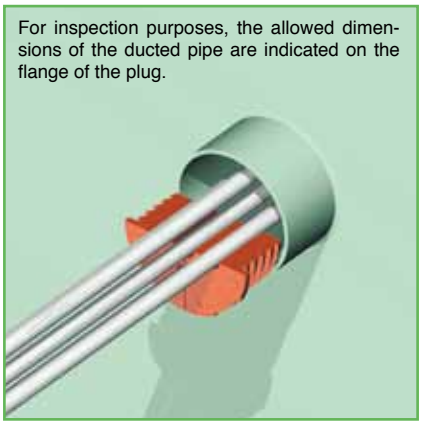


1) Before starting the installation procedure, any dirt, oil residues or welding spots should be removed from the conduit sleeve. For ease of installation, it is advisable to grind out the front side of the sleeve. Ask for the fitting CSD® conduit sleeves.

2) Then the inside wall of the conduit sleeve is treated with CSD® lubricant along a distance which approximately corresponds to the length of the sealing plug.

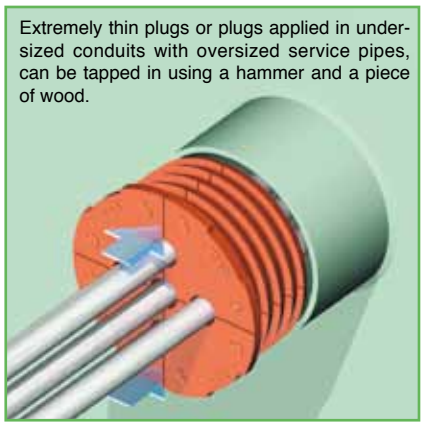
3) The inside surfaces of the four segments of the SLIPSIL® multi-sealing plug are then treated with CSD® lubricant.
For selecting the right sealing plug, look for the plug series and the plug type in this series on the basis of the ID of the sleeve and the OD of the ducted pipes.

4) The four segments of the SLIPSIL® multi-sealing plug are also treated with CSD® lubricant on the outside.
Please refer to the Safety Data Sheet of the CSD® lubricant for more information.

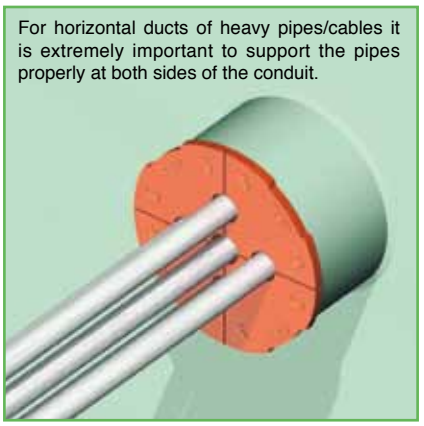


5) The segments of the SLIPSIL® multi- sealing plug are placed around the ducted pipes and then pushed into the conduit sleeve as far as the first serration. The first serration is smaller than the other serrations to make this procedure very easy.

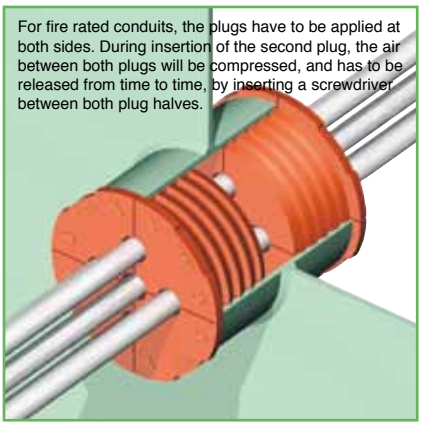
6) The segments of the SLIPSIL® multi- sealing plug are placed around the ducted pipes and then pushed into the conduit sleeve as far as the first serration. The first serration is smaller than the other serrations to make this procedure very easy.



7) Then the four segments of the SLIPSIL® multi-sealing plug are pushed by hand evenly, serration by serration, further into the conduit sleeve.



8) The flanged edge of the sealing plug must be flush against the front side of the conduit sleeve. The flange has a distinctive design and is clearly marked with the **S**(lipsil)® logo.



9) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. The ducted pipe has to be insulated according to the specifications on the certified drawings.

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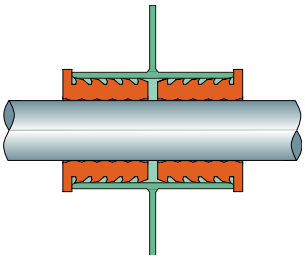
SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES - FIRESAFE/GAS & WATERTIGHT

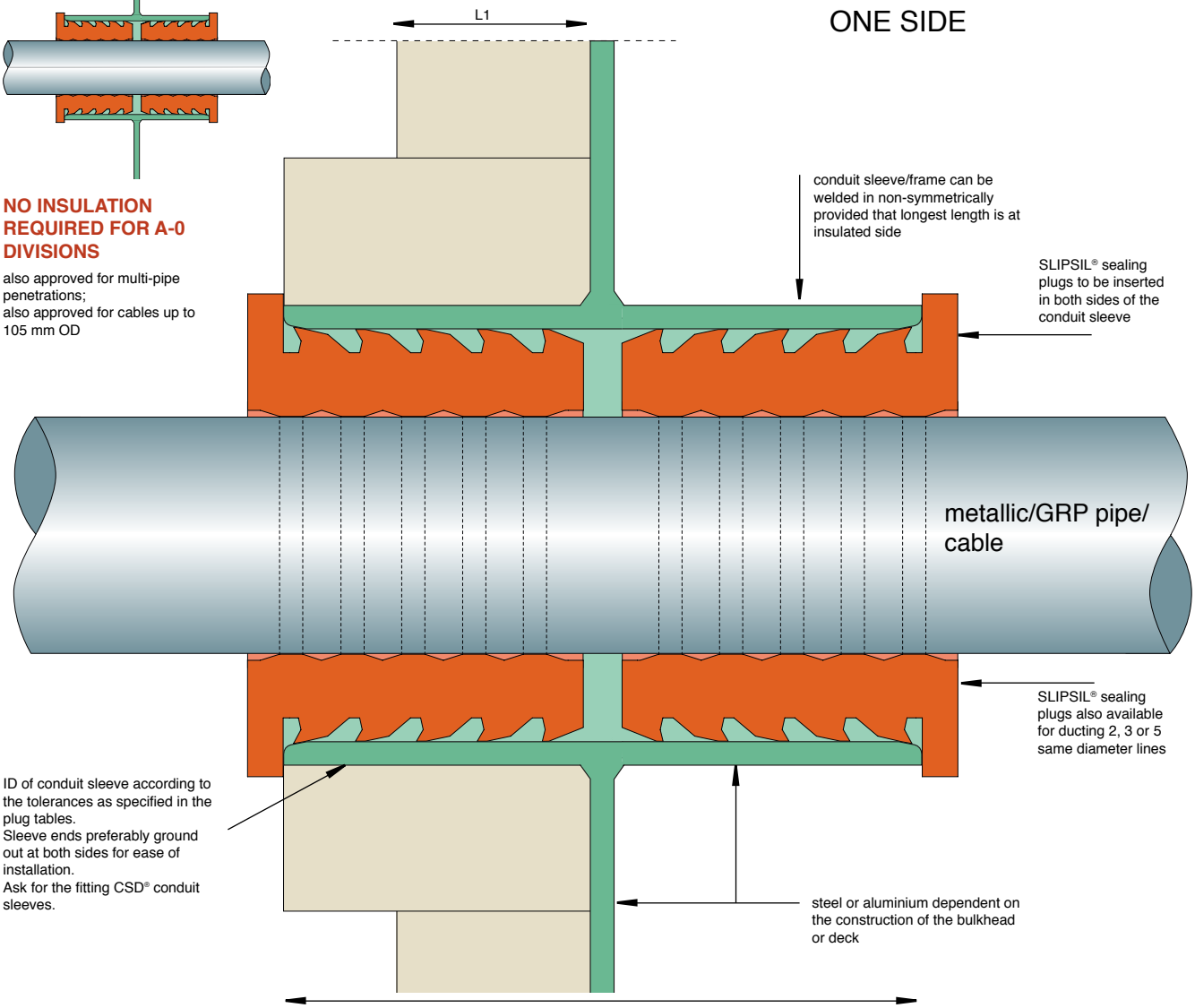
L1: A-60 approved bulkhead/deck insulation.

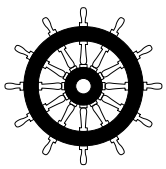
- SHORTEST POSSIBLE CONDUIT LENGTH
- INSULATION ONLY AT ONE SIDE



NO INSULATION REQUIRED FOR A-0 DIVISIONS

also approved for multi-pipe penetrations;
also approved for cables up to 105 mm OD





ask for the MED certificate with the stamped and signed detailed installation drawings

specifications for A-class according to EC (MED) certificate MED-B-5067 issued by Det Norske Veritas.
Drawings SL010E up to SL016E and drawings SL047E and SL049E

A0-A60 METALLIC / GRP PIPE TRANSIT

WE CARE

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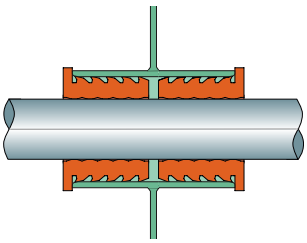
SLIPSIL® SEALING PLUGS FOR PIPE/CABLE ENTRIES

L1: A-60 approved deck insulation.

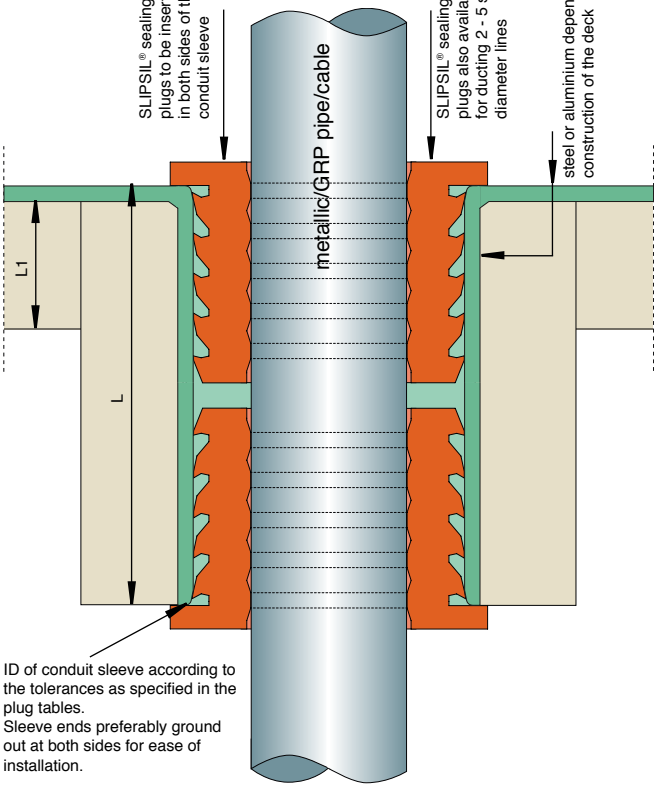


NO INSULATION REQUIRED FOR A-0 DIVISIONS

- SHORTEST POSSIBLE CONDUIT LENGTH
- INSULATION ONLY AT ONE SIDE

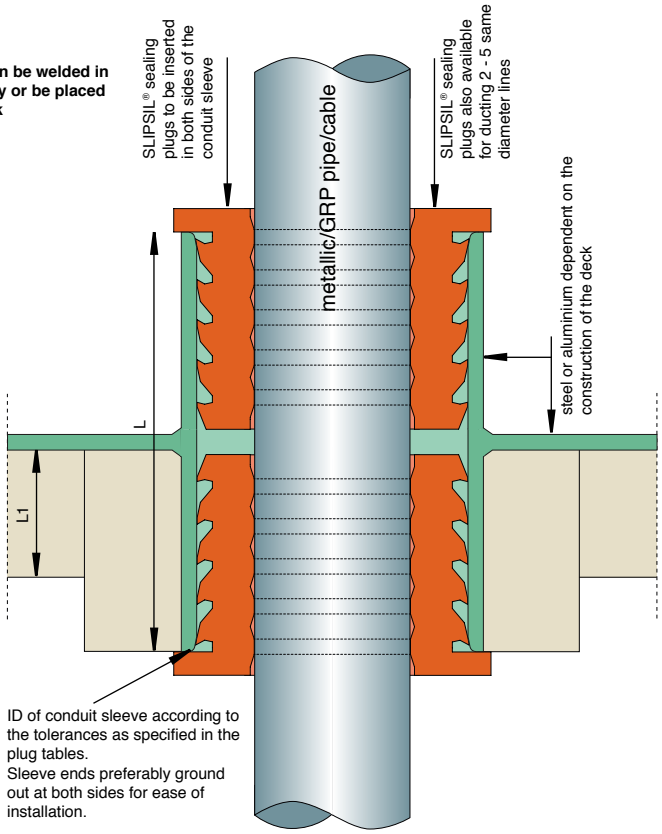
also approved for multi-pipe penetrations;
also approved for cables up to 105 mm OD

conduit sleeve can be welded in non-symmetrically or be placed totally below deck



ID of conduit sleeve according to the tolerances as specified in the plug tables.
Sleeve ends preferably ground out at both sides for ease of installation.

L = minimum 120 mm for conduit sleeves up to 60.3 mm OD and 160 mm for conduit sleeves > 60.3 mm OD



ID of conduit sleeve according to the tolerances as specified in the plug tables.
Sleeve ends preferably ground out at both sides for ease of installation.

L = minimum 120 mm for conduit sleeves up to 60.3 mm OD and 160 mm for conduit sleeves > 60.3 mm OD

ask for the MED certificate with the stamped and signed detailed installation drawings

Specifications for A-class according to EC (MED) certificate MED-B-5067 issued by Det Norske Veritas.
Drawings SL010E up to SL016E
Drawings SL047E and SL049E

A0-A60 METALLIC/GRP PIPE TRANSIT

SLIPSIL®/DYNATITE® SEALING PLUGS FOR INSTALLATION FROM ONE SIDE

PLUG SERIES	CONDUIT SLEEVE	PLUG LENGTH	PIPE DIAMETER
25	24.5 - 25.6	54	5 - 12
27	26.5 - 27.6	54	5 - 15
28	27.5 - 28.5	54	5 - 15
30	29.5 - 30.5	54	5 - 16
32	31.5 - 32.5	54	5 - 16
34	33.5 - 34.5	54	5 - 18
35	34.5 - 35.7	54	5 - 20
37	36.5 - 37.7	54	5 - 20
40	39.5 - 40.7	54	5 - 22
41	40.5 - 41.7	54	5 - 25
43	42.5 - 43.7	54	5 - 28
50	49.5 - 50.7	66	6 - 32
53	52.0 - 53.7	66	6 - 34
55	54.0 - 55.7	66	6 - 34
57	56.0 - 57.7	66	14 - 40
60	59.0 - 60.7	66	14 - 40
62	61.0 - 62.7	66	14 - 40
67	66.0 - 67.7	66	22 - 50
68	67.0 - 68.7	66	20 - 50
70	69.0 - 70.7	66	22 - 50
75	74.0 - 75.7	66	22 - 50
78	77.0 - 78.7	66	22 - 50
80	79.0 - 80.7	66	28 - 60
82	81.0 - 82.7	66	28 - 60
90	89.0 - 90.7	66	40 - 64
94	93.0 - 94.7	66	40 - 64
97	96.0 - 97.7	66	40 - 64
100	99.0 - 100.7	66	40 - 75
102	101.0 - 102.7	66	40 - 75
103	102.0 - 103.7	66	26 - 75
105	104.0 - 105.7	66	40 - 75
107	106.0 - 107.7	66	40 - 76
110	109.0 - 110.7	66	48 - 80
118	117.5 - 119.2	66	60 - 90
122	121.0 - 122.7	66	60 - 92
125	124.0 - 125.7	66	60 - 92
128	127.0 - 128.7	66	60 - 92
131	130.5 - 132.2	66	60 - 92
146	145.0 - 146.7	79	88 - 120
150	149.0 - 150.7	79	88 - 125
152	151.0 - 152.7	79	88 - 125
154	153.0 - 154.7	79	88 - 125
156	155.0 - 156.7	79	88 - 125
160	159.0 - 160.7	79	88 - 125
190	189.0 - 190.7	79	110-160
200	199.0 - 200.7	79	110-160
203	202.0 - 203.7	79	110-168
207	206.0 - 207.7	79	110-168
250	249.0 - 250.7	91	160-200
260	259.0 - 260.7	91	160-219
300	299.0 - 300.7	91	160-250
339	338.5 - 340.2	91	200-273

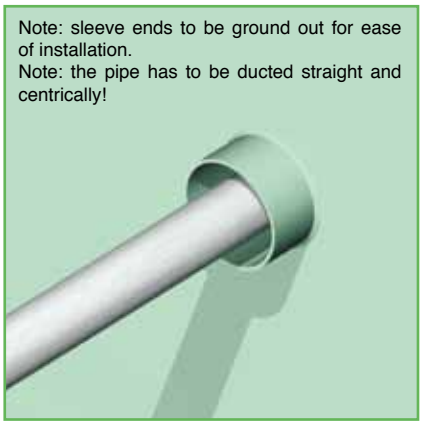
all dimensions in mm

all dimensions in mm

all dimensions in mm

To select the right type of sealing plug, look for the plug series to be used on the basis of the outer diameter of the service pipe. Then make a choice for the plug type in the table of the selected plug series.
For instance: a copper pipe of 42 mm OD has to be ducted. Select the plug series on the basis of the ID of the conduit sleeve to be used and the OD of the duced pipe (67 up to 107 can be your choice). When a conduit sleeve 88.9x3.2 mm (ID = 82.5 mm) will be used a sealing plug 82/42-44 is the right choice. If a 54 mm OD copper pipe has to be ducted through a sleeve with an ID of 107.1 mm, plug type 107/54-56 has to be selected. See the tables of the series 82 and 107 on page 39 and 40.
Note: the sealing plugs with a thin wall (like for instance 53/34) are not easy to install in undersized conduit openings. It is advisable to select a larger plug series (for instance 60/34-36).

SLIPSIL®/DYNATITE® SEALING PLUGS FOR INSTALLATION FROM ONE SIDE

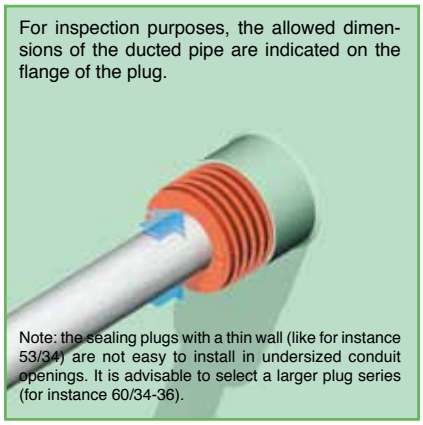


1) Before starting the installation procedure, any dirt, oil residues or welding spots should be removed from the conduit sleeve. For ease of installation, it is advisable to grind out the front side of the sleeve. Ask for the fitting CSD® conduit sleeves.

2) Then the inside wall of the conduit sleeve is treated with CSD® lubricant along a distance which approximately corresponds to the length of the SLIPSIL®/DYNATITE® combination.

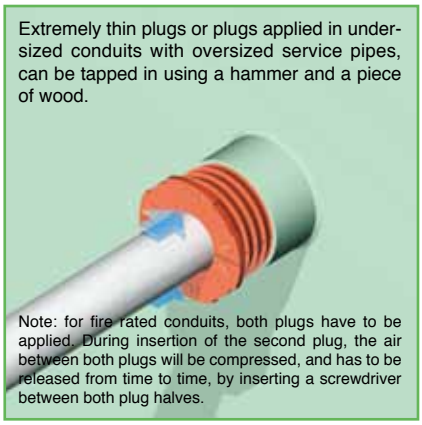
3) The inside surfaces of both segments of the DYNATITE® sealing plug are then treated with CSD® lubricant.
For selecting the right sealing plug, look for the plug series and the plug type in this series on the basis of the ID of the sleeve and the OD of the ducted pipe.

4) The segments of the DYNATITE® sealing plug are also treated with CSD® lubricant on the outside.
Please refer to the Safety Data Sheet of the CSD® lubricant for more information.

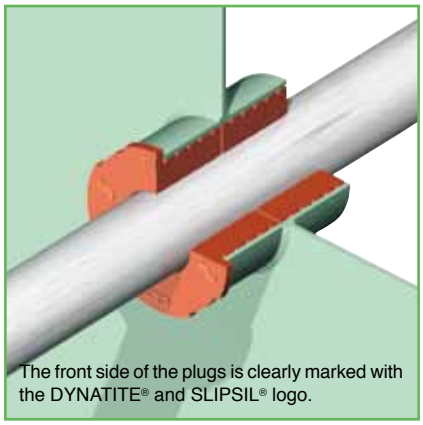


5) Both segments of the DYNATITE® sealing plug are placed around the ducted pipe, then pushed into the conduit sleeve as far as the first serration. Both halves are then pushed by hand evenly, serration by serration, further into the conduit sleeve.

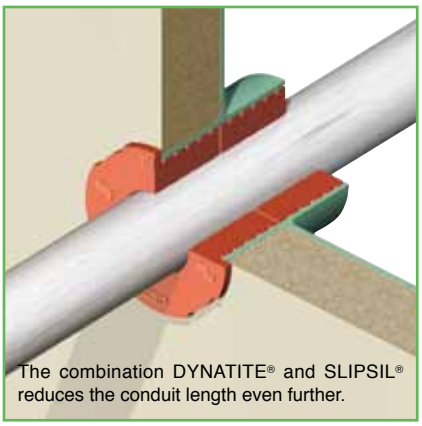
6) The DYNATITE plug should be inserted into the conduit sleeve over a length which corresponds with the length of the second plug. The surfaces of both segments of the SLIPSIL® sealing plug are then treated with CSD® lubricant all around.



7) Both segments of the SLIPSIL® sealing plug are placed around the ducted pipe and then pushed into the conduit sleeve as far as the first serration. The first serration is smaller than the other serrations to make this procedure very easy.



8) The set of SLIPSIL®/DYNATITE® plugs is then pushed in until the flanged edge of the SLIPSIL® sealing plug is flush against the front side of the conduit sleeve.

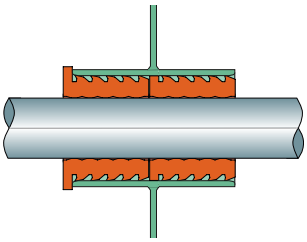


9) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or at the lower side of the deck. The ducted pipe has to be insulated according to the specifications on the certified drawings.

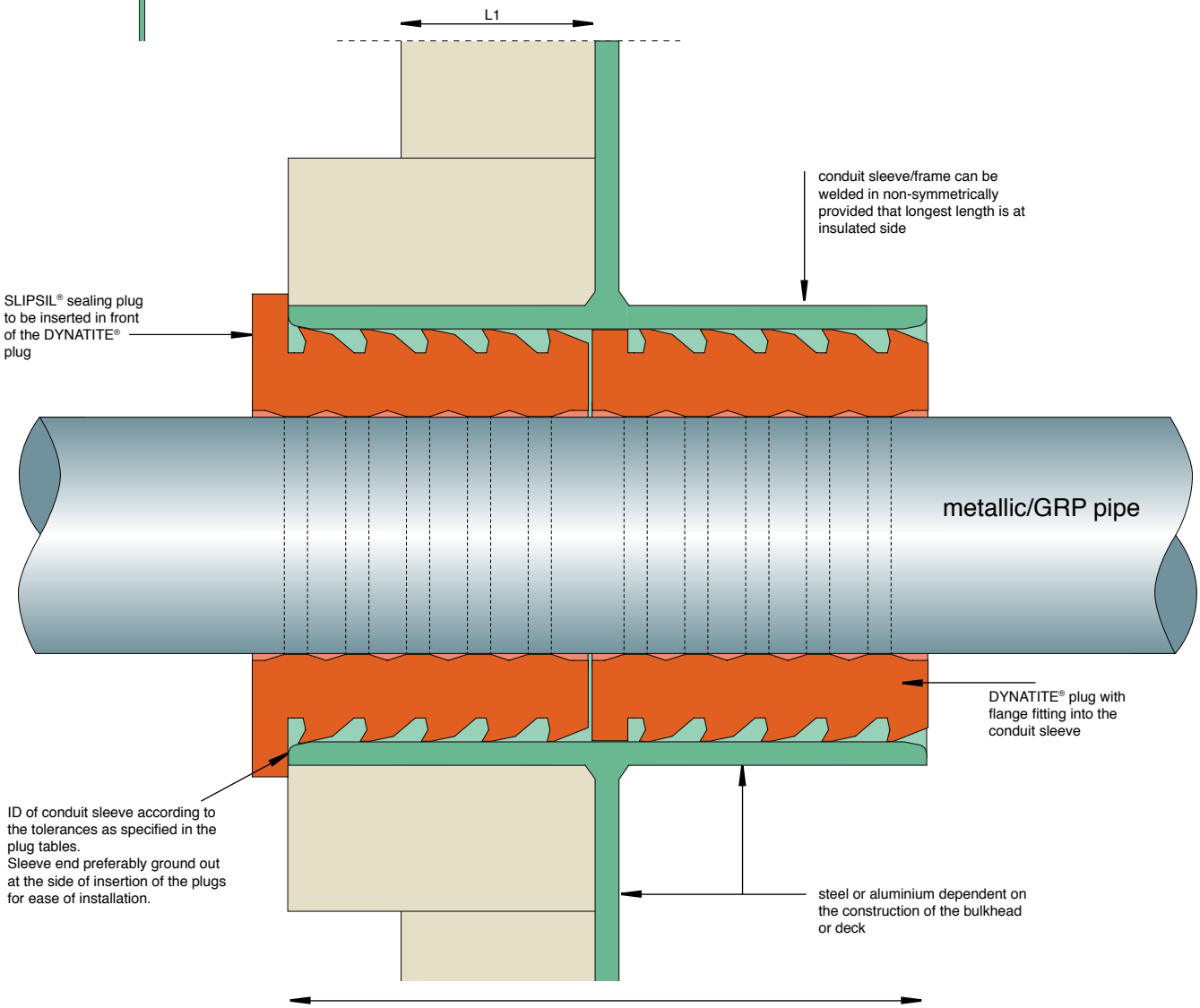
SLIPSIL®/DYNATITE® SEALING PLUGS FOR INSTALLATION FROM ONE SIDE

L1: A-60 approved bulkhead insulation.

- SHORTEST POSSIBLE CONDUIT LENGTH
- INSULATION ONLY AT ONE SIDE



NO INSULATION REQUIRED FOR A-0 DIVISIONS



ask for the MED certificate with the stamped and signed detailed installation drawings

specifications for A-class according to EC (MED) certificate MED-B-5067 issued by Det Norske Veritas.
Drawings SL037E, SL038E, SL0039E and SL043E

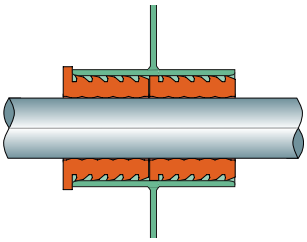
A0-A60 METALLIC / GRP PIPE TRANSIT

WE CARE

DYNATITE slipsil

SLIPSIL®/DYNATITE® SEALING PLUGS FOR INSTALLATION FROM ONE SIDE

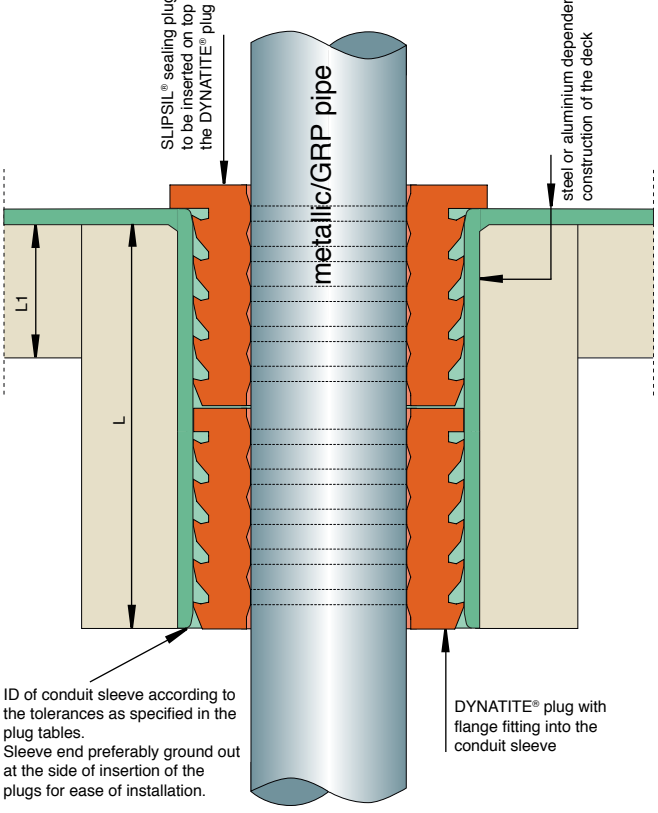
L1: A-60 approved deck insulation.



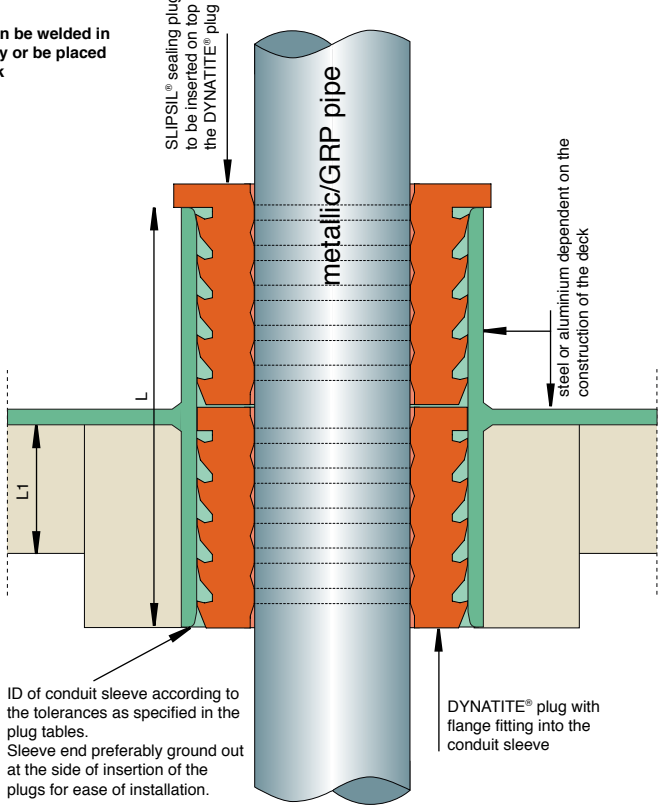
NO INSULATION REQUIRED FOR A-0 DIVISIONS

- SHORTEST POSSIBLE CONDUIT LENGTH
- INSULATION ONLY AT ONE SIDE

conduit sleeve can be welded in non-symmetrically or be placed totally below deck



L = minimum 100 mm for sleeves up to 44 mm ID, 120 mm for sleeves 45 mm up to 132.5 mm ID and 150 mm for sleeves > 132.5 mm ID



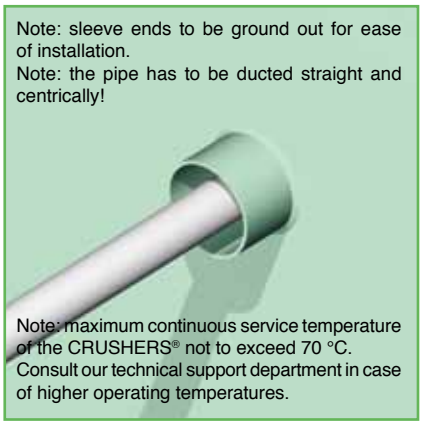
L = minimum 100 mm for sleeves up to 44 mm ID, 120 mm for sleeves 45 mm up to 132.5 mm ID and 150 mm for sleeves > 132.5 mm ID

ask for the MED certificate with the stamped and signed detailed installation drawings

specifications for A-class according to EC (MED) certificate MED-B-5067 issued by Det Norske Veritas.
Drawings SL037E, SL038E, SL0039E and SL043E

A0-A60 METALLIC/GRP PIPE TRANSIT

SLIPSIL® SEALING PLUGS FOR PLASTIC PIPE PENETRATIONS

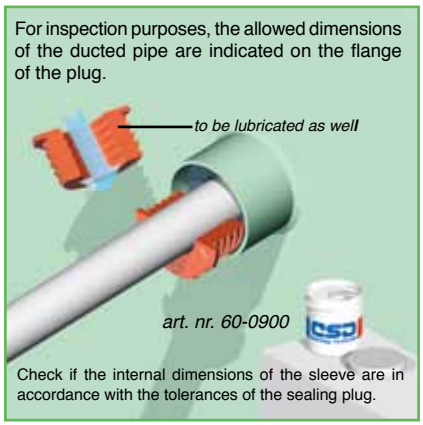


1) Before starting the installation procedure, any dirt, oil residues or welding spots should be removed from the conduit sleeve. For ease of installation, it is advisable to grind out the front side of the sleeve.

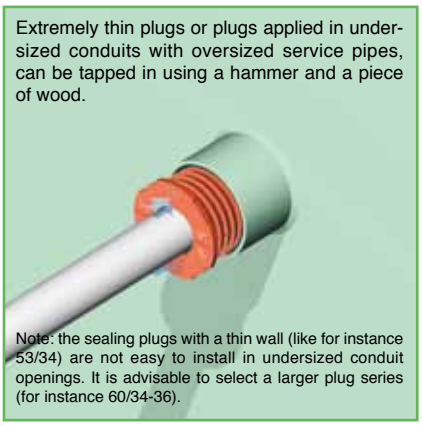
2) The fitting RISE®/ULTRA C-FIT crusher, which is split lengthwise, is folded around the ducted plastic pipe.

3) In case of a tight fitting crusher, the outside of the crusher and the inner wall of the conduit should be treated with CSD® lubricant for ease of installation. Push the crusher into the conduit sleeve. Check for a tight fit.

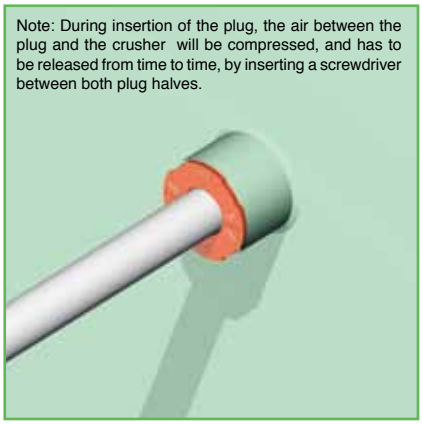
4) The RISE®/ULTRA C-FIT crusher should be inserted into the conduit sleeve over a length which corresponds with the length of the SLIPSIL® sealing plug. The segments of the SLIPSIL® sealing plug are treated with CSD® lubricant on the outside.



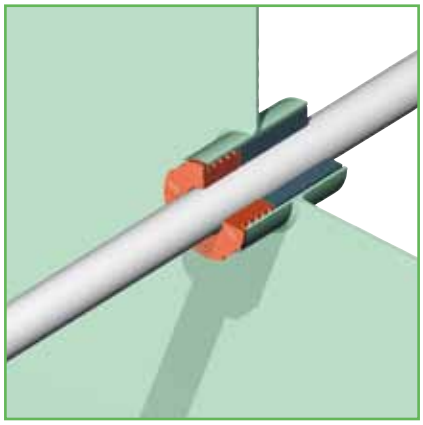
5) The inside surfaces of both segments of the SLIPSIL® sealing plug are then also treated with CSD® lubricant.
For selecting the right sealing plug, look for the plug series and the plug type in this series on the basis of the ID of the sleeve and the OD of the ducted pipe.



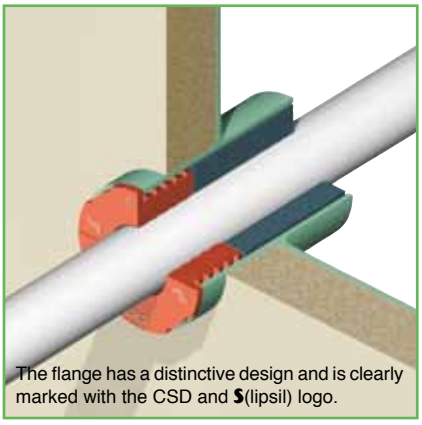
6) Both segments of the SLIPSIL® sealing plug are placed around the ducted pipe and then pushed by hand evenly, serration by serration, into the conduit sleeve.



7) The flanged edge of the sealing plug must be flush against the front side of the conduit sleeve.



8) Note: tightness and installation are optimum at nominal sizes (for instance for 60/34-36 optimum is 60 mm ID of the sleeve and 34 mm OD of the ducted pipe).



9) For A-class penetrations, the conduit sleeve needs to be insulated only at the insulated side of the bulkhead or the lower side of the deck. The ducted pipe does not need to be insulated.

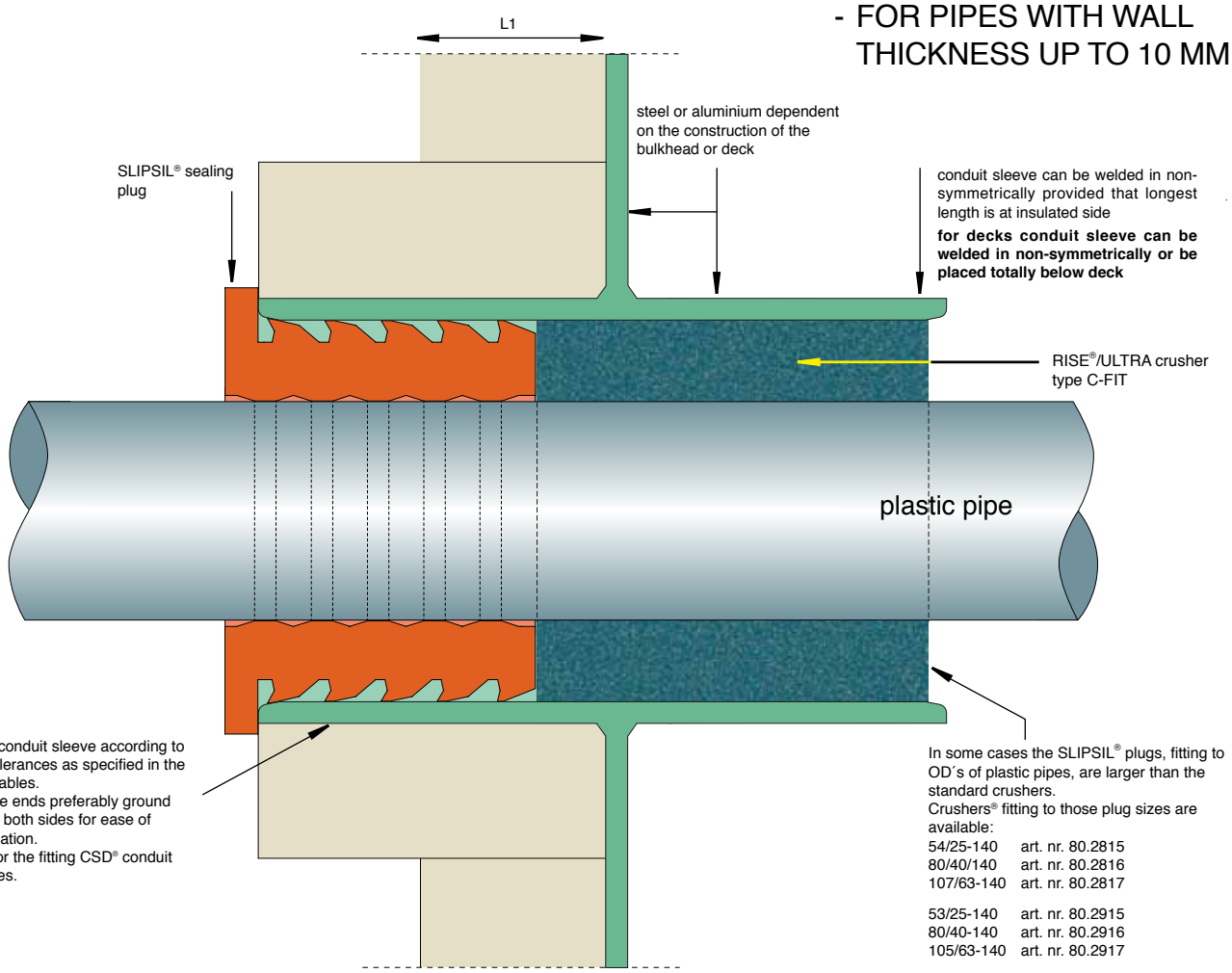
WE CARE

CRUSHER slipsil

SLIPSIL® SEALING PLUGS FOR PLASTIC PIPE PENETRATIONS

L1: A-60 approved bulkhead/deck insulation.

- FOR ALL PLASTIC PIPES (ABS, PE, PB, PP-R, PVC) UP TO 160 MM OD
- FOR PIPES WITH WALL THICKNESS UP TO 10 MM




DET NORSKE VERITAS
EC TYPE-EXAMINATION CERTIFICATE
check for updates

ask for the MED certificate with the stamped and signed detailed installation drawings

specifications for A-class according to EC (MED) certificate MED-B-5067 issued by Det Norske Veritas.
Drawings SL044E and SL046E

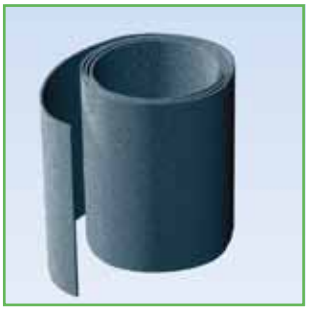
A0-A60 PLASTIC PIPE TRANSIT

slipsil CRUSHER

WE CARE

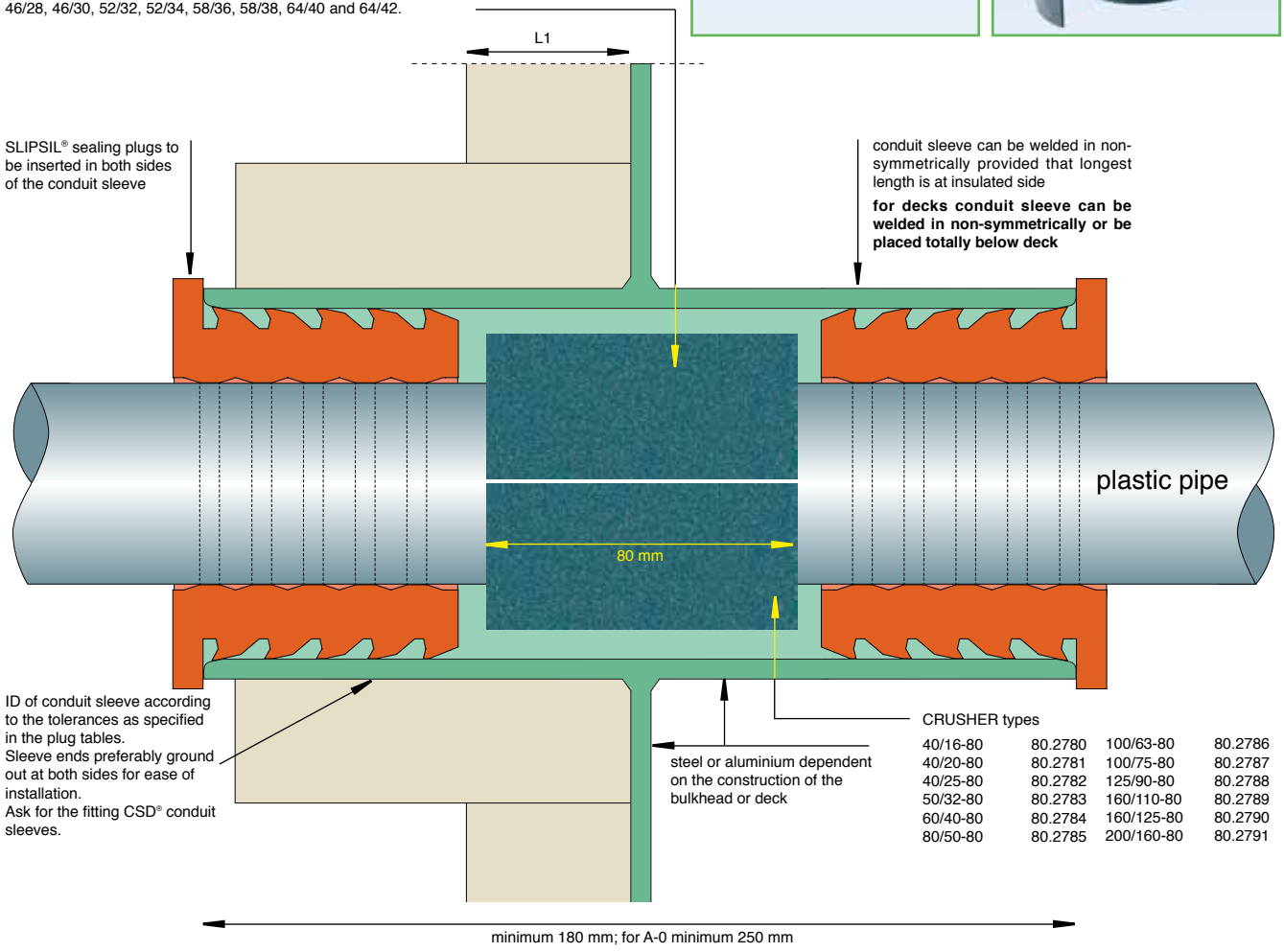
SLIPSIL® SEALING PLUGS FOR PLASTIC PIPE PENETRATIONS

L1: A-60 approved bulkhead/deck insulation.



For plastic pipes up to 225 mm OD

80 mm wide strips of RISE® rubber wrapped around the ducted plastic pipe in a thickness 1/4xD of the ducted pipe, rounded off to +/- 5 mm. For pipe sizes up to 42 mm insert sleeves are available in a length of 80 mm with the required wall thickness as an alternative for wrapping the strips around these pipes.
Available sizes: 12/6, 12/8, 16/10, 18/12, 22/14, 27/16, 27/18, 31/20, 35/22, 39/24, 39/26, 46/28, 46/30, 52/32, 52/34, 58/36, 58/38, 64/40 and 64/42.



CRUSHER types

40/16-80	80.2780	100/63-80	80.2786
40/20-80	80.2781	100/75-80	80.2787
40/25-80	80.2782	125/90-80	80.2788
50/32-80	80.2783	160/110-80	80.2789
60/40-80	80.2784	160/125-80	80.2790
80/50-80	80.2785	200/160-80	80.2791


DET NORSKE VERITAS
EC TYPE-EXAMINATION CERTIFICATE
check for updates

Note: maximum continuous service temperature of the CRUSHERS® not to exceed 70 °C.
Consult our technical support department in case of higher operating temperatures.

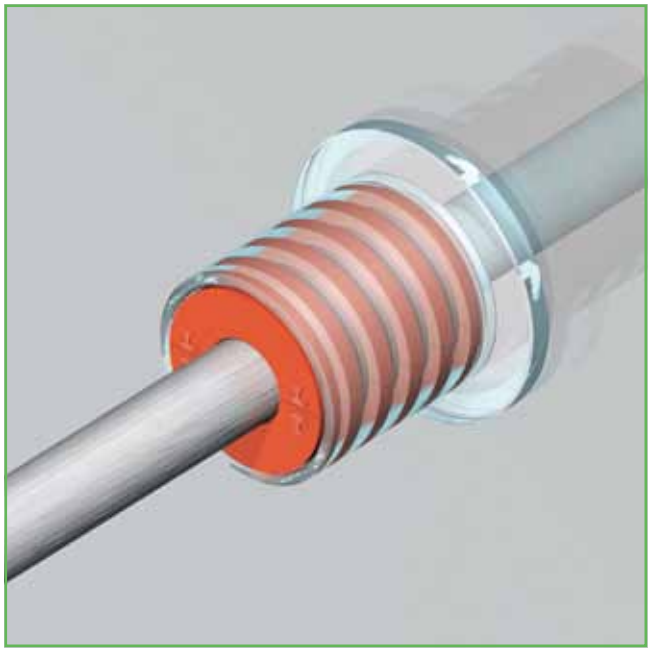
specifications for A-class according to EC (MED) certificate MED-B-5067 issued by Det Norske Veritas.
Drawings SL017E up to SL023E

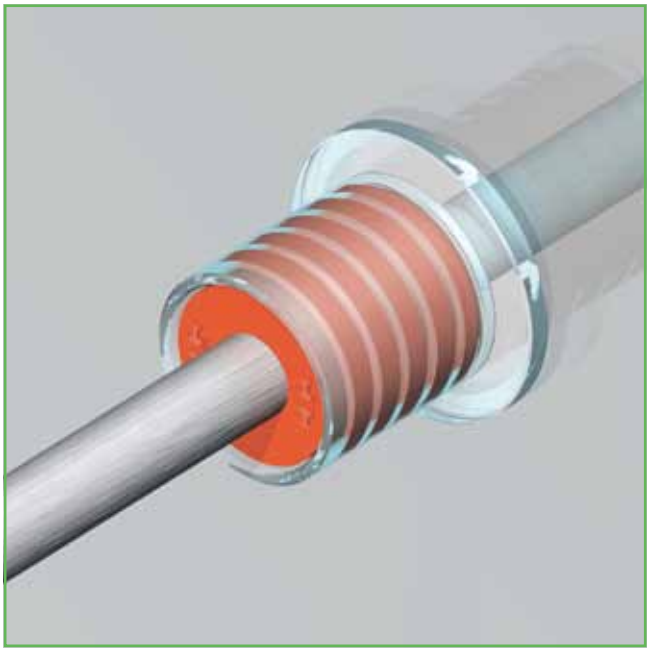
ask for the MED certificate with the stamped and signed detailed installation drawings

A0-A60 PLASTIC PIPE TRANSIT

DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS

DYNATITE® dynamic sealing system has been developed especially for those applications where a high degree of (instantaneous) tightness is required and, for all, to maintain this performance on long term. The basics of the LEAXEAL®, NOFIRNO® and SLIPSIL® technology have been combined in the development of a pipe and cable transit sealing system which is easy to install, less vulnerable than any comparable system, maintenance friendly and without showing any degradation during service life.
The resulting DYNATITE® technology stands for dynamic tightness enabled by excellent rubber design of the sealing plugs and high-tech conduit sleeves.

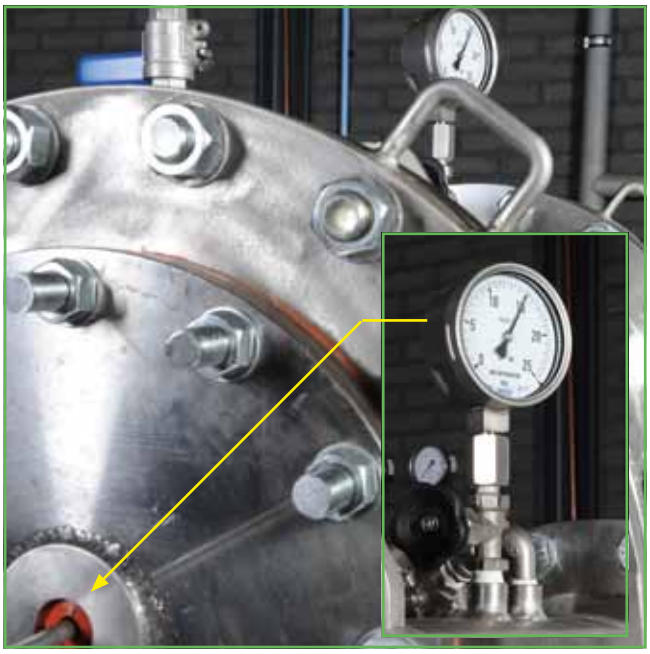




During insertion of the DYNATITE® plug, a labyrinth seal is formed against the wall of the conduit sleeve by the serrated and leveled other profiling of the plug. This is also the case on the contact surfaces with the ducted pipe/cable. As has been proven with the SLIPSIL® plugs having the same profiling, pressure loads of up to 2.5 bar can be easily withstood. DYNATITE® is designed for higher pressures, which means that the profiling has to get dynamically activated under pressure load.The DYNATITE® and SLIPSIL® plugs are based on an engineered design with regard to the profiling, dimensions and hardness and flexibility of the rubber grade. The result is that the plug can be compressed. By enclosing the plug inside the DYNATITE® conduit sleeve with the retainer flange, compression is feasible. The pressure load will force the plug further into the conduit sleeve, and the rings of the created labyrinth seal are getting thicker and in this way tightness ratings are increasing. Tested up to pressure loads of 15 bar without showing leakages.

DYNATITE

The system is primarily suitable for all situations in which a sudden pressure exposure can occur. The objective is not only to hold multi-cable and pipe transits in situ, but also completely tight. Accidents have their own time frame and at that exact moment the systems have to function. There are numerous other occasions where disasters such as flooding and explosions could create substantial damage when sealing systems would fail. In such “explosive” situations, the sealing system will be exposed to an instantaneous pressure load and should therefore be able to settle itself rather quick. Specially developed for application in the columns of semi-submersible rigs, the system can be used in many other hazardous areas such as blast walls, explosion proof areas, subsea applications and all those situations where a (sudden) substantial pressure might arise.



DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS

In view of the incompressibility of rubbers, the design work focused on finding an ideal solution to allow rubber to move in the right directions under mechanical loads. To cope with instantaneous pressure loads, an ultimate displacement of the rubber is needed.
For this reason, the flange has been designed to enable functioning as a guidance for the movement inside the conduit sleeve. The DYNATITE® plugs have a flange which has the same outer dimensions as the inside diameter of the conduit sleeve.
By allowing displacement of the rubber, the initial labyrinth seal of the profiling without pressure load is then automatically improving to cope with higher ratings.
The higher the pressure, the higher the tightness.

The conduit sleeves are milled to exact internal dimensions from stainless steel 1.4571. The milled sleeves are CDW seam welded to the flanges used for bolting or welding.
To optimize corrosion resistance, especially in salt water conditions and harsh environments, the DYNATITE® conduit sleeves are surface treated on the basis of a unique passivation process. This prevents corrosion for a service life up to 20 years. Salt Fog test according to DIN EN 60068-2-52 to simulate 20 years operation in sea water atmosphere successfully carried out.
The inner walls of the conduit sleeves for welding (right side of the picture) are treated with a silicon dioxide ceramic coating (500 °C resistant, fire resistant); the inner walls of the conduit sleeves for bolting have a black PTFE (Teflon) coating.

The NOFIRNO® rubber, used for the plugs and gaskets, has excellent weathering properties, UV and ozone resistance and long term behaviour. Service life easily exceeds 50 years under normal environmental conditions. The rubber can be used in a very wide temperature range. Even at low temperatures down to -50° C the rubber stays flexible. This guarantees tightness even at low temperatures.
NOFIRNO® rubber is made of a high grade, inert silicone polymer. The NOFIRNO® gaskets have a special profiling to exclude the need for excessive compression and the need for retightening from time to time.

NOFIRNO® gaskets are also available for the plastic CSD® flanged conduit sleeves.

WE CARE

DYNATITE

DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS

type code: series/cable-pipe diameter
For instance 55/28DT

type code: series/2xcable diameter
For instance 55/2x10DT

type code: series/3xcable diameter
For instance 82/3x12DT

all dimensions in mm

cable/ pipe diameter	plug type	article number
5-6	25/5-6DT	45.0105
6-7	25/6-7DT	45.0106
7-8	25/7-8DT	45.0107
8-9	25/8-9DT	45.0108
5-6	32/5-6DT	45.0505
6-7	32/6-7DT	45.0506
7-8	32/7-8DT	45.0507
8-9	32/8-9DT	45.0508
9-10	32/9-10DT	45.0509
10-11	32/10-11DT	45.0510
11-12	32/11-12DT	45.0511
12	32/12DT	45.0512
5-6	41/5-6DT	45.1005
6-7	41/6-7DT	45.1006
7-8	41/7-8DT	45.1007
8-9	41/8-9DT	45.1008
9-10	41/9-10DT	45.1009
10-11	41/10-11DT	45.1010
11-12	41/11-12DT	45.1011
12-14	41/12-14DT	45.1012
14-16	41/14-16DT	45.1013
16-18	41/16-18DT	45.1014
18-20	41/18-20DT	45.1015
20	41/20	40.1016
6-7	41/2x6-7DT	45.1026
7	41/2x7DT	45.1027
14-16	55/14-16DT	45.1411
16-18	55/16-18DT	45.1412
18-20	55/18-20DT	45.1413
20-22	55/20-22DT	45.1414
22-24	55/22-24DT	45.1415
24-26	55/24-26DT	45.1416
26-28	55/26-28DT	45.1417
28	55/28	45.1418
6-7	55/2x6-7DT	45.1431
7-8	55/2x7-8DT	45.1432
8-9	55/2x8-9DT	45.1433
9-10	55/2x9-10DT	45.1434
10	55/2x10DT	45.1435

all dimensions in mm

cable/ pipe diameter	plug type	article number
20-22	70/20-22DT	45.2014
22-24	70/22-24DT	45.2015
24-26	70/24-26DT	45.2016
26-28	70/26-28DT	45.2017
28-30	70/28-30DT	45.2018
30-32	70/30-32DT	45.2019
32-34	70/32-34DT	45.2020
34-36	70/34-36DT	45.2021
36-38	70/36-38DT	45.2022
38-40	70/38-40DT	45.2023
40-42	70/40-42DT	45.2024
42	70/42DT	45.2025
11-12	70/2x11-12DT	45.2036
12-13	70/2x12-13DT	45.2037
13-14	70/2x13-14DT	45.2038
14-15	70/2x14-15DT	45.2039
15-16	70/2x15-16DT	45.2040
16-17	70/2x16-17DT	45.2041
17-18	70/2x17-18DT	45.2042
18	70/2x18DT	45.2043

* Note:
With the largest pipe diameter to be ducted there is limited space between the hole in the retainer ring and the ducted pipe.
Care has to be taken for adequate fixation.

* Note:
The functionality of the DYNATITE® system can be guaranteed only by application of the the DYNATITE® plugs in the DYNATITE® conduit sleeves. Application of DYNATITE® plugs cannot be guaranteed in other conduit systems.

DYNATITE

DYNATITE

WE CARE

DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS

type code: series/cable-pipe diameter
For instance 55/28DT

type code: series/2xcable diameter
For instance 55/2x10DT

type code: series/3xcable diameter
For instance 82/3x12DT

all dimensions in mm

cable/ pipe diameter	plug type	article number
28-30	82/28-30DT	45.2418
30-32	82/30-32DT	45.2419
32-34	82/32-34DT	45.2420
34-36	82/34-36DT	45.2421
36-38	82/36-38DT	45.2422
38-40	82/38-40DT	45.2423
40-42	82/40-42DT	45.2424
42-44	82/42-44DT	45.2425
44-46	82/44-46DT	45.2426
46-48	82/46-48DT	45.2427
48-50	82/48-50DT	45.2428
50-52	82/50-52DT	45.2429
52-54	82/52-54DT	45.2430
54	82/54DT	45.2431
12-13	82/2x12-13DT	45.2441
13-14	82/2x13-14DT	45.2442
14-15	82/2x14-15DT	45.2443
15-16	82/2x15-16DT	45.2444
16-17	82/2x16-17DT	45.2445
17-18	82/2x17-18DT	45.2446
18-19	82/2x18-19DT	45.2447
19-20	82/2x19-20DT	45.2448
20	82/2x20	45.2449
10-11	82/3x10-11DT	45.2456
11-12	82/3x11-12DT	45.2457
12	82/3x12DT	45.2458
40-42	100/40-42DT	45.2820
42-44	100/42-44DT	45.2821
44-46	100/44-46DT	45.2822
46-48	100/46-48DT	45.2823
48-50	100/48-50DT	45.2824
50-52	100/50-52DT	45.2825
52-54	100/52-54DT	45.2826
54-56	100/54-56DT	45.2827
56-58	100/56-58DT	45.2828
58-60	100/58-60DT	45.2829
60-62	100/60-62DT	45.2830
62-64	100/62-64DT	45.2831
64	100/64DT	45.2832

all dimensions in mm

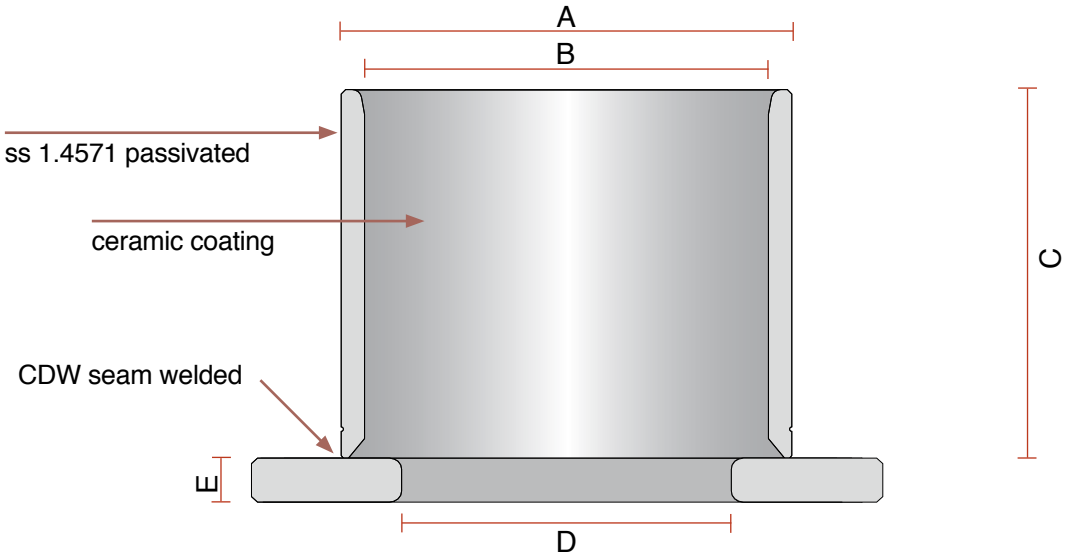
cable/ pipe diameter	plug type	article number
60-62	125/60-62DT	45.3630
62-64	125/62-64DT	45.3631
64-66	125/64-66DT	45.3632
66-68	125/66-68DT	45.3633
68-70	125/68-70DT	45.3634
70-72	125/70-72DT	45.3635
72-74	125/72-74DT	45.3636
74-76	125/74-76DT	45.3637
76-78	125/76-78DT	45.3638
78-80	125/78-80DT	45.3639
80-82	125/80-82DT	45.3640
82-84	125/82-84DT	45.3641
84-86	125/84-86DT	45.3642
86-88	125/86-88DT	45.3643
88	125/88DT	45.3644
88-90	150/88-90DT	45.4020
90-92	150/90-92DT	45.4021
92-94	150/92-94DT	45.4022
94-96	150/94-96DT	45.4023
96-98	150/96-98DT	45.4024
98-100	150/98-100DT	45.4025
100-102	150/100-102DT	45.4026
102-104	150/102-104DT	45.4027
104-106	150/104-106DT	45.4028
106-108	150/106-108DT	45.4029
108-110	150/108-110DT	45.4030
110-112	150/110-112DT	45.4031
112-114	150/112-114DT	45.4032
114	150/114DT	45.4033

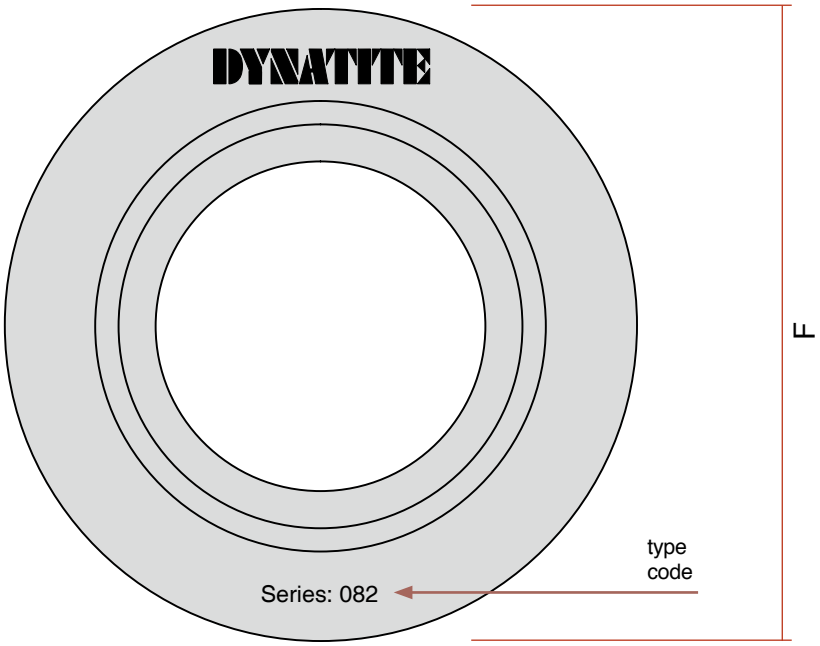
* Note:
With the largest pipe diameter to be ducted there is limited space between the hole in the retainer ring and the ducted pipe.
Care has to be taken for adequate fixation.

* Note:
The functionality of the DYNATITE® system can be guaranteed only by application of the the DYNATITE® plugs in the DYNATITE® conduit sleeves. Application of DYNATITE® plugs cannot be guaranteed in other conduit systems.

DYNATITE

DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS

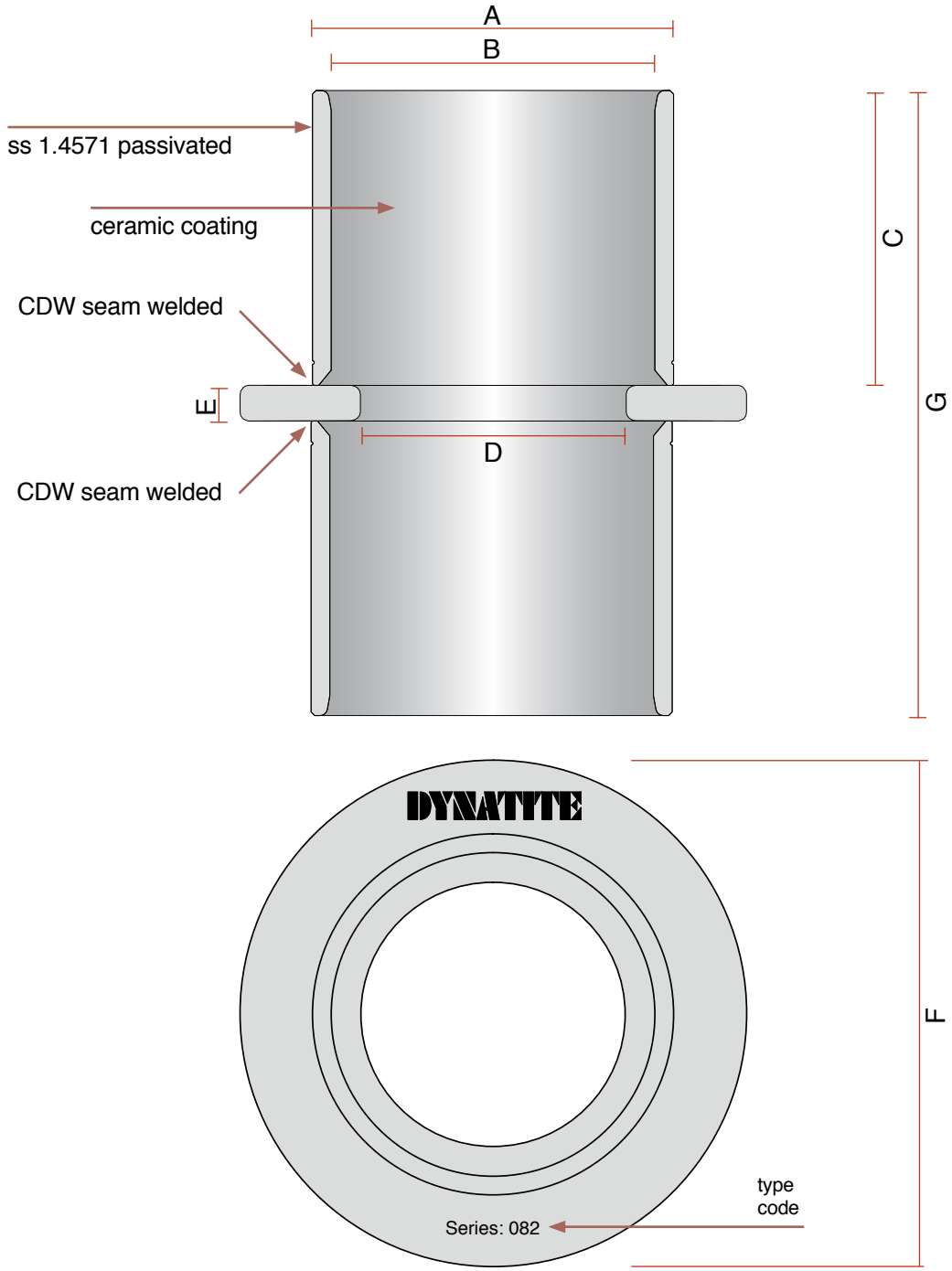




All dimensions in mm

type	A	B	C	D	E	F	art. no.
DT 25 FW	33.5	25	54	12	8	58	60.9020
DT 32 FW	40.5	32	54	16	8	65	60.9021
DT 41 FW	49.5	41	54	25	8	74	60.9022
DT 55 FW	63.5	55	66	34	8	88	60.9023
DT 70 FW	78.5	70	66	50	8	103	60.9024
DT 82 FW	90.5	82	66	60	8	115	60.9025
DT 100 FW	108.5	100	66	75	8	133	60.9026
DT 125 FW	133.5	125	66	95	8	158	60.9027
DT 150 FW	158.5	150	79	120	8	183	60.9028

DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS



All dimensions in mm

type	A	B	C	D	E	F	G	art. no.
DT 25 FWD	33.5	25	54	12	8	58	116	60.9040
DT 32 FWD	40.5	32	54	16	8	65	116	60.9041
DT 41 FWD	49.5	41	54	25	8	74	116	60.9042
DT 55 FWD	63.5	55	66	34	8	88	140	60.9043
DT 70 FWD	78.5	70	66	50	8	103	140	60.9044
DT 82 FWD	90.5	82	66	60	8	115	140	60.9045
DT 100 FWD	108.5	100	66	75	8	133	140	60.9046
DT 125 FWD	133.5	125	66	95	8	158	140	60.9047
DT 150 FWD	158.5	150	79	120	8	183	166	60.9048

DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS

1) Once the DYNATITE® conduit sleeve is welded into the partition, the pipe/cable can be passed through. Before starting the installation procedure, any dirt or oil residues should be removed from the conduit sleeve.

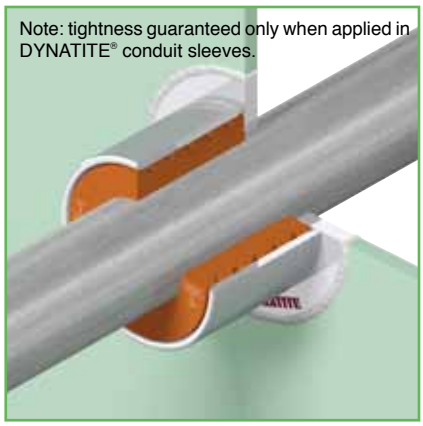
2) The inside wall of the conduit sleeve is treated with CSD® lubricant over its full length. The inlet of the DYNATITE® conduit sleeve is rounded off to avoid any damages to the plug during insertion.

3) The inside surfaces of both segments of the DYNATITE® sealing plug are then treated with CSD® lubricant.
For selecting the right sealing plug, look for the plug series and the plug type in this series on the basis of the ID of the sleeve and the OD of the ducted pipe.

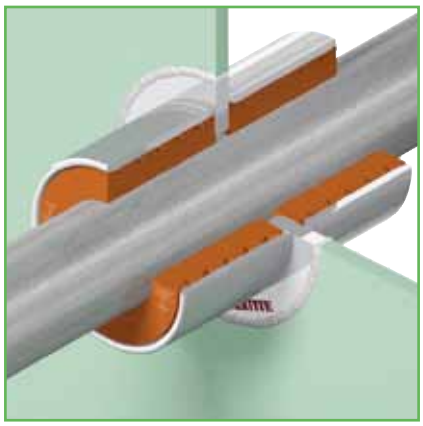
4) The segments of the DYNATITE® sealing plug are also treated with CSD® lubricant on the outside.
Please refer to the Safety Data Sheet of the CSD® lubricant for more information.

5) Both segments of the DYNATITE® sealing plug are placed around the ducted pipe, then pushed into the conduit sleeve as far as the first serration. Both halves are then pushed by hand evenly, further into the conduit sleeve.

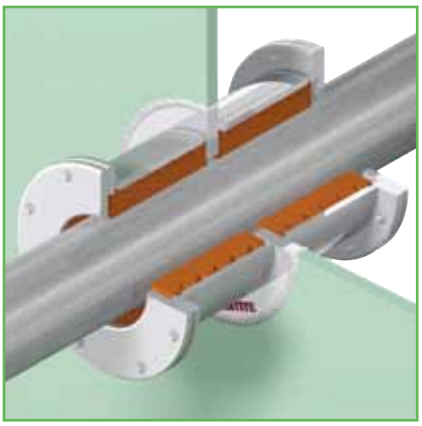
6) The front side of the sealing plug must be flush against the front side of the conduit sleeve. This proves that the back side of the plug is positioned against the retainer ring inside the conduit sleeve.



7) The DYNATITE® system has to be installed with its face on the side of the boundary that will be exposed to pressure.

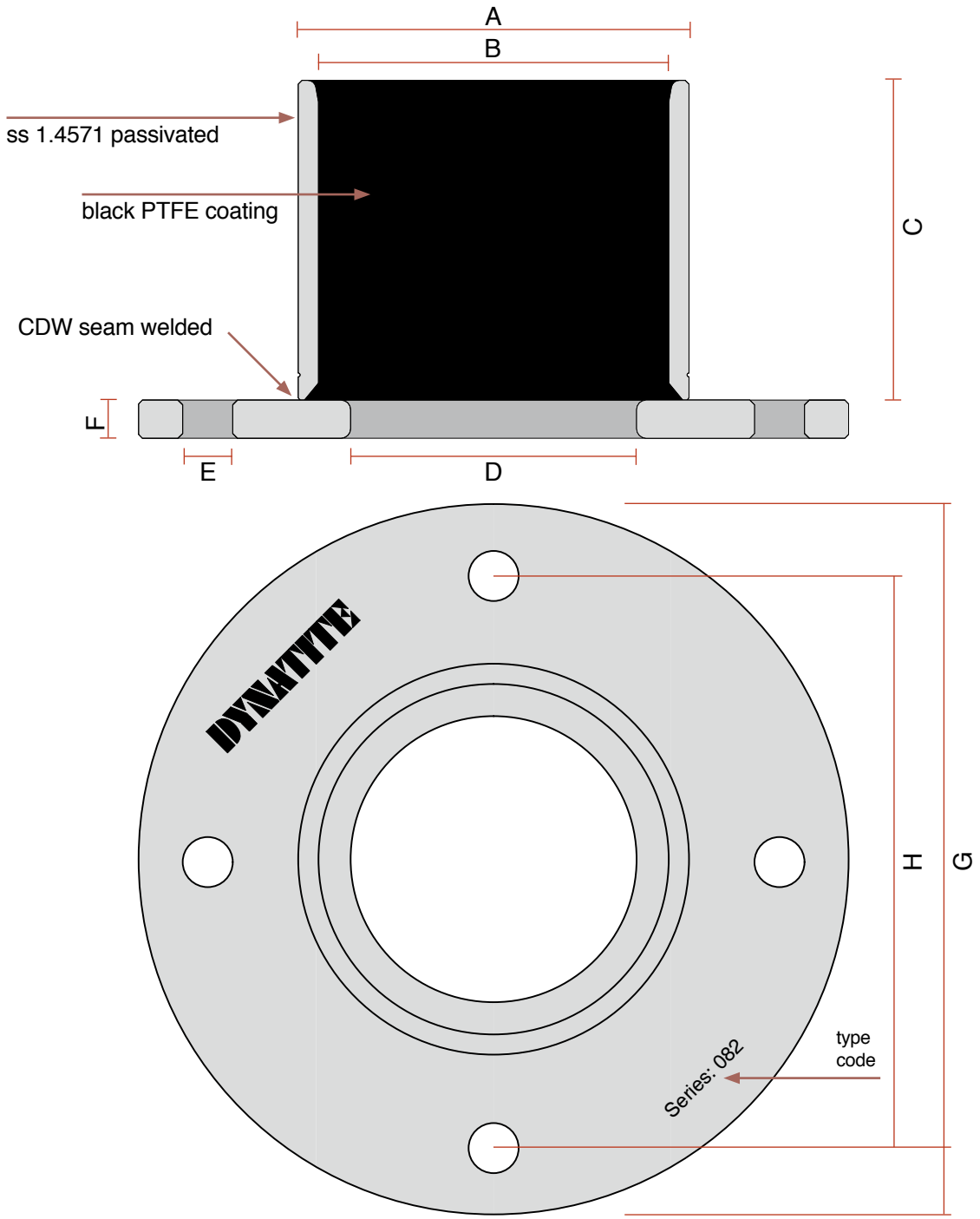


8) For pressure loads from both sides or in case of fire rated penetrations, a double sided DYNATITE® conduit sleeve must be welded symmetrically in the partition to enable installation of DYNATITE® sealing plugs at both sides of the partition.



9) For blast walls which will show substantial deformation/movement, the DYNATITE® system with extra flanges has to be used. The flanges will prevent the plugs from being popped out of the penetration in case of extreme displacements.

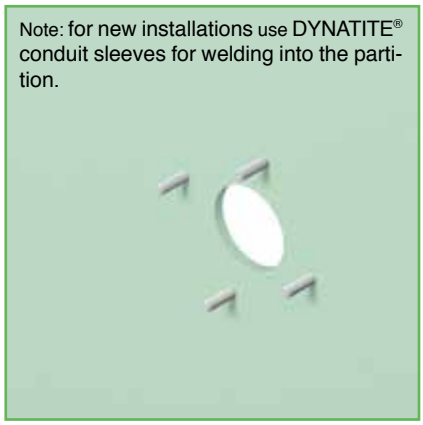
DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS



All dimensions in mm

type	A	B	C	D	E	F	G	H	art. no.	gasket	art. no.
DT 25 FB	33.5	25	54	12	10.5	8	92	63	60.9000	DT 25 FB	51.9000
DT 32 FB	40.5	32	54	16	10.5	8	99	70	60.9001	DT 32 FB	51.9001
DT 41 FB	49.5	41	54	25	10.5	8	108	79	60.9002	DT 41 FB	51.9002
DT 55 FB	63.5	55	66	34	10.5	8	122	93	60.9003	DT 55 FB	51.9003
DT 70 FB	78.5	70	66	50	10.5	8	137	108	60.9004	DT 70 FB	51.9004
DT 82 FB	90.5	82	66	60	10.5	8	149	120	60.9005	DT 82 FB	51.9005
DT 100 FB	108.5	100	66	75	10.5	8	167	138	60.9006	DT 100 FB	51.9006
DT 125 FB	133.5	125	66	95	10.5	8	192	163	60.9007	DT 125 FB	51.9007
DT 150 FB	158.5	150	79	120	10.5	8	217	188	60.9008	DT 150 FB	51.9008

DYNATITE® DYNAMIC SEALING SYSTEM FOR HIGH (INSTANTANEOUS) PRESSURE LOADS



1) When DYNATITE® conduit sleeves for bolting are going to be used, threaded ends have to be welded to the partition in accordance with the hole configuration of the flange of the conduit sleeve.

2) A fitting NOFIRNO® gasket is placed over the threaded ends against the partition.
The DYNATITE® conduit sleeve can then be positioned. Avoid excessive forces on tightening of the NOFIRNO® gasket to guarantee tightness on long term.

3) Once the DYNATITE® conduit sleeve is fixed against the partition, the pipe/cable can be passed through. Before starting the installation procedure, any dirt or oil residues should be removed from the conduit sleeve.

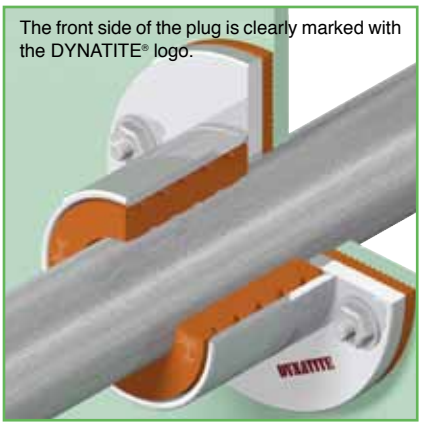
4) The inside wall of the conduit sleeve is treated with CSD® lubricant over its full length. The inlet of the DYNATITE® conduit sleeve is rounded off to avoid any damages to the plug during insertion.

5) The inside surfaces of both segments of the DYNATITE® sealing plug are then treated with CSD® lubricant.
For selecting the right sealing plug, look for the plug series and the plug type in this series on the basis of the ID of the sleeve and the OD of the ducted pipe.

6) The segments of the DYNATITE® sealing plug are also treated with CSD® lubricant on the outside.
Please refer to the Safety Data Sheet of the CSD® lubricant for more information.

7) Both segments of the DYNATITE® sealing plug are placed around the ducted pipe, then pushed into the conduit sleeve as far as the first serration. Both halves are then pushed by hand evenly, further into the conduit sleeve.

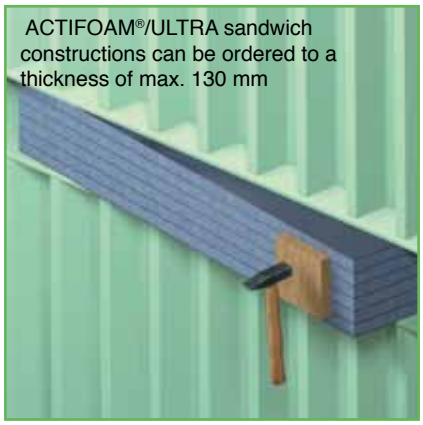
8) The front side of the sealing plug must be flush against the front side of the conduit sleeve. This proves that the back side of the plug is positioned against the retainer ring inside the conduit sleeve.



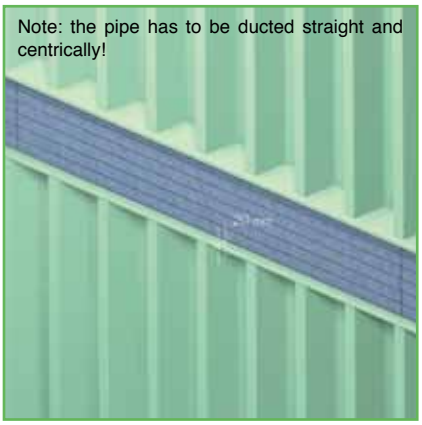
9) The DYNATITE® system has to be installed with its face on the side of the boundary that will be exposed to pressure. For pressure loads from both sides, DYNATITE® conduit sleeves must be installed at both sides of the partition.

ACTIFOAM®/ULTRA GAP/HATCH SEALING SYSTEM FIRESAFE/WATERTIGHT

1) For highest fire ratings a 160 mm wide ACTIFOAM®/ULTRA sandwich construction and on top 20 mm NOFIRNO® sealant have to be applied.



2) To fit the system to the height of the gap sheets of ACTIFOAM® with same are varying thickness (10,15, 20, 25 mm) are used. Top/bottom always with a cover of RISE®/ULTRA. The sandwich can be hammered in with the aid of a piece of wood.



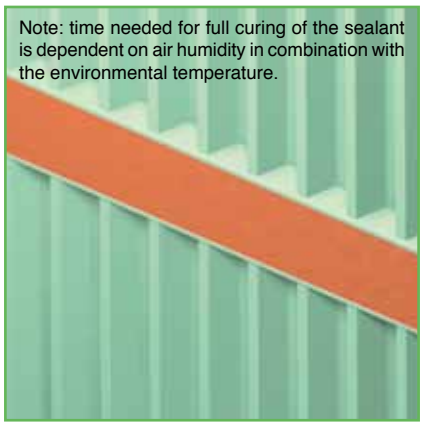
3) The mechanical strength of the sandwich does not allow for a limited oversize to be inserted. Push the ACTIFOAM®/ULTRA sandwich into the gap in such a way as to leave about 20 mm free space at the front.

4) A 20 mm thick layer of NOFIRNO® sealant is applied on top of the ACTIFOAM®/ULTRA at the exposed side. Clean and dry the steel parts to apply the sealant on, and remove any dirt, rust or oil residues before applying the sealant.

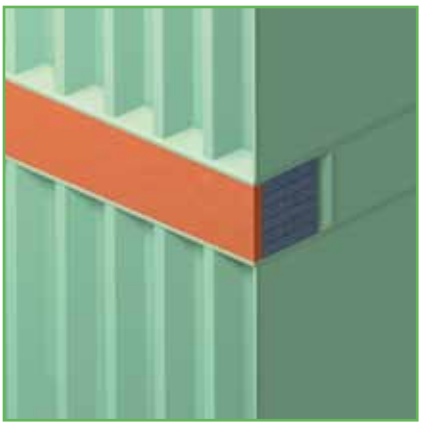
5) When working on larger gaps, the sealant should be applied in parts. Due to the fast curing of the top layer of the sealant, the amount of sealant should not be more than can be finished within 10 minutes. A cloth is sprayed with water. Note: do not use soap water!

6) The cloth is then used to press down the sealant layer. People with sensitive skin should use gloves when working with NOFIRNO®. Please refer to the Safety Data Sheet for more information..

7) The surface can be smoothed by hand. Wet the hands thoroughly with soap and water to avoid the NOFIRNO® sticking to the hands. A very neat surface is the result. Prevent soap water to be applied on the sealant surface on which the next sealant will be applied.



8) Then applying the sealant can be continued for the rest of the transit.
Smoothing and finishing in the same way as for the first part of the sealant layer



11) For A-class, H-class and Jet Fire rated penetrations, the construction needs to be insulated with structural passive fire protection at the exposed side. ACTIFOAM®/ULTRA sandwiches are used also for the fire safe sealing of hatches.

ACTIFOAM®/ULTRA GAP/HATCH SEALING SYSTEM FIRESAFE/WATERTIGHT

ACTIFOAM®/ULTRA gap seals have been tested successfully according to the RWS curve used for application in tunnels. After two hours exposure to more than 1200 °C, the temperature rise on the ACTIFOAM®/ULTRA was only 10 °C .
At the fire side the NOFIRNO® sealant has formed its ceramic shield to protect the ACTIFOAM®/ULTRA. No smoke escaped at the unexposed during the full 135 minutes of testing. The maximum height tested is 130 mm. The system has been applied in the Victoria Park tunnel in Auckland over its full length and vertically in between the concrete panels.
ACTIFOAM®/ULTRA gap seals have also been tested for H-120 class and has been applied on the BP Valhall platform during construction at the yard in The Netherlands. Lately the system has been applied in the profiles of the hatches on the heli-deck of four patrol vessels of the Dutch Navy with a view to avoid burning kerosine to enter the spaces underneath in case of a crash of a helicopter.
ACTIFOAM® is manufactured in thickness of 10, 15, 20 and 25 mm; ULTRA in thickness of 2.5-3 mm, so that all kinds of combinations are feasible to fir the width of gaps. The sandwich constructions are factory made due to the complicated adhesion process between the layers (note: no glue is used).

ACTIFOAM®/ULTRA GAP/HATCH SEALING SYSTEM FIRESAFE/WATERTIGHT

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FOR OVER 35 YEARS

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