# TYPE APPROVAL CERTIFICATE

Certificate No:
**TAF0000066**
Revision No:
**1**

## This is to certify:

**That the Class A and B Penetration**

with type designation(s)
**Roxtec Sleev-it Transition Collar**

Issued to
**Roxtec International AB**
**Karlskrona**, **Sweden**

is found to comply with
**DNV GL class programme DNVGL-CP-0165 – Type approval – Cable and pipe penetrations**
**DNV GL rules for classification – Ships**
**DNV GL offshore standards**

## Application :

**Approved for use as pipe penetration system in class A steel deck/bulkhead (see restriction under application/limitation).**

**This certificate is recognized by Transport Canada.**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

Issued at **Høvik** on **2021-03-18**

This Certificate is valid until **2026-03-17**.
DNV local station: **Gothenburg FIS**

Approval Engineer: **Helge Bjørnarå**

for **DNV**

Digitally Signed By: Schei-Nilsson, Mårten
Location: DNV Høvik, Norway

**Mårten Schei-Nilsson**
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

## Product description

"Roxtec Sleev-It Transition Collar"

**BULKHEAD**:
The system is composed of a stainless steel (st.st) pipe penetration welded to the bulkhead. On one side of the bulkhead the steel pipe extends 100 - 130 mm and a plastic pipe is fitted to this end.

| Bulkhead – Application | | | | | |
|---|---|---|---|---|---|
| Steel pipe | Steel pipe OD [mm] | Plastic pipe material | Plastic pipe OD [mm] | Drawings | Maximum fire rating |
| Blucher | 50 | Three layers PP pipe | 50 | SI/08/019 | A-60 |
| Blucher | 50 | Three layers PP pipe | 61 | SI/08/017 | A-60 |
| Blucher | 75 | Three layers PP pipe | 90 | SI/08/017 | A-60 |
| Blucher | 75 | Three layers PP pipe | 75 | SI/08/020 | A-60 |

A collar casing of length 110 mm (SI/08/17) or 120 mm (SI/08/19 and SI/08/20) made of 0.7 mm steel with one break in the casing is mounted around the connection between steel pipe and plastic pipe by means of a ring clamp fastened to the steel pipe at 75 mm from the bulkhead for the Coes pipe and at 45 mm from the bulkhead for Georg Fischer pipe.

The collars housed different numbers of 60 mm wide layers of Sleev-It graphite intumescent material, nominally 1.8 mm thick (TRP345) or 2.5 thick Intumex L.

The collars can be fitted on either side of the bulkhead.

Insulation:
When the Sleev-It collar is fitted on the exposed side of the bulkhead, the steel pipe on the unexposed side is to be insulated with 25 mm (or 40 mm – according to drawings) Rockwool Firebatt 825 with density of 110 kg/m$^3$ on a length of 300 mm from the bulkhead insulation.

When the Sleev-It collar is fitted on the unexposed side of the bulkhead, the steel pipe, the collar and 25 mm of the plastic pipe have to be insulated with 25 mm Rockwool Firebatt 825 with density of 110 kg/m$^3$.

For further details see approved drawings SLV 37 DNV (Rev 3) and SLV 38 DNV (Rev 3) listed under Type Approval documentation on page 4.

**DECK**:
The system is composed of Sleev-It collar casing / box collar connected to Blucher Marine connectors or scuppers (drains), welded to the deck.

<u>Roxtec Sleev-It steel to plastic transition collar casing fitted to steel scuppers:</u>
A plastic pipe below deck is fitted into the scupper Blucher Marine drain type 470.000 with grating and water trap. A collar casing composed of 110 mm (SI/08/17) or 120 mm (SI/08/19 and SI/08/20) long tubular made of 0.7 mm steel with one break in the casing is mounted around the connection between the steel pipe welded to the scupper and plastic pipe below the collar.

<u>Roxtec Sleev-It steel to plastic transition collar casing fitted to penetration connector:</u>
A plastic pipe above the deck is fitted into the penetration connector Blucher Marine drain type 470.000 and another plastic pipe below deck which is fitted into the connector. A collar casing composed of 110 mm (SI/08/17) or 120 mm (SI/08/19 and SI/08/20) long tubular made of 0.7 mm steel with one break in the casing is mounted around the connection between the steel pipe from connector and plastic pipe below the collar.

| Deck – Application | | | | | |
|---|---|---|---|---|---|
| Steel pipe | Steel pipe OD [mm] | Plastic pipe material | Plastic pipe OD [mm] | Drawings | Maximum fire rating |
| Blucher steel scupper or connector | 50 | Three layers PP pipe | 50 | SI/08/019 | A-60 |
| Blucher steel scupper or connector | 50 | Three layers PP pipe | 61 | SI/08/017 | A-60 |
| Blucher steel scupper or connector | 75 | Three layers PP pipe | 90 | SI/08/017 | A-60 |
| Blucher steel scupper or connector | 75 | Three layers PP pipe | 75 | SI/08/020 | A-60 |

Connector / scupper is insulated around with 40 mm Rockwool Firebatt 825 with density of 110 kg/m$^3$.

The collars housed different numbers of 60 mm wide layers of Sleev-It graphite intumescent material, nominally 1.8 mm thick (TRP345) or 2.5 thick Intumex L.

The collars are fitted on under side of the deck.

For further details see approved drawings SLV 35 DNV (Rev;2) and SLV 36 DNV (Rev 2), under Type Approval documentation on page 4.

Roxtec Sleev-It steel to plastic box transition collar casing fitted to steel scuppers / connectors:
A plastic pipe with elbow is fitted to steel pipe from Blucher scupper / connector of type 870. A box collars of size 240 mm x 185 mm x 110 mm (l x w x h – drawing no. SI/09/029) or 205 mm x 160 mm x 80 mm (L x w x h – drawing no. SI/09/030) made of 0.7 mm st. st is clip fitted around the pipe.
A plastic pipe above the deck may be fitted into the connector.

| Deck – Application | | | | | |
|---|---|---|---|---|---|
| Steel pipe | Steel pipe OD [mm] | Plastic pipe material | Plastic pipe OD [mm] | Drawings | Maximum fire rating |
| Blucher steel scupper or connector | 50 | Three layers PP pipe | 50 | SI/08/019 | A-60 |
| Blucher steel scupper or connector | 50 | Three layers PP pipe | 61 | SI/08/017 | A-60 |
| Blucher steel scupper or connector | 75 | Three layers PP pipe | 90 | SI/08/017 | A-60 |
| Blucher steel scupper or connector | 75 | Three layers PP pipe | 75 | SI/08/020 | A-60 |

Connector / scupper is insulated around with 40 mm Rockwool Firebatt 825 with density of 110 kg/m$^3$.
The collars housed different numbers of 60 mm wide layers of Sleev-It graphite intumescent material, nominally 1.8 mm thick (TRP345) or 2.5 thick Intumex L.

The collars are fitted on under side of the deck.

For further details see approved drawings SLV 39 DNV (Rev 1) under Type Approval documentation, see below.

## Application/Limitation

Approved for use as penetration system for plastic pipes in steel bulkheads and decks as stated in the tables above, as well as for 50 mm to 90 mm for PB, PE, ABS and uPVC plastic pipes. Other applications are subject to case-by case approval. Class A-0, A-15 and A-30 shall be insulated as class A-60 and in addition the division shall be insulated at least 200 mm around the penetration.

Each product is to be supplied with its manual for installation and maintenance.

## Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, September 2018.

Test report No. 175486/A dated 31 October 2008 from Bodycote Warrington fire, UK.
Test report No. 177105A dated 6 January 2009 from Bodycote Warrington fire, UK.
WF assessment report No. 182483 dated 27 April 2009 from Bodycote Warrington fire, UK.
WF assessment report No. 184716 Issue 3 dated 30 July 2009 from Bodycote Warrington fire, UK.

Collar:
Drawing No. SI/08/016, Rev A, dated 14 October 2008 from Sleev-IT Fire System Ltd.
Drawing No. SI/08/017, Rev A, dated 14 October 2008 from Sleev-IT Fire System Ltd.
Drawing No. SI/08/018, Rev A, dated 14 October 2008 from Sleev-IT Fire System Ltd.
Drawing No. SI/08/019, Rev. A, dated 20 October 2008 from Sleev-IT Fire System Ltd.
Drawing No. SI/08/020, Rev. A, dated 20 October 2008 from Sleev-IT Fire System Ltd.
Drawing No. SI/09/029, Rev. A, dated 7 June 2009 from Sleev-IT Fire System Ltd.
Drawing No. SI/09/030, Rev. A, dated 7 June 2009 from Sleev-IT Fire System Ltd.

Installation:
Drawing No. SLV 35 DNV, Rev. 2, dated 27 November 2009 from Sleev-IT Fire System Ltd.
Drawing No. SLV 36 DNV, Rev. 2, dated 28 July 2009 from Sleev-IT Fire System Ltd.
Drawing No. SLV 37 DNV, Rev. 3, dated 28 July 2009 from Sleev-IT Fire System Ltd.

Drawing No. SLV 38 DNV, Rev. 3, dated 28 July 2009 from Sleev-IT Fire System Ltd.
Drawing No. SLV 39 DNV, Rev. 1, dated 28 July 2009 from Sleev-IT Fire System Ltd.

Technical & Installation Detail No. SLV040, Rev. 3, dated 27 November 2009.

## Tests carried out

Tested according to IMO FTP Code Part 3 (IMO Res. A. 754(18)) and in compliance with IMO 2010 FTP Code Ch. 8.

## Marking of product

The product is to be marked with name of manufacturer, type designation and fire-technical rating.

## Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV confirms that the products listed in this certificate are in accordance with Transport Canada's requirements.

## Periodical assessment

DNV's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in DNVGL-CP-0338 Section 4.