

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Class A and B Penetration**with type designation(s)
Roxtec Sleev-it Transition CollarIssued to
Roxtec International AB
KARLSKRONA, Swedenis found to comply with
Det Norske Veritas' Rules for Classification of Ships
Det Norske Veritas' 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 GL.**This Certificate is valid until **2020-12-29**.Issued at **Høvik** on **2015-12-30**DNV GL local station: **Gothenburg**Approval Engineer: **Ragnar Tonjer**for **DNV GL**

Petter Langnes
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 Sleeve-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	Plastic pipe material	Plastic pipe OD	Drawings	Maximum fire rating
Blucher	50 mm	Three layers PP pipe	50 mm	SI/08/019	A-60
Blucher	50 mm	Three layers PP pipe	61 mm	SI/08/017	A-60
Blucher	75 mm	Three layers PP pipe	90 mm	SI/08/017	A-60
Blucher	75 mm	Three layers PP pipe	75 mm	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 Sleeve-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 Sleeve-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/m³ on a length of 300 mm from the bulkhead insulation.

When the Sleeve-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/m³.

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 Sleeve-It collar casing / box collar connected to Blucher Marine connectors or scuppers (drains), welded to the deck.

Roxtec Sleeve-It steel to plastic transition collar casing fitted to steel scuppers:

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.

Roxtec Sleeve-It steel to plastic transition collar casing fitted to penetration connector:

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.

Job Id: **262.1-016326-2**
 Certificate No: **TAF0000066**

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

Connector / scupper is insulated around with 40 mm Rockwool Firebatt 825 with density of 110 kg/m³.

The collars housed different numbers of 60 mm wide layers of Sleeve-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 Sleeve-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	Plastic pipe material	Plastic pipe OD	Drawings	Maximum fire rating
Blucher steel scupper or connector	50 mm	Three layers PP pipe	50 mm	SI/08/019	A-60
Blucher steel scupper or connector	50 mm	Three layers PP pipe	61 mm	SI/08/017	A-60
Blucher steel scupper or connector	75 mm	Three layers PP pipe	90 mm	SI/08/017	A-60
Blucher steel scupper or connector	75 mm	Three layers PP pipe	75 mm	SI/08/020	A-60

Connector / scupper is insulated around with 40 mm Rockwool Firebatt 825 with density of 110 kg/m³. The collars housed different numbers of 60 mm wide layers of Sleeve-It graphite intumescent material, nominally 1.8 mm thick (TRP345) or 2.5 thick Intumex L.

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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.

Applications/Limitations

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.

Watertightness and gastightness is not covered in this certificate.

The penetration system shall not be used for penetrating boundaries of tanks.

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, October 2015.

Test report Nos:

175486/A dated 31 October 2008 (deck),
No: 177105A dated 6 January 2009 (bulkhead),
WF assessment report No: 182483 dated 27 April 2009 (A-60 approval) and
WF assessment report No: 184716 Issue 3 dated 30 July 2009 (using other types of plastic pipes).
All from Bodycote Warrington fire, UK.

Drawings Nos:

SI/08/016, SI/08/017 Rev A and No: SI/08/018 Rev A dated 14 October 2008,
SI/08/019 and SI/08/020 both with Rev A and both dated 20 October 2008,
SI/09/029 and No: SI/09/030 both Rev. A and both dated 7 June 2009,
SLV 35 DNV (Rev;2) dated 27 November 2009,
SLV 36 DNV (Rev 2), SLV 37 DNV (Rev 3), SLV 38 DNV (Rev 3) and SLV 39 DNV(Rev 1) dated 28 July 2009.
All 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 GL confirms that the products listed in this certificate are in accordance with Transport Canada's requirements.

Periodical assessment

DNV GL'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.