



Marine & Offshore

Certificate number: 38115/B0 BV

File number: ACI4010/030/002

Product code: 5301H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

ROXTEC International AB

KARLSKRONA - SWEDEN

for the type of product

PIPE PENETRATIONS IN FIRE DIVISIONS

Sleev-it Steel to Plastic Pipe Transition Collar

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships Part C Chapter 4

SOLAS 74, as amended, Regulations II-2/9.3.1

IMO Res. MSC.61(67) -(FTP Code)- with IMO Res MSC.307(88) -(2010 FTP Code)- article 8

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate is a renewal of certificate N° 38115/A1 BV expiring on 22/05/2019

This certificate will expire on: 22 May 2024

For Bureau Veritas Marine & Offshore,

At BV GOTHENBURG, on 05 Mar 2019,

Magne MOLLER



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Sleeve-It Steel to Plastic pipe transition Collar

This penetration is for connection between a single steel pipe (or steel connector) and a single plastic pipe as an A-class penetration, at a distance less than 450 mm from the division. The penetration part fixed to the division is the steel pipe (or drain), tack welded with 4 points to the fire division. The tightness between the steel pipe (or drain) and the plastic pipe is not part of this approval.

The Sleeve-it fire collars are clamped around the steel pipe by using the steel "Jubilee" clip 20 mm long, which tightens around the neck of the fire collar and clamps the fire collar tightly to the steel pipe. The Sleeve-it fire collar is mechanically fixed to the steel pipe. Each Sleeve-it fire collar (except collar boxes) comprises a 110 mm-long and 0.7 mm thick tubular steel casing. A break is incorporated in the casing so that the collar can be sprung open to permit installation around a pipe.

In the 60 mm-long base part of the collar, several layers of intumescent material are inserted between the casing and the pipe, nominally 1.8 mm or 2.5 mm thick. The appropriate number of layers depending on the pipe diameter is given in §4.3.

Collar boxes only differs from conventional Sleeve-it collars by dimensions of the steel casing (see in table).

| Fire collar | Steel part welded to the fire division | Diameter of tested PPr plastic pipe | Installation | Additional insulation | Collars fire rating |
|--|---|-------------------------------------|--|--|---------------------|
| SLV50M-Ext for bulkheads | Steel pipe ($\varnothing = 50$ mm min. thickness = 1 mm) | 50 mm | In bulkheads: 1 collar to either side of the bulkhead, 75 mm min. from the bulkhead or from the bulkhead insulation | On the insulated side: 25 mm thick "Rockwool Firebatts 825" extent on all steel parts of the penetration along 300 mm max. | A15, A30 and A60 |
| SLV50M-Ext collar box for decks with Blücher Connector | Blücher Connector type 870.000.050 FS ($\varnothing = 90$ mm thickness = 5 mm deepness = 155 mm) | 50 mm | In decks: 1 collar box (205 x 160 x 80 mm) fixed to the connector steel pipe, 100 mm min. below deck, 10-30 mm above the plastic pipe elbow | On the insulated side: 40 mm thick "Rockwool Firebatts 825" extent, on the Blücher connector | A15, A30 and A60 |
| SLV50M-Ext for decks with Blücher Drain | Blücher Drain type 470.200.050 S (hole size in deck: $\varnothing = 130$ mm) | 50 mm | In decks: 1 collar to the underside of the deck, approx. 110 mm min. below deck | On the insulated side: 40 mm thick "Rockwool Firebatts 825" extent, on the Blücher Drain | A15, A30 and A60 |
| SLV75M-Ext for bulkheads | Steel pipe ($\varnothing = 75$ mm min. thickness = 1 mm) | 75 to 90 mm | In bulkheads: 1 collar to either side of the bulkhead, 45 mm min. from the bulkhead or from the bulkhead insulation | On the insulated side: 25 mm thick "Rockwool Firebatts 825" extent, on all steel parts (pipe+collar) of the penetration along 300 mm max. | A15, A30 and A60 |
| SLV75M-Ext for decks with Blücher Connector | Blücher Connector type 870.000.075 FS ($\varnothing = 108$ mm thickness = 5 mm deepness = 167 mm) | 75 to 90 mm | In decks: 1 collar to the underside of the deck, 100 mm min. below deck | On the insulated side: 40mm thick "Rockwool Firebatts 825" extent, on the Blücher connector | A15, A30 and A60 |
| SLV75M-Ext collar box for decks with Blücher Drain | Blücher Drain type 470.200.075 S (hole size in deck: $\varnothing = 132$ mm) | 75 to 90 mm | In decks: 1 collar box (240 x 185 x 110 mm) fixed to the drain steel pipe, approx. 100 mm min below deck, 10-30 mm above the plastic pipe elbow | On the insulated side: 40 mm thick "Rockwool Firebatts 825" extent, on the Blücher Drain | A15, A30 and A60 |

\varnothing : diameter

PPr: polypropylene

Materials and/or components:

- Collar steel casing: manufactured by Geoman Pressings Ltd.
- Blücher connectors and drains: manufactured by Blücher.
- 1.8 mm intumescent material layers: type "TRP 345" manufactured by Trafford Rubber Products.
- 2.5 mm intumescent material layers: type "Promaseal PL" manufactured by Promat.
- Mineral wool used for fire tests: type "Rockwool Firebatts 825" (density 110 kg/m³) manufactured by Rockwool.

2. DOCUMENTS AND DRAWINGS:

As per Manufacturer's drawing N° S1026334 rev.B dated 07/01/2013

3. TEST REPORTS:

3.1 - Test reports N° 175486/A dated 31/10/2008, N° 177105A dated 06/01/2009 and letter dated 18/03/2009, as per IMO FTP Code Annex 1 Part 3 [test standard : IMO Resolution A.754(18)], from Warrington Fire laboratory, UK.

3.2 - Technical assessment N° 182483 dated 27/04/2009, from Warrington Fire laboratory, UK.

4. APPLICATION / LIMITATION:

4.1 - The fitting aboard to be the same as used for the test.

4.2 - Approved for use as pipe penetrations in A-15, A-30 and A-60 class steel divisions, with limitations contained in §1.

4.3- The arrangement of the pipe penetration (with fire insulation, if any) is subject to approval in each case.

4.4 - Penetration seal specifications :

| Plastic Pipe diameter (mm) | Minimum number of intumescent material layers |
|----------------------------|---|
| 50 | 3 x 1.8 mm |
| 75 | 3 x 2.5 mm |
| 90 | 4 x 2.5 mm |

4.5 - Additional non-combustible mineral wool: The fire tests were conducted with mineral wool type "Rockwool Firebatts 825" (density 110 kg/m³); any approved A-class insulation of similar type giving at least an equivalent insulation performance can be used.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The **Sleev-it pipe collars** are to be supplied by **ROXTEC International AB** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **ROXTEC International AB** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

6. MARKING OF PRODUCT:

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

7. OTHERS:

7.1 - It is **ROXTEC International AB**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes Type Approval Certificate N° 38115/A1 BV issued on 08/02/2017 by the Society.

*** END OF CERTIFICATE ***