



Marine & Offshore
Division

Certificate number: 46205/A0 BV

File number: AC14010/030/005

Product code: 5300H

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

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

ROXTEC International AB
KARLSKRONA - SWEDEN

for the type of product

PIPE, CABLE, DUCT PENETRATIONS IN FIRE DIVISIONS
Sleeve-It Fire Collars System for plastic pipes and cables in B-class bulkheads

Requirements:

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

SOLAS 74, as amended, Regulations II-2/9.7.1.

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 did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 08 Feb 2022

For BUREAU VERITAS,

At BV GOTHENBURG, on 08 Feb 2017,

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. 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 Division 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 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.

The electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=7dj8sgzay9>

BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

"Sleeve-It Fire Collars System for plastic pipes and cables in B-class bulkheads"

Three different types of fire collars are used in B-class bulkheads :

- **Fire collars type MAR-M:**

Each sealing system comprises a 60 mm long 0.7 mm thick tubular steel casing with a continuous flange (3 mm thick) bolted to the bulkhead by means of 5x30 mm long steel threaded bolts with hexagon nuts. A break is incorporated in the casing so that the collar can be sprung open to permit installation around a pipe. Several layers of intumescent material are inserted between the casing and the pipe / cable, nominally 1.8 mm or 2.5 mm thick. The appropriate number of layers depending on the pipe diameter and the number of fixing points for collar fixation to the fire division is given in §4.3, unless otherwise indicated herebelow.

Penetration type	Pipe / cable type	Pipe / cable diameter	Installation	Collar Fixation to the fire division	Collars Fire rating
Fire collar MAR-M	PB, PPr, PE, uPVC pipes	16 to 125 mm	1 collar fixed to either side of the bulkhead	Collar with flange screwed to the bulkhead	B-0 and B-15
Fire collar MAR-M	multi-layer PE/AL/PE pipe (Georg Fischer I-Fit TAC N° 15590/A0 BV or Valsir PEXAL)	16 to 32 mm	1 collar fixed to either side of the bulkhead	Collar with flange screwed to the bulkhead	B-0 and B-15
Fire collar MAR 75M	Cables in bunch (filling area 24%)	max. 22 mm	- 1 collar fixed to the fire side of the bulkhead - Space between cable transit and cables filled with Maflowrap moulding compound 119	Collar with flange screwed to the bulkhead	B-0 and B-15

PB= Polybutylene ; PPr= Polypropylene ; PE= Polyethylene ; uPVC= Unplasticized polyvinylchloride

- **ABS plastic single pipe sleeve :**

Each sealing system comprises a 27 mm long ABS plastic tubular sleeve having a continuous plastic flange and bolted to the bulkhead by means of two 5x30 mm long steel threaded bolts with hexagon nuts. The sleeve is filled with Sleeve-it intumescent putty.

Penetration internal diameter : 16 to 32 mm

Penetration external diameter : 55 to 80 mm

Cables were installed in bunch, with filling area of 32 to 37%.

Maximum cable diameter is 9 mm.

Fire rating is B-15 class.

- **Fire cable transit type MAR-CT :**

Each sealing system comprises a 120 mm long 0.7 mm thick square steel casing, installed symmetrically in the bulkhead. It is provided with a flange (3 mm thick), bolted to the bulkhead by means of four 5x30 mm long steel threaded bolts with hexagon nuts. The sleeve is 97 x 97 mm and its outer dimensions (including flange) are 110 x 147 mm (width x height). Two layers of intumescent material are inserted below the top plate and above the bottom plate of the casing nominally 2.5 mm thick and 60 mm long. The space between cable transit and cables is filled with Maflowrap moulding compound 1190, along 30 mm. Its fire rating is B-0 class.

Cables were installed in bunch, with filling area of 24%.

Materials and/or components :

- Collar steel casing manufactured by BASE Group SP z.o.o.
- 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.
- Maflowrap moulding compound 1190 manufactured by Longproducts, UK.
- Sleeve-it intumescent putty, manufactured by Polyseam.

2. DOCUMENTS AND DRAWINGS :

- Fire collars MAR-M : Appendix 8 sheets 10(25) & 21(25) of test report VTT-S-5026-10, drawing S1026329H dated 10/11/2016, Appendix 1 2(2) of assessment VTT-S-6599-10.
- ABS plastic single pipe sleeve : drawings SLV356BV and SLV357B, dated 22/03/2011.
- Cable transit MAR-CT: Appendix 8 sheets 12(25) of test report VTT-S-5026-10, drawing ref. SI-4520-E3.

3. TEST REPORTS :

3.1- Test report N° VTT-S-5026-10 dated 10/02/2011 [testing date 16/04/2010], as per IMO FTP Code Annex 1 Part 3 (test standard : IMO Resolution A.754(18)] from VTT laboratory, Finland.

3.2- Statement on the fixing of the Sleeve-it fire collar dated 27/08/2010 from VTT laboratory, Finland.

3.3- Letter from VTT ref. VTT-M-01677-11 dated 17/03/2011.

4. APPLICATION / LIMITATION :

4.1- Penetration seal specification:

Sleeve-it collar reference	Minimum number of Intumescent material layers	Number of Collar Fixing points
MAR 16M	2 x 1.8 mm thick x 60 mm wide	2
MAR 32M	3 x 1.8 mm thick x 60 mm wide	2
MAR 75M	4 x 2.5 mm thick x 60 mm wide	4
MAR 125M	5 x 2.5 mm thick x 60 mm wide	4

4.2- Approval valid for ships having to comply with SOLAS 74 Convention, as amended, and for units having to comply with IMO Resolution A649 (The "MODU Code").

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

4.4- Approved for use as pipe penetrations in B-0/B-15 class bulkheads, with limitations contained in §1.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 -The **Sleeve-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 office and production site(s) 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 name of manufacturer, type designation and fire technical rating.

7. OTHERS:

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.

*** END OF CERTIFICATE ***