



Marine & Offshore

Certificate number: 15027/D0 BV

File number: ACI4000/032/007

Product code: 5302H

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

CABLE PENETRATIONS IN FIRE DIVISIONS

H-0 / H-30 / H-60 / H-120 Class Cable Penetrations

Cable sealing system with multidiameter technology, S-series,

R-series and RS-seals

Requirements:

Bureau Veritas Rules for the Classification of Offshore Units - Part C, Chapter 4

IMO Res. MSC.307(88) (2010 FTP Code)

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

IMO MSC/Circ.1120

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 will expire on: 04 May 2026

For Bureau Veritas Marine & Offshore,

At BV GOTHENBURG, on 04 May 2021,

Torbjorn Ygesjo



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 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

ROXTEC cable sealing system with multidiameter technology

Roxtec S series frames

Consisting of Roxtec S series frame (S, SO, SF, SFO, SR, SK, SRC r20&r40 and BTB) in sizes 1 - 8 and combinations thereof, welded or bolted on to the steel divisions; filled with Roxtec (standard, Ex or EMC, PE, ES, BG, BGB) halogen free insert modules.

Assembled with Roxtec Wedge kit or Roxtec EMC, Ex Wedge kit.

Roxtec R frames

Composed of steel sleeves (welded or bolted) with R type (standard, Ex or EMC, PE, ES, BG, BGB) halogen free rubber frames in size 70 – 200 and filled with Roxtec halogen free RM (standard, Ex or EMC, PE, ES, BG, BGB) modules, mounted in steel divisions.

Roxtec RS seals

Composed of steel sleeves (welded or bolted) with RS- type (Ex and EMC versions included) halogen free rubber sealings in size 23 - 150, mounted in steel decks or bulkheads.

Type of division

Penetration designation	S-series 1x1 to 8x1 and combinations thereof Single and/or combination frame Rectangular Multi-cable	R-series 70 to 200 Single frame Circular Multi-cable	RS-series 23-150 Single frame Circular Single-cable
External dimensions (mm)	121x80 to 298x141 (H-60/H-120) 122x142 to 477x 824 (H-0) depth: 60	diameter: 85 to 215 depth: 80 to 85	diameter: 29 to 145 depth: 44 to 87
Sleeve dimensions (mm)	121x80 to 298x141 depth: 60	inner diameter: 70 to 200 depth: 55	inner diameter: 23 to 150 depth: 35-65
Packing space (mm)	60x60 to 120x240	40x40 to 120x120	diameter: 3.6 to 119
Classification	<p>- H-0 with cables in deck when installed/ insulated according drawing S1554321 (no insulation for SBTB-series with 320 mm long frame and for SK-series & 2x50 mm thick insulation 200 mm around for SBTB-series and 450 mm around for S-series on side exposed to fire).</p> <p>- H-60 with cables in deck/bulkhead when installed according drawing S1554279 (only division insulation).</p> <p>- H-120 with cables in deck/ bulkhead when installed according drawing S1554309 (only division insulation).</p> <p>- H-60 with cables including MC/SWA cables in deck when installed/insulated according drawing S1554312 (insulation 200 mm thick and 150 mm around cables on side exposed to fire).</p> <p>- H-60 with cables including MC/SWA cables in bulkhead when installed/insulated according drawing S1554304 (no insulation for S-Series and SBTB-series & insulation 100 mm thick and 100 mm around cables on side exposed or side unexposed to fire for SK-series)</p>	H-60/H-120 with cables in deck/bulkhead when installed/ insulated according drawing S1554319 (only division insulation)	H-60/H-120 with cables in deck/ bulkhead when installed/insulated according drawing S1554320 (only division insulation)
Maximum cable diameter	Drawing S1554321: Deck: max.89 mm Drawing S1554279: Deck: max.82 mm Bulkhead: max.96 mm Drawing S1554309: Deck: max.98 mm Bulkhead: max.80 mm Drawing S1554312: Deck: max.98 mm Drawing S1554304: Bulkhead: max.103 mm	Drawing S1554319: Deck: max.78mm Bulkhead: max.78 mm	Drawing S1554320: Deck: max.78 mm Bulkhead: max.96 mm

- When bolted (pre-engineered), sealing strips, EPDM rubber, 15x6 mm, are installed in between the Roxtec frame and the division.
- Tested fill based on transit opening area and the Roxtec Cable Sealing System: between 0 and 100 % (maximum fill of a Roxtec transit is to install cable in every module installed in transit opening and minimum is to not install cable in any module in transit opening).
- For multi-cable transits, the transit was tested with the cables evenly spread inside the packing space.

2. DOCUMENTS AND DRAWINGS :

As per the Manufacturer's drawings:

- S1554279 Rev.A dated 06/04/2020 : S-Series Frames W Cables - H-60 Steel Deck/Bulkhead
- S1554304 Rev.A dated 06/04/2020 : S-Series W Cables Incl. MC/SWA Cables - H-60 Steel Bulkhead
- S1554309 Rev.A dated 07/04/2020 : S-Series Frames Cables - H-120 Steel Deck/Bulkhead
- S1554312 Rev.A dated 06/04/2020 : S-Series Frames W Cables Incl. MC/SWA Cables - H60-H120 Steel Deck
- S1004649 Rev.E dated 28/09/2010 : S2-S4-S6-S8 Ex Frame - Single Frame
- S1005518 Rev.A dated 03/11/2003 : S Frame - Single Frame
- S1554321 Rev.A dated 07/04/2020 : S-Series Frames W Cables - H0 Steel Deck
- S1554319 Rev.A dated 07/04/2020 : R-Frames W Cables - H60-H120 Steel Deck/Bulkhead
- S1513135 Rev.A dated 03/06/2016 : R Frames- R70 Ex and Standard
- S1513136 Rev.A dated 03/06/2016 : R Frames - R200 Ex and Standard
- S1554320 Rev.A dated 07/04/2020 : RS Seals W Cables - H60-H120 Steel Deck/Bulkhead
- S1005507 Rev.D dated 29/04/2016 : RS Seals - RS 25-31
- S1005510 Rev.E dated 29/04/2016 : RS Seals - RS 100-150
- S1007491 Rev.B dated 27/06/2010 : RS 25 Ex Assembly
- S1007536 Rev.B dated 27/06/2010 : RS 150 Ex Assembly

3. TEST REPORTS :

3.1 - Test report N° 250000.20/90.313 dated 09/11/1990, as per IMO Resolution A.517(13), from SINTEF, Norway.

3.2 - Test reports as per IMO FTP Code Annex 1 Part 3 [test standard: IMO Resolution A.754(18)]:

- N° 846007.06 dated 19/09/1997, from SINTEF, Norway.
- N° PG11087 dated 12/02/2003, from DBI, Denmark.
- N° PG11088 dated 18/02/2003, from DBI, Denmark.
- N° PG11199 dated 04/07/2003, from DBI, Denmark.
- N° P400834 dated 31/03/2004, from SP, Sweden.
- N° P703775 dated 07/12/2007, from SP, Sweden.
- N° PX07235 dated 15/12/2010, from SP, Sweden.

3.3 - Test reports as per IMO 2010 FTP Code Annex 1 Part 3, from SP, Sweden:

- N° 3P04210 dated 24/09/2013
- N° 4P02192 dated 30/06/2014
- N° 6P02536 dated 12/07/2016

4. APPLICATION / LIMITATION :

4.1 - Approved for use as cable transits in H-0, H-30, H-60 and H-120 class steel divisions, with limitations contained in §1.

4.2 - The arrangement of the cable transit (with fire insulation, if any) is subject to approval in each case.

4.3 - For insulated penetrations, the tests have been carried out with fire insulating material "FireMaster Marine Plus Blanket" (nominal densities 96 or 128 kg/m³; manufactured by FireMaster); any alternative H-class insulation material, previously proven and approved, giving at least an equivalent insulation performance, can be used.

4.4 - Filling ratio: 0% to 100% (see § 1).

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The **ROXTEC cable sealing system with multidiameter technology, S-series, R-series and RS-series** 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 the Type Approval Certificate N° 15027/C1 BV issued on 22/09/2016 by the Society.

7.3 - Watertightness and Gastightness:

Third Party Inspection reports from DNV, Norway: N° MLM 010235 dated 21/08/2001
N° MLM 010238 dated 30/08/2001
N° MLM 020106 dated 19/12/2001
N° MLM 020133 dated 26/02/2002
N° MLM 020408 dated 03/06/2002

- Tested watertightness (before fire exposure): 6 bar during 60 min.
- Tested gastightness (before fire exposure): 4 bar during 30 min.

***** END OF CERTIFICATE *****