



Marine & Offshore
Division

Certificate number: 40893/A1 BV

File number: ACI 4000/32/009

Product code: 5300H

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, CABLE, DUCT PENETRATIONS IN FIRE DIVISIONS

ROXTEC cable sealing system with multidiameter technology

Jet Fire Application for S-series Frames and RS-series seals

Requirements:

Bureau Veritas Rules for the Classification of Offshore units Part C Chapter 4 - ISO 22899-1

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: 21 Sep 2020

For BUREAU VERITAS,

At BV GOTHENBURG, on 22 Sep 2016,

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.

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BV Mod. Ad.E 530 October 2014

This certificate consists of 3 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 deck or bulkhead ;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 RS seals

Composed of steel sleeves (welded or bolted) with RS- type (Ex and EMC versions included) halogen free rubber sealings in size 23 -400 mounted in steel deck and bulkheads.

Type of division :

Penetration designation	S-series 1x1 to 8x1 and combinations thereof Single frame Rectangular Multi-cable	RS-series 23 - 400 Single frame Circular Single Pipe
External dimensions (mm) for single openings	121 x 80 to 298 x 141 Depth 60	Diameter 29 to 400 Depth 44 to 86
Frame/Sleeve dimensions (mm)	121 x 80 to 298 x 141 depth : 60	Inner diameter 23 to 400 Depth : 35 to 65
Packing space (mm)	120 x 240	Diameter 3.6 to 336
Classification	The penetration can withstand the jet fire for 60 minutes when installed/ insulated acc. drawing S1501671. The penetration of tpe SBTB can withstand the jet fire for 120 minutes when installed/ insulated acc. drawing S1501671, detail J-120.	The penetration can withstand the jet fire for 60 minutes when installed/ insulated acc. drawing S1501673.
Maximum cable and pipe diameter	Cables, including Metal Clad (MC) and Steel Wire Armored (SWA) cables up to and including OD = 103mm. Steel pipes up to and including OD = 30mm.	Steel pipes up to and including OD = 323mm.

- When bolted (pre-engineered), sealing strips, EPDM rubber, 15 x 6 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 Manufacturer's drawings S1501671 Rev B, S1501673 Rev B, S1005518, Rev A, S1004649 Rev E, S1007491 Rev B, S1005507 Rev D, S1007536 Rev B and S1005510 Rev E.

3. TEST REPORTS :

3.1 - Test report N° 846031.02, dated 4.11.1997 as per Health and Safety Executiv, Offshore Technology Report – OTI 95 634 “Jet Fire Resistance Test of Passive Fire Protection Materials” ,from SINTEF, Norway

3.2 - Test report N° NBL-107332, dated 3.6.2005 as per Health and Safety Executiv, Offshore Technology Report – OTI 95 634 “Jet Fire Resistance Test of Passive Fire Protection Materials” ,from SINTEF, Norway

3.3 - Test report N° NBL-F10106, dated 13.10.2010 as per ISO22899-1:2007, from SINTEF, Norway

3.4 - Test report N° NBL-F10107, dated 15.11.2010 as per ISO22899-1:2007, from SINTEF, Norway

3.5 - Report N° F15 20119-1 Version 1, Evaluation of jet fire attack direction on response of products, dated 29.1.2015 by SP Fire Research AS, Norway

4. APPLICATION / LIMITATION :

4.1- Approved for use as cable transits in jet-fire resistant steel divisions , with limitations contained in §1.

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

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The "ROXTEC cable sealing system with multidiameter technology, S-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.

"ROXTEC International AB" has declared to Bureau Veritas the following production site(s):

ROXTEC International AB
BOX 540
371 23 KARLSKRONA
SWEDEN

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 BV type approval certificate 40893/A0 BV, issued on 21/09/2015 by Bureau Veritas.

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