



Marine &amp; Offshore

Certificate number: 13965/C2 BV

File number: ACI 4000/032/006

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**

Cable sealing system with multidiameter technology, R- and EMC R- Series

**Requirements:**

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

SOLAS 74, as amended, SOLAS 2000 Regulations II-2/9.3.1, IMO Resolution A.754(18), IMO Resolution MSC.307(88) (FTP Code 2010)

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: 06 Mar 2020**

**For Bureau Veritas Marine & Offshore,**

At BV GOTHENBURG, on 28 Aug 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 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 :

**A-class Single-Cable and Multi-Cable sealing system with multidiameter technology, R series frames**  
(including EMC and Ex version).

Composed of a R type halogen free rubber frame in size 50 – 200 sealed with Roxtec halogen free RM (standard, Ex or EMC, PE, ES, BG, BGB) modules, mounted in sleeves welded, bolted (incl. SL A) or attached through expansion (RX kit) onto in steel divisions.

<b>Penetration designation</b>	R50 to R200
<b>Type of division tested</b>	Bulkhead and Deck
	Welded, Bolted or Attached through expansion
<b>Depth of the penetration (mm)</b>	71
<b>Overall outer diameter of the penetration (mm)</b>	60 to 215
<b>Packing space (mm)</b>	30x30 to 120x120
<b>Classification</b>	<b>A-0 toA-60</b>

Maximum cable diameter: 60 mm

Tested fill based on transit opening area and the Roxtec Cable Sealing System. 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.

Additional insulation is to be provided as shown in the referred Manufacturer's drawings. Same insulation material and thickness to be used as used for the insulation of division penetrated. The insulation thickness is to be at least the length of protruding sleeve.

### 2. DOCUMENTS AND DRAWINGS :

As per Manufacturer's drawings describing installation/ insulation arrangements for R-series:

#### **Welded or bolted standard sleeves**

R-series frames, A-60 class

R-series frames, A-15 & A-30 class

R-series frames, A-0 class

#### **SLXR sleeve (RX kit)**

SLXR type sleeve with R-frame, A-60 class

SLXR type sleeve with R-frame, A-15 & A-30 class

SLXR type sleeve with R-frame, A-60 class

#### **SL A sleeve**

SL A type sleeve with R-frame, A-60 class

SL A type sleeve with R-frame, A-15 & A-30 class

SL A type sleeve with R-frame, A-0 class

#### **Certificate drawing**

S1523759 rev A

S1523760 rev A

S1523752 rev A

#### **Certificate drawing**

S1523911 rev A

S1523914 rev A

S1523917 rev A

#### **Certificate drawing**

S1523880 rev A

S1523902 rev A

S1523909 rev A

### 3. TEST REPORTS :

- Test reports N° 103070.23A and 103070.23B, dated 2002.12.11 as per IMO Resolution 754(18), from SINTEF, Norway.
- Test report N° PX05454, Rev 1, dated 2011-09-08 as per IMO Resolution 754(18), from SP, Sweden.
- Test report N° PGA10025, dated 2011-12-22 as per IMO Resolution 754(18), from DBI, Denmark.
- Test report N° PGA10723A, dated 2016-02-04 as per IMO Resolution MSC.307(88), from DBI, Denmark.
- Test report N° PGA10724A, dated 2016-02-05 as per IMO Resolution MSC.307(88), from DBI, Denmark.
- Test report N° PGA10800A, dated 2016-05-26 as per IMO Resolution MSC.307(88), from DBI, Denmark.
- Test report N° PGA10871A rev1, dated 2016-12-09 as per IMO Resolution MSC.307(88), from DBI, Denmark.
- Test report N° 4P06068, dated 2015-01-17 as per IMO Resolution MSC.307(88), from SP, Sweden.
- Test report N° 4P07023, dated 2015-02-04 as per IMO Resolution MSC.307(88), from SP, Sweden.

**4. APPLICATION / LIMITATION :**

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

4.2 - Approved for use as cable transits in A-0, A-15, A-30 and A-60 class steel divisions, with limitations contained in §1.

4.3 - Where intended to be fitted into hull structural parts, welding procedures, welder's certification and material certification are to be submitted to Bureau Veritas.

**5. PRODUCTION SURVEY REQUIREMENTS :**

5.1 - The cable sealing systems type R 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 13965/C1 BV issued by the Society.

7.3 - Water and gas tightness is tested as follows

- Third Party Inspection report N° MLM 020408 dated 2002-06-30, from DNV, Sweden
- Third Party Inspection report N° MLM 30473-1 dated 2003-01-27, from DNV, Norway
- Third Party Inspection report N° DNV40007647-1 dated 2011-12-13 from DNV, Norway
- Third Party Inspection report N° N141EX8Z Rev.2 dated 2017-08-10 from DNVGL, Sweden:

Welded SL and SLF sleeves of size 50-200

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

Bolted SLF sleeves of size 50-200

- Tested watertightness (before fire exposure): 5 bar during 60 min.
- Tested gastightness (before fire exposure): 2,5 bar during 30 min.

Bolted SLA sleeves of size 50-100

- Tested watertightness (before fire exposure): 4 bar during 60 min.
- Tested gastightness (before fire exposure): 1,5 bar during 30 min.

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