



# TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MERB00002SG**  
Revision No:  
**0**

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

## This is to certify:

**That the Penetrations through "A" class divisions: electric cable transits**

with type designation(s)

**Roxtec sealing system with multidiameter technology: R-series (aluminium division)**

Issued to

**Roxtec International AB**  
**Karlskrona, Sweden**

is found to comply with the requirements in the following Regulations/Standards:

Regulation **MSN 1874 Amendment 9,**

**item No. UK/3.26a. SOLAS 74 as amended, Regulation II-2/9, IMO 2010 FTP Code and IMO MSC.1/1488**

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-01-25**.

Issued at **London** on **2024-07-25**

DNV local unit:  
**Sweden CMC**



for **DNV UK Ltd.**

Approval Engineer:  
**Karolina Kusmider**

Approved Body No.: **0097**

**Mydlak-Röder, Christine**  
**MER Service Responsible**



**Maritime &  
Coastguard  
Agency**

UK Approved Body Authorised  
by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.

During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved Body.

"The Mark of Conformity" may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. In case limitations of use apply, these should be indicated in the Annex.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

“Roxtec sealing system with multidiameter technology: R-series (aluminum division)”

The R-Series sealing system consist of a rubber frame filled with Roxtec RM modules of different sizes depending on diameter and configuration of the cables. It is available in standard, Ex and EMC versions depending on application. The R-seal is installed into an aluminum sleeve that is welded, a steel sleeve that are attached by expansion (SLFR X) or a steel sleeve attached with a nut (SLA) onto the aluminum division.

## Application/Limitation

Approved for use as single or multiple cable penetration system in class A-0, A-15, A-30 and A-60 aluminium bulkheads and decks. Other applications are subject to case-by-case approval.

Approved for use in class A-0, A-15 and A-30 when the penetration system is insulated as A-60 and in addition the division is to be insulated with A-60 insulation at least 200 mm around the penetration.

Table 1: Approved cable penetration in A-60 aluminium bulkhead.

R-series size	Sleeve type	Max. cable diameter [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
50 - 200	SLR <sup>1)</sup>	30	55	4 - 7	Symmetric	S1583385 No. 1
50 - 100	SLA	50	86 - 96	4 - 5	Either	S1583387 No. 1
70 - 200	SLFR X	50	55	4 - 7	Either	S1583389 No. 1

1) SLR-Series includes the following sleeve types: SLR, SLR EX or sleeves equal to Roxtec dimensions specified in drawing S1587721.

Table 2: Approved cable penetration in A-60 aluminium deck.

R-series size	Sleeve type	Max. cable diameter [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
50 - 200	SLR <sup>1)</sup>	67	55	4 - 5	Symmetric, Top side	S1583385 No. 2
50 - 100	SLA	50	86 - 96	4 - 7	Top side	S1583387 No. 2
70 - 200	SLFR X	50	55	4 - 5	Underside	S1583389 No. 2

1) SLR-Series includes the following sleeve types: SLR, SLR EX or sleeves equal to Roxtec dimensions specified in drawing S1587721.

The insulation material used has to be approved according to the Marine Equipment Regulation and bear the Mark of Conformity.

Each product is to be supplied with its manual for installation and use.

Please note Installation instruction for Roxtec R X attached through expansion: Aperture irregularities are acceptable within min and max diameters (Max Ø = Min Ø + 2 mm).

Penetrations through structural divisions should not impair the structural strength of the division. Special consideration should be given to bulkheads and decks with high stress locations (IMO MSC.1/Circ.1488).

## Type Examination documentation

Test report No. PGA11370A dated 20 February 2019 from DIFT, Denmark.  
 Test report No. PGA11371A dated 20 February 2019 from DIFT, Denmark.  
 Test report No. RS-18/B-179/E dated 25 June 2018 from CTO, Gdansk, Poland.  
 Test report No. RS-19/B-224/E dated 1 August 2019 from CTO, Gdansk, Poland.  
 Test report No. RS-20/B-082/E dated 21 April 2020 from CTO, Gdansk, Poland.  
 Test report No. RS-20/B-408/E dated 17 December 2020 from CTO, Gdansk, Poland.  
 Drawing No. S1583385 Rev. B dated 20 September 2022 from Roxtec International AB.  
 Drawing No. S1583387 Rev. B dated 20 September 2022 from Roxtec International AB.  
 Drawing No. S1583389 Rev. B dated 20 September 2022 from Roxtec International AB.

## Tests carried out

Tested according to IMO 2010 FTP Code part 3.

## Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire-technical rating, UK Mark of Conformity (see first page).

## **Additional application/information for watertightness/gastightness (Not part of the Marine Equipment Regulation requirement)**

### **Product description**

"Roxtec sealing system with multidiameter technology: R-series (aluminium division)"

The R-Series sealing system consist of a rubber frame filled with Roxtec RM modules of different sizes depending on diameter and configuration of the cables. It is available in standard, Ex and EMC versions depending on application. The R-seal is installed into an aluminum sleeve that is welded, a steel sleeve that are attached by expansion (SLFR X) or a steel sleeve attached with a nut (SLA) onto the aluminum division.

### **Application/Limitation**

Approved for penetration in aluminium bulkheads or decks limited to a pressure of 4.00 bar watertightness and 2.67 bar gastightness.

For bolted versions with gasket and self-tapping screws, the pressure is limited to 3.33 bar watertightness and 1.67 bar gastightness.

For SLA sleeves the pressure is limited to 2.67 bar watertightness and 1.00 bar gastightness.

The penetration system is not to be used for penetrating boundaries of tanks.

### **Type Approval documentation**

Test report No. N141EX8Z Rev.2 dated 10 August 2017 from DNV, Malmö, Sweden.

Test report No. MLM 020408 dated 3 June 2001 from DNV, Malmö, Sweden.

Test report No. MLM 030473-1 (R X) dated 27 January 2003 from DNV, Malmö, Sweden.

Test report No. MLM 010238 dated 30 August 2001 from DNV Malmö, Sweden.

### **Tests carried out**

Pressure tests with water and Helium according to Class Programme DNV-CP-0165.