



EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00002SD
Revision No:
2

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

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

with type designation(s)

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

Issued to

Roxtec International AB
Karlskrona, Sweden

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

Regulation (EU) 2022/1157,

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

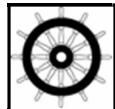
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-01-02**.

Issued at **Høvik** on **2023-01-05**

DNV local unit:
Sweden CMC

Approval Engineer:
Marcin Tobiasz



Notified Body
No.: **0575**

for **DNV AS**

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Sverre Olav Bergli
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2019 dated February 22nd, 2019.



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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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: RS-series (aluminium division)"

The RS cable penetration seal consist of two halves with removable layers making it adaptable to a single cable of different diameters. It is available in different versions, RS, RS OMD, RS EMC or RS EX, depending on application.

The RS-seal is installed into an aluminium sleeve that is either welded (SLRS) or attached with a steel nut (SLA) onto the aluminium division.

Application/Limitation

Approved for use as single 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.

RS-series size	Sleeve type	Cable type	Max. cable diameter [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
23 – 125	SLRS ¹⁾	Marine	90	35 - 65	4 - 7	Symmetric	S1583484 Rev A, No. 1
25 - 100	SLA	Marine	50	47 - 96	3.75 - 5	Either	S1583525 Rev A, No. 1

1) SLRS-series includes the following sleeve types: SLRS, SLRS Ex or sleeves equal to Roxtec dimensions specified in drawing S1586454.

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

RS-series size	Size	Cable type	Max. cable diameter (OD) [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
25 – 125	SLRS ¹⁾	Marine	86	35 - 65	4 - 7	Symmetric, Top side	S1583484 Rev A No.2
25 - 100	SLA	Marine	50	47 - 96	3.75 - 5	Top side	S1583525 Rev A No.2

1) SLRS-series includes the following sleeve types: SLRS, SLRS Ex or sleeves equal to Roxtec dimensions specified in drawing S1586454.

The insulation materials used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity.

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

Type Examination documentation

Test report No. PGA11371A dated 20 February 2019 from DBI, Hvidovre, Denmark.

Test report No. PGB10031A dated 9 July 2020 from DBI, Hvidovre, Denmark.

Test report No. RS-17/B-210/E dated 2 June 2017 from CTO, Gdansk, Poland.

Test report No. RS-17/B-555/E dated 15 January 2018 from CTO, Gdansk, Poland.

Test report No. RS-19/B-020/E dated 27 May 2019 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-410/E dated 17 December 2020 from CTO, Gdansk, Poland.

Test report No. RS-21/B-189/E dated 4 June 2021 from CTO, Gdansk, Poland.

Drawing No. S1583484 Rev. A dated 19 September 2022 from maker.

Drawing No. S1583525 Rev. A dated 20 September 2022 from maker.

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, MED Mark of Conformity and USCG approval number if applicable (see first page).

Appendix

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

Product description

“Roxtec sealing system with multidiameter technology: RS-series (aluminium division)”

The RS cable penetration seal consist of two halves with removable layers making it adaptable to a single cable of different diameters. It is available in different versions, RS, RS OMD, RS EMC or RS EX, depending on application.

The RS-seal is installed into an aluminium sleeve that is either welded (SLRS) or attached with a steel nut (SLA) onto the aluminium division.

Application/Limitation

For SLA sleeves approved for penetration in aluminium bulkheads or decks limited to a pressure of 2.67 bar watertightness and 1 bar gastightness.

For SLRS sleeves approved for penetration in aluminium bulkheads or decks limited to a pressure of 4 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 longer versions of SLRS sleeves the pressure is limited to 2 bar watertightness and 1 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 010235 dated 21 August 2001

Test report No. MLM 010133 dated 26 February 2002

Test report No. MLM 020408 dated 3 June 2002

Test report No. MLM 030473-1 (RS X) dated 27 January 2003.

Tests carried out

Pressure tests with water and helium according to DNV-CP-0165.