



TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00002SD
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: RS-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 **2028-01-02.**

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: 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 Regulation 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, UK Mark of Conformity (see first page).

Appendix

Additional application/information for watertightness/gastightness (Not part of the Marine Equipment Regulation 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.