TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00000NX
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: pipe, duct, trunk, etc penetrations

with type designation(s)
Roxtec sealing system with multidiameter technology: RS PPS and RS PPS/S (AL)

Issued to
Roxtec International AB
Karlskrona, **Sweden**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **MSN 1874 Amendment 6,**
item No. UK/3.26b. SOLAS 74 as amended, Regulation II-2/9, IMO MSC.1/Circ.1276, 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 **2024-08-04**.

Issued at **London** on **2022-11-30**

DNV local unit:
Sweden CMC

Approval Engineer:
Roland Priebe

Approved Body No.: **0097**

for **DNV UK Ltd.**

Digitally Signed By: Mydlak-Röder, Christine

Christine Mydlak-Röder
MER Service Responsible

Maritime & Coastguard Agency
UK Approved Body Authorised by the MCA

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. The product liability rests with the manufacturer or his representative in accordance with the Merchant Shipping (Marine Equipment) Regulations 2016.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV UK Ltd. of any changes to the approved equipment. 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. This certificate remains valid unless suspended, withdrawn, re-called, or cancelled.

Product description

"Roxtec sealing system with multidiameter technology: RS PPS and RS PPS/S (AL)"

RS PPS 31-450:
consisting of an aluminium sleeve, bolted or welded to an aluminium section. The sleeve is fitted at both ends with Roxtec RS seals (standard or EMC versions) including intumescent material in between.

RS PPS/S 31-150:
consisting of an aluminium sleeve, bolted or welded (including SLX-type sleeve) to an aluminium section. The sleeve is fitted in with Roxtec RS PPS/S seal (standard or EMC versions) with integrated intumescent material.

Application/Limitation

Approved for use as single plastic pipe penetration system in class A-0, A-15, A-30 and A-60 aluminium bulkhead and deck for approved thermoplastic pipes as follows:

Table 1: Approved pipe penetration in aluminium bulkhead

Type	Size	Pipe material	Pipe diameter (OD) [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
RS PPS	31 - 200	Thermo-plastic*	16 - 160	156	4 - 7	Symmetric	S1541191 Rev. A
RS PPS	225 - 450	Thermo-plastic*	160 - 355	400	4 - 7	Symmetric	S1541191 Rev. A
RS PPS	31 - 150	PE/ALU/PE	16 - 110	156	4 - 7	Symmetric	S1541191 Rev. A
RS PPS/S	31 - 150	Thermo-plastic*	16 - 110	35 - 65	4 - 7	See drawing	S1017153

* PP, PVC, PB, ABS, PE, PVDF

Table 2: Approved pipe penetration in aluminium deck

Type	Size	Pipe material	Pipe diameter (OD) [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Seal insulation
RS PPS	31 - 200	Thermo-plastic*	16 - 160	156	4 - 7	Top and Symmetric	S1541191 Rev. A
RS PPS	225 - 450	Thermo-plastic*	160 - 355	400	4 - 7	Top and Symmetric	S1541191 Rev. A
RS PPS	31 - 150	PE/ALU/PE	16 - 110	156	4 - 7	Top	S1541191 Rev. A
RS PPS/S	31 - 150	Thermo-plastic*	16 - 110	35 - 65	4 - 7	See drawing	S1017153

* PP, PVC, PB, ABS, PE, PVDF

Deck or bulkhead to be insulated with approved insulation according to classification covering the edge of the aluminium frame. See insulation drawing specified in the Type Approval Documentation. For fire class A-0, A-15 and A-30, the sleeve and pipes are to be insulated as for class A-60.

The pipe penetrations are not approved for use in watertight bulkheads on passenger ships and special purpose ships (SPS).

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

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

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

Type Examination documentation

Test Report No. 103070.33A dated 15 November 2004 from SINTEF, Trondheim, Norway.
Test Report No. P403634 dated 30 December 2004 from SP, Borås, Sweden.
Test Report No. PG11898 dated 17 April 2009 from DBI, Hvidovre, Denmark.
Test Report No. PG11955 dated 17 April 2009 from DBI, Hvidovre, Denmark.
Test Report No. PGA10801A dated 29 August 2016 from DBI, Hvidovre, Denmark.

Test Report No. PGA11370A dated 20 February 2019 from DBI, Hvidovre, Denmark.
Test Report No. PGA11371A dated 20 February 2019 from DBI, Hvidovre, Denmark.
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.

Assessment No. 103201.89 dated 4 August 2004 from SINTEF, Trondheim, Norway.

Drawing No. S1017153 dated 30 April 2009 from maker.
Drawing No. S1541191 Rev. A dated 26 November 2019 from maker.

Tests carried out

Tested according to IMO FTPC Part 3 and in compliance with IMO 2010 FTP Code Ch. 8 or 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, Mark of Conformity (Page 1).

APPENDIX

Additional application/information for Watertightness/gastightness (Not part of the UK Marine Equipment Regulation requirement)

Product description

"Roxtec sealing system with multidiameter technology: RS PPS and RS PPS/S (AL)"

RS PPS 31-450:
consisting of an aluminium sleeve, bolted or welded to an aluminium section. The sleeve is fitted at both ends with Roxtec RS seals (standard or EMC versions) including intumescent material in between.

RS PPS/S 31-150:
consisting of an aluminium sleeve, bolted or welded (including SLX-type sleeve) to an aluminium section. The sleeve is fitted in with Roxtec RS PPS/S seal (standard or EMC versions) with integrated intumescent material.

Application/Limitation

RS PPS 31-450:
Approved for penetration in aluminium bulkheads or decks limited to a pressure of 4.00 bar watertightness and 2.67 bar gastightness.

RS PPS/S 31-150:
Approved for penetration in aluminium bulkheads or decks limited to a pressure of 4.00 bar watertightness and 2.00 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.

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

The pipe penetrations are not approved for use in watertight bulkheads on passenger ships and special purpose ships (SPS).

Type Approval documentation

Test report No. MLM 020106 dated 19 December 2001 from DNV Malmö.
Test report No. MLM 020133 dated 26 February 2002 from DNV Malmö.
Test report No. MLM 020401 dated 25 March 2002 from DNV Malmö.
Test report No. MLM 020408 dated 3 June 2002 from DNV Malmö.
Test report No. SKM-04-4088 dated 16 June 2004 from DNV Stockholm.
Test report No. MLM 070656 dated 18 April 2007 from DNV Malmö.
Test report No. N142299W dated 9 November 2020 from DNV GL Malmö.

Tests carried out

Pressure tests with water and Helium according to DNV Type Approval Programme 8.471.19-1 and Class Programme DNV-CP-0165 Chapter 4, October 2017.