DNV·GL

Certificate No:
MEDB000036A

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 GL AS under the authority of the Government of Norway.

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, RS PPS/S and RS PPS/S B series (steel)

Issued to
Roxtec International AB
KARLSKRONA, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2017/306,**
item No. MED/3.26b. SOLAS 74 as amended, Regulation II-2/9, IMO MSC.1/Circ.1276 and IMO 2010 FTP Code

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

This Certificate is valid until **2022-09-24**.

Issued at **Høvik** on **2017-09-25**

DNV GL local station:
Malmö

Approval Engineer:
Marius Mørner

Notified Body
No.: **0575**

for **DNV GL AS**

Vidar Dolonen
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.

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 GL 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

NORWEGIAN ACCREDITATION PROD 019

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

"Roxtec sealing system with multidiameter technology: RS PPS, RS PPS/S and RS PPS/S B series (steel)"

RS PPS 31-400
consisting of a steel sleeve, bolted or welded to a steel 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 bolted or welded steel sleeve, or SLX-type sleeve attached through expansion, on to the steel sections. The sleeve is only fitted with one single RS PPS/S seal with integrated intumescent material. Minimum thickness for steel sleeve is 1.5 mm.

RS PPS/S B 75-125
consisting of bolted or welded steel sleeve, or SLX-type sleeve attached through expansion, on to the steel sections. The sleeve is only fitted with one single RS PPS/S B seal with integrated intumescent material. Minimum thickness for steel sleeve is 1.5 mm.

Application/Limitation

Approved for use as single and multiple pipe penetration system in class A-0, A-15, A-30 and A-60 steel bulkheads and decks for approved plastic pipes as follows:

PPS system size:	Pipe outer diameter:	Type of pipe:	Deck/Bulkhead:
RS PPS 31-400	16 -315 mm	Thermoplastic *	Deck/Bulkhead
RS PPS 31 -150	16 – 110 mm	PE/Alu Flexi pipe	Deck/Bulkhead
RS PPS 31 - 125	16- 98 mm including Armaflex insulation	Multiple pipes	Deck/Bulkhead
RS PPS/S 31-150	16 – 110 mm	Thermoplastic *	Deck/Bulkhead
RS PPS/S 31-100	16 – 63 mm	PE/Alu Flexi pipe	Deck
RS PPS/S B 75-125	16 – 63 mm	PE/Alu Flexi pipe	Deck

* PP, PVC, PB, ABS, HDPE, PVDF

See insulation drawing specified in the Type Examination Documentation. Class A-0, A-15 and A-30 shall be insulated as class A-60 and in addition the division shall be insulated at least 200 mm around the penetration. Deck or bulkhead to be insulated with approved A-60 insulation covering the edge of the steel frame.

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

The insulation material used has 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 Reports (from SINTEF, Norway) no.:
- 103070.27A (A-60 bulkhead) dated 4 July 2003,
- 103070.27B (A-60 deck) dated 4 July 2003,
- 103070.29A (A-60 bulkhead) dated 28 October 2003,
- 103070.29B (A-60 deck) dated 28 October 2003,
- 103070.31A (A-60 bulkhead) dated 24 March 2004,
- 103070.31B (A-60 deck) dated 24 March 2004

Test Reports (from SP, Sweden) no.:
- P402000 dated 17 September 2004,
- P502921 dated 1 December 2005,
- P502922 dated 1 December 2005,
- P605253 dated 9 February 2007,

- P701755 dated 12 June 2007

Test Report (from DBI, Denmark) no.:
- PGA 10025 dated 22 December 2011
- PGA 10141 dated 10 July 2012

Test Report (from Roxtec International AB, Sweden) no.:
- 10297 dated 29 April 2004
- 10608 dated 22 November 2007

Third part inspection report MLM070717 dated 22 November 2007 from DNV Malmö.

Assessment No. 103201.89 (A-60 Bulkhead/deck) dated 4 August 2004 from SINTEF, Norway.

Drawings No. S1008882 Rev. A,
No. S1012914 Rev. A,
No. S1007664 Rev. E,
No. S1011866 Rev. B and
No. S1028700 Rev. B from Roxtec International AB.

Tests carried out

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)) and in compliance with IMO 2010 FTP Code Ch. 8.

Test report PGA 10141 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).

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

Product description
"Roxtec sealing system with multidiameter technology: RS PPS and RS PPS/S series (steel)" consisting of a steel sleeve, bolted or welded to a steel section. Sleeve is fitted at both ends with Roxtec RS seals (standard or EMC versions) and filled with intumescent material.

For RS PPS/S 31-150, the sleeve is only fitted with one RS frame with integrated intumescent material.

Application/Limitation
Approved for penetration in steel bulkheads or decks limited to a pressure of 4 bar watertightness and 2.67 bar gastightness (2,0 bar gastightness for RS PPS/S).

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 aproved for use in watertight bulkheads on pasenger ships and special purpose ships (SPS).

Type Approval documentation
Test reports No. MLM 010247 dated 28 September 2001, No. MLM 020401 dated 25 March 2002 and No. MLM 060523 dated 2 June 2006, MLM 070656 dated 18 April 2007 from DNV Malmö and No. SKM-04-4088 dated 16 June 2004 from DNV Stockholm.

Tests carried out
Pressure test with water and Helium according to Class Programme DNVGL-CP-0165, February 2016.