

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: SE PPS S-series (aluminium)

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

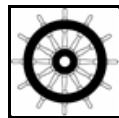
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-06-13.**

Issued at **Høvik** on **2018-06-14**

DNV GL local station:
Gothenburg

Approval Engineer:
Tessa Bieber



Notified Body
No.: **0575**

for **DNV GL AS**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Product description

"Roxtec sealing system with multidiameter technology: SE PPS S-series (aluminium)" consisting of Roxtec S-series aluminium frames (S, SO, SF, SFO, SR, SK, SRC r20 and SRC r40) in sizes 2-6, and combinations thereof up to x4, to be used together with SE PPS extension frames, bolted or welded to the aluminium sections. The extension frame is equipped with intumescent material strips. The S frame is filled with Roxtec (standard or EMC) halogen free RM modules. Assembled with Roxtec Wedge kit or Roxtec EMC Wedge kit.

Application/Limitation

Approved for use as a pipe penetration system in class A-0, A-15, A-30 and A-60 aluminium bulkheads and decks for approved pipes and cables as follows:

| Type of Pipe | Dia. pipe [mm] | S-series size | Deck/Bulkhead |
|--|----------------|---------------|---------------|
| Thermoplastic (PP, PVC, PB, ABS, HDPE, PVDF) | 16-99 | 2-6 | Deck/Bulkhead |
| PE/Alu flexi pipe | 16-99 | 2-6 | Deck/Bulkhead |
| Copper and steel pipes | 10-54 | 2-6 | Deck |
| Approved ships cables | Up to 60 | 1-6 | Deck/Bulkhead |

Deck or bulkhead to be insulated with approved insulation according to classification covering the edge of the steel frame. See insulation drawing specified in the Type Examination documentation.

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

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

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

Type Examination documentation

Test Reports Nos.:

- 103070.27A (A-60 steel bulkhead) dated 4 July 2003 from SINTEF, Norway
- 103070.27B (A-60 steel deck) dated 4 July 2003 from SINTEF, Norway
- P403634 (A-60 deck Aluminium) dated 30 December 2004 from SP Sweden
- P501943 (A-60 bulkhead Aluminium) dated 18 May 2005 from SP Sweden.

Drawing No. S1015522 dated 7 November 2008 from Roxtec International AB.

Tests carried out

Tested according to IMO FTPC Part 3 and in compliance with IMO 2010 FTP Code Ch. 8.

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 page 1).

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

Product description

"Roxtec sealing system with multidiameter technology: SE PPS S-series (aluminium)" consisting of Roxtec S-series steel frames (S, SO, SF, SFO, SR, SK, SRC r20 and SRC r40) in sizes 2-6, and combinations thereof up to x4, to be used together with SE PPS extension frames, bolted or welded to the aluminium sections. The extension frame is equipped with intumescent material strips. The S frame is filled with Roxtec (standard or EMC) halogen free RM modules. Assembled with Roxtec Wedge kit or Roxtec EMC Wedge kit.

Application/Limitation

Approved for plastic pipe and cable penetration in aluminium bulkheads or decks and copper and steel pipes in steel deck 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 3.3 bar watertightness and 1.7 bar gastightness.

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

When requested to be used in watertight bulkheads on passenger ships and Special Purpose Ships (SPS), the penetration system has to comply with the requirements given in SOLAS Ch. II-1 Reg. 13.2.3 (2009 issue). Penetrations passing through watertight bulkheads are subject for separate examination and approval (water tightness after a standard fire test). This product has not been tested according to Reg. 13.2.3.

Type Approval documentation

Test reports No. MLM 020401 dated 25 March 2002 (screws), MLM020408 dated 3 June 2002 (steel pipes), MLM0504010 dated 20 May 2005 (copper pipes) from DNV Malmø and No. SKM-04-4088 dated 16 June 2004 from DNV Stockholm.

Inspection report No. MLM 020408 dated 3 June 2002 from DNV Malmö.

Tests carried out

Pressure test with water and Helium according to DNV Type Approval Programme 8.471.19-1.