

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 the Kingdom 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: R PPS-series (steel divisions)

Issued to

Roxtec International AB
KARLSKRONA, Sweden

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

Regulation **(EU) 2015/559,**

Annex A.1, item No. A.1/3.26b and Annex B, Module B in the Directive; SOLAS 74 as amended, Regulation II-2/9, IMO MSC/Circ.1276 and IMO 2010 FTP Code

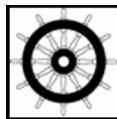
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2022-01-26.**

Issued at **Høvik** on **2017-01-31**

DNV GL local station:
Gothenburg

Approval Engineer:
Ivar Bull



Notified Body
No.: **0575**

for **DNV GL AS**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Product description

"Roxtec sealing system with multidiameter technology: R PPS-series (steel divisions)"

"R PPS 70-200"

Consisting of a steel sleeve, bolted or welded to a steel section.

Sleeve is fitted at both ends with R PPS frames, configured with Roxtec CM modules (standard or EMC versions).

Within the sleeve, in between the two R-frames, intumescent material is wrapped around the pipe(s).

"R PPS/S 70-100"

Consisting of a steel sleeve, bolted or welded to steel section.

Sleeve is fitted at one side only with one R PPS/S frame with integrated intumescent material, configured with Roxtec CM modules (standard or EMC versions).

"R PPS/S" version is only approved for deck installations.

Application/Limitation

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

Type of Pipe	Pipe OD [mm]	R PPS	R PPS/S
Thermoplastic (PP, PVC, PB, ABS, HDPE, PVDF)	16-50	70-200	70-100
PE/Alu flexi pipe	16-50	70-200	70-100

Other applications are subject to case-by-case approval.

Deck and bulkhead to be insulated with approved insulation according to classification covering the edge of the steel frame. See insulation drawings specified in the Type Examination documentation. For fire class A-0, A-15 and A-30, the sleeve and pipe are to be insulated as for class A-60, and in addition the division shall be insulated at least 200 mm around the penetration.

Cold service piping insulated with Armaflex rubber insulation layer may be used with approved penetrations but is to be locally interrupted through the penetration system.

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 use.

Type Examination documentation

Test reports:

No. P502921 (A-60 bulkhead) dated 1 December 2005 from SP, Sweden

No. P502922 (A-60 deck) dated 1 December 2005 from SP, Sweden

No. P701755 dated 12 June 2007 from SP, Sweden

No. 10634 dated 19 December 2007 from Roxtec International AB

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

Drawings:

No. S1012483 Rev. B from Roxtec International AB

No. S1012487 Rev. A from Roxtec International AB

Third part inspection report No. MLM071413 dated 10 December 2007 from DNV Malmö



Job Id: **344.1-005051-1**
Certificate No: **MEDB0000131**

Tests carried out

Tested in accordance with 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/or USCG approval number if applicable (see page 1).

Appendix

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

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Application/Limitation

R PPS 70-200 approved for penetration in steel bulkheads or decks limited to a pressure of 2 bar watertightness and 1 bar gastightness.

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

Pipe penetrations with plastic or composite pipes are not approved for use in watertight bulkheads on passenger ships and special purpose ships (SPS).

Type Approval documentation

Test reports:

No. MLM 060521 dated 2 June 2006 from DNV Malmö, Sweden

No. MLM 060522 (PPS R70) dated 2 June 2006 from DNV Malmö, Sweden

Tests carried out

Pressure tests with water and Helium according to Class Programme DNVGL-CP-0165 Chapter 4 February 2016.