DNV·GL

Certificate No:
MEDB00006BG

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: R-series (steel)

Issued to
Roxtec International AB
Karlskrona, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2020/1170,**
item No. MED/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 **2023-12-10**.
Issued at **Høvik** on **2020-12-11**

DNV GL local station:
Gothenburg FIS

Approval Engineer:
Helge Bjørnarå

Notified Body
No.: **0575**

for **DNV GL AS**
Digitally Signed By: Hoff, Øyvind
Location: DNV GL Høvik, Norway
on behalf of

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, and amended by Decision No 1/2019 dated February 22nd, 2019.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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-series (steel)"
consisting of a steel sleeve, bolted, welded or attached through expansion (RX) to a steel section. Sleeve is fitted with a Roxtec R frame (standard, Ex or EMC) in sizes 50-200. The R frame is filled with Roxtec (standard, Ex or EMC) halogen free RM modules.

Application/Limitation

Approved for use as a single or multiple pipe penetration system in A-class steel divisions according to below tables. Other applications are subject to case-by case approval.

For A-15 and A-30 applications, the penetration shall be insulated as for A-60 and the division is to be fitted with A-60 insulation for a minimum distance of 200 mm around the penetration.

Table 1: Approved pipe penetration in A-60 steel bulkhead

Type	Size	Pipe material	Pipe diameter (OD) [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
R	50 – 200	Steel	6 - 54	55	6	Any	S1547220 Rev. A
R	70 – 200	Copper	8 - 54	55	6	Any	S1547223 Rev. A
R	70 – 200	CuNi	8 - 54	55	6	Any	S1547223 Rev. A
RX	70 – 200	Steel	6 - 54	55	6	Any	S1547187 Rev. A

Table 2: Approved pipe penetration in A-60 steel deck

Type	Size	Pipe material	Pipe diameter (OD) [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
R	50 – 200	Steel	6 - 95	55	6	Any	S1547218 Rev. A
R	50 – 200	Copper	8 - 54	55	6	Any	S1547223 Rev. A
R	50 – 200	CuNi	8 - 54	55	6	Any	S1547223 Rev. A
RX	70 – 200	Steel	6 - 54	55	6	Flange on top	S1547187 Rev. A

Table 3: Approved pipe penetration in A-0 steel bulkhead

Type	Size	Pipe material	Pipe diameter (OD) [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
R	50 – 200	Steel	6 - 54	55	6	Any	S1547197 Rev. A
R	50 – 200	Copper	8 - 54	55	6	Any	S1547224 Rev. A
R	50 – 200	CuNi	8 - 54	55	6	Any	S1547224 Rev. A
RX	70 – 200	Steel	6 – 54	55	6	Any	S1547188 Rev. A

Table 4: Approved pipe penetration in A-0 steel deck

Type	Size	Pipe material	Pipe diameter (OD) [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve Insulation
R	50 – 200	Steel	6 – 95	55	6	Any	S1547196 Rev. A
R	50 – 200	Copper	8 - 54	55	6	Any	S1547224 Rev. A
R	50 – 200	CuNi	8 - 54	55	6	Any	S1547224 Rev. A
RX	70 – 200	Steel	6 – 54	55	6	Flange on top	S1547188 Rev. A

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.

Please note Installation instruction for Roxtec RX attached through expansion: Aperture irregularities are acceptable within min and max diameters. (Max Ø = Min Ø + 2mm).

Penetrations through structural divisions should not impair the structural strength of the division. Special consideration should be given to bulkheads and decks with high stress locations(IMO MSC.1/Circ.1488).

Type Examination documentation

Test report No. 10408 dated 16 February 2006 from Roxtec, Karlskrona, Sweden.
Test report No. P602999 dated 23 January 2007 from SP, Borås, Sweden.
Test report No. P603000 dated 23 January 2007 from SP, Borås, Sweden.
Test report No. PGA11955 dated 17 April 2009 from DBI, Hvidovre, Denmark.
Test report No. 4P8662 dated 8 June 2015 from SP, Borås, Sweden.
Test report No. PGA10723A dated 4 February 2016 from DBI, Hvidovre, Denmark.
Test report No. PGA10724A dated 5 February 2016 from DBI, Hvidovre, Denmark.
Test report No. PGA10799A dated 25 May 2016 from DBI, Hvidovre, Denmark.
Test report No. PGA10800A dated 26 May 2016 from DBI, Hvidovre, Denmark.
Test report No. 6P07563 dated 20 December 2016 from SP, Borås, Sweden.
Test report No. 6P10022 dated 7 March 2017 from SP, Borås, Sweden.
Test report No. 8P04039 dated 6 August 2018 from SP, Borås, Sweden.
Test report No. 8P04040 dated 13 August 2018 from SP, Borås, Sweden.
Test report No. RS-18/B-292/E dated 13 September 2018 from CTO, Gdansk, Poland.
Test report No. PGA11301A dated 22 November 2018 from DBI, Hvidovre, Denmark.
Test report No. PGA11302A dated 16 January 2019 from DBI, Hvidovre, Denmark.
Test report No. RS-19/B-225/E dated 8 August 2019 from CTO, Gdansk, Poland.

Drawing No. S1547187 Rev. A dated 29 September 2020 from maker.
Drawing No. S1547188 Rev. A dated 29 September 2020 from maker.
Drawing No. S1547196 Rev. A dated 29 September 2020 from maker.
Drawing No. S1547197 Rev. A dated 29 September 2020 from maker.
Drawing No. S1547218 Rev. A dated 29 September 2020 from maker.
Drawing No. S1547220 Rev. A dated 29 September 2020 from maker.
Drawing No. S1547223 Rev. A dated 29 September 2020 from maker.
Drawing No. S1547224 Rev. A dated 29 September 2020 from maker.

Tests carried out

Tested according to IMO FTPC Part 3 and in compliance with IMO 2010 FTP Code Ch. 8, and in accordance with 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/or USCG approval number if applicable (see page 1).