DNV·GL

Certificate No:
MEDB00001MS

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: electric cable transits

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) 2015/559,**
Annex A.1, item No. A.1/3.26a 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 **2021-12-07**.

Issued at **Høvik** on **2017-03-09**

DNV GL local station:
Malmö

Approval Engineer:
Piotr Orzechowski

Notified Body
No.: **0575**

for **DNV GL AS**

Vidar Dolonen
Head of Notified Body

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Product description

"Roxtec sealing system with multidiameter technology: R-series (steel)"
consisting of a steel sleeve, bolted (incl. SL A), welded or attached through expansion (R X) 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.
The "SL A" sleeve is fitted unsymmetrically into the bulkhead (exposed side) and deck (exposed or unexposed side).

Maximum cable diameter: 60 mm (R-frame without SLA sleeve)
50 mm (R-frame with SLA sleeve)

For detail information about the insulation and sleeve location please see drawings mentioned under Type Examination documentation below.

Application/Limitation

Approved for use as a single or multiple cable penetration system in class A-0, A-15, A-30 and A-60 steel bulkheads and decks for approved ship cables.

For A-0, 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.
For detail information about insulation please see drawings 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.

All SL A sleeves shall be installed in accordance with Roxtec's SL A Installation Instructions, including aperture dimensions and tolerances, tightening torque, etc.

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).

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

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

Type Examination documentation

Test reports:

- 103070.10A (A-60 deck) dated 7 December 2001,
- 103070.23A (A-60 bulkhead) dated 11 December 2003,
- 103070.23B (A-60 deck) dated 11 December 2003,
- P 600993 (A-60 bulkhead) dated 12 April 2006,
- P701755 (A-60 deck) dated 12 June 2007
- PX05454 rev.1 (R50 A-60 Bulkhead) dated 8 September 2011
- 4P06068 (SLA sleeve with R-frame A-60 bulkhead) dated 17 January 2015
- 6P02249 (SLA sleeve with R-frame A-60 deck) dated 17 August 2016
  all from SP, Sweden.

- PGA10025 (R50 A-60 deck) dated 22 December 2011
- PGA10800A (SLA sleeve with R-frame A-60 deck) dated 26 May 2016
  from DBI, Denmark.

- 103070.29A (A-60 bulkhead) dated 28 October 2003
  from SINTEF, Norway.

Drawings Nos.

- S1026428 Rev.B (A-0),
- S1026429 Rev.A (A-15, A-30 and A-60 bulkhead/deck),
- S1006145 Rev.0 (A-15, A-30 and A-60 (R X))
- S1512885 Rev. C (SL A) dated 23 March 2017,
- S1513350 Rev. B (SL A) dated 7 September 2016
  all from Roxtec International AB.

Tests carried out

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

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

Product description
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consisting of a steel sleeve, bolted welded or attached through expansion (R X) to a steel section. Sleeve is fitted with a Roxtec R frame (standard or EMC) in sizes 50-200. The R-frame is filled with Roxtec (standard or EMC) halogen free RM modules.

Application/Limitation
Approved for penetration in steel bulkheads or decks 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 3.33 bar watertightness and 1.67 bar gastightness.

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

Type Approval documentation
Test reports DNV No. MLM 010238 dated 30 August 2001, DNV No. MLM 020408 dated 3 June 2001, DNV No. MLM 030473-1 (R X) dated 27 January 2003 and DNV 40007647-1 dated 13 December 2011 (R50) from DNV Malmö.

Tests carried out
Tested according to Class programme DNVGL-CP-0165 Chapter 4, February 2016.