DNV·GL

Certificate No:
MEDB00005J9

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 , S-series (AL)

Issued to
Roxtec International AB
Karlskrona, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773,**
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 **2024-07-29**.
Issued at **Høvik** on **2019-07-30**

DNV GL local station:
Sweden CMC

Approval Engineer:
Synnøve Bolstad Eri

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.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

Product description

"Roxtec sealing system with Multidiameter ™, S-series (Al)"
consisting of Roxtec S-series aluminium frames (S, SO, SF, SFO, SR, SK, SRC r20, SRC r40, SBTB) in sizes 1-8 and combinations thereof, welded or bolted to an aluminium section. The S frame is filled with Roxtec (standard or EMC) halogen free RM modules. Assembled with Roxtec wedge kit or Roxtec EMC wedge kit.
Multidiameter ™ is a Roxtec technology based on sealing modules with removable layers.

Application/Limitation

Approved for use as a single or bundle pipe penetration system in class A-0, A-15, A-30 and A-60 aluminium bulkhead and deck as follows:

Steel pipes:	OD up to 54 mm, deck and bulkhead
Copper pipes:	OD up to 57 mm. deck and bulkhead
Bundle pipes (Cu and steel):	OD up to 32 mm for bulkhead and OD up to 50 mm for deck.

Deck or bulkhead to be insulated with approved insulation according to classification covering the edge of the aluminium frame. See insulation drawing specified in the Type Approval Documentation. For fire class A-0, A-15 and A-30, the sleeve and pipes are to be insulated as for class A-60 and in addition the division is to be insulated at least 200 mm around the penetration.

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

The insulation materials used have 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 report No. PG 11898, Serial No. 11923 dated 17 April 2009 from DIFT,Copenhagen Denmark
Test report No. PG 11955, Serial No. 11979 dated 17 April 2009 from DIFT,Copenhagen Denmark.
Test report No. P603001 dated 23 january 2007 from SP, Sweden.
Test report No. P603000 dated 27 January 2007 from SP, Sweden.

Drawing No. S1017332 Rev. 0 dated 15 May 2009 from Roxtec International AB (Insulation drawing).

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, Mark of Conformity and USCG approval number if applicable (see page 1).

Job Id: **344.1-000153-87**
Certificate No: **MEDB00005J9**

APPENDIX
to EC Type Examination Certificate, MEDB00005J9
Additional application/information for Watertightness/gastightness (Not part of the Marine Equipment Directive requirement)

Product description
Roxtec sealing system with Multidiameter ™, S-series (Al)"
consisting of Roxtec S-series aluminium frames (S, SO, SF, SFO, SR, SK, SRC r20, SRC r40, SBTB) in sizes 1-8 and combinations thereof, welded or bolted to an aluminium section. The S frame is filled with Roxtec (standard or EMC) halogen free RM modules. Assembled with Roxtec wedge kit or Roxtec EMC wedge kit.
Multidiameter ™ is a Roxtec technology based on sealing modules with removable layers.

Application/Limitation
Approved for penetration in aluminium bulkheads or decks limited to a pressure of 4 bar watertightness and 2.67 bar gastightness (Ref. page 2 of the certificate).

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 generally 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 by actual flag administration

Type Approval documentation
Test reports No. MLM 020133 dated 26 February 2002, No. MLM 020400 and No. MLM 020401 dated 25 March 2005 and MLM050410 dated 20 May 2005 from DNV Malmö.

Tests carried out
Pressure tests with water and Helium according to DNV GL Type Approval Programme 8.471.19-1