

EC TYPE EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2013/52/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL 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: RS-series (A1)

Issued to

Roxtec International AB
KARLSKRONA, Sweden

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

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 FTP Code

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

Høvik, 2015-02-13
for **DNV GL**



This Certificate is valid until
2020-02-13

Marianne Strand Valderhaug
Head of Department

Notified Body No.: **0575**

DNV GL local office:
Malmö

Rolf Emilsen
Surveyor



The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Certificate No: **MED-B-9717**
Item No: **A1/3.26b**
Job Id: **344.1-000153-48**

Product description

"Roxtec sealing system with multidiameter technology: RS-series (Al)"
consisting of an aluminium sleeve, bolted or welded or attached through expansion (RS X) to an aluminium section. Sleeve is filled with a Roxtec RS or RS OMD seal (standard or EMC) in sizes 23-150.

Applications/Limitations

Approved for use as single pipe penetration system in class A-0 to A-60 aluminium bulkheads and decks for steel pipes with diameter 10-114 mm, copper pipes with diameter 10-108 mm and GRP/GRE pipes with diameter 32 -90 mm .

Also approved for bundle steel pipes (16 to 50 mm) in RS 43-100 and 18 mm copper pipes in RS 50 for aluminium bulkheads only.

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

Deck or bulkhead to be insulated with approved insulation according to classification covering the edge of the aluminium frame. See insulation drawings specified in the Type Approval Documentation. For fire class A-0, A-15 and A-30, the sleeve and pipe are to be insulated as for class A-60.

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 use.

Type Approval documentation

Test Reports No. 22N007.15A (A-60 bulkhead) and No. 22N007.15 (A-60 deck) dated 15 February 2000, No. 103070.03A (A-60 deck) and No. 103070.03B (A-60 bulkhead) dated 15 March 2001 and No. 103070.33A (A-60 bulkhead) dated 15 November 2004 from SINTEF, Norway, No. P403634 (A-60 deck) dated 30 December 2004 and P603001 dated 23 January 2007 from SP, Sweden.
Test reports PG 11955 Serial No. 11979 and PG 11898 Serial No. 11923 both dated 17 April 2009 from DIFT Denmark.

Drawings No. S1040880 Rev. B (steel pipes), S1040943 Rev. A (CU pipes), S1040877 Rev. A (GRP/GRE pipes), S1040804 Rev. B (RS X Seals CU or steel pipes), S1040796 Rev. C (Bundle pipes) all from Roxtec International AB.


Tests carried out

Tested according to IMO FTPC Part 3 (IMO Res. A.754 (18)) and in compliance with IMO 2010 FTP code Ch.8.

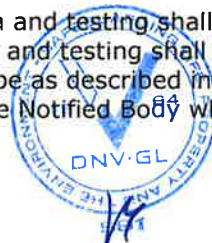
Marking of product

The product or packing is to be marked with name of manufacturer, type designation, fire-technical rating, MED Mark of Conformity and/or USCG approval number if applicable (see below).

Mark of conformity

The manufacturer is allowed to affix the Mark of Conformity  according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body
Module E: The quality system for inspection and testing shall be approved by the Notified Body
Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.



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USCG Approval

An 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" signed 17 October 2005.



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Additional application/information for Watertightness/gastightness (Not part of the Marine Equipment Directive requirement) Rev. 1

Product description

"Roxtec sealing system with multidiameter technology: RS-series (AI)"
consisting of a aluminium sleeve, bolted, welded or attached through expansion (RS X) to an aluminium section. Sleeve is filled with a Roxtec RS or RS OMD seal (standard or EMC) in sizes 23-150.

Application/Limitation

Approved for penetration in aluminium bulkheads or decks for steel and copper pipes limited to a pressure of 4 bar watertightness and 2.67 bar gastightness, and GRP/GRE pipes with diameter 32-90mm to a pressure of 4 bar watertightness and 2 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 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 020106 dated 19 December 2001, No. MLM 020133 dated 26 February 2002, No. MLM 020401 dated 25 March 2002, No. MLM 020408 dated 3 June 2002 and No. MLM 030473-1 (RS X) dated 27 January 2003 from DNV Malmö and No. SKM-04-4088 dated 16 June 2004 from DNV Stockholm.

Test report MLM060561 dated 1 December 2006 from DNV Malmø, including test report 10476 from Roxtec (GRP/GRE pipes).

Tests carried out

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



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