



Confirmation of Product Type Approval

Company Name: ROXTEC INTERNATIONAL AB

Address: ROMBVAGEN 2 SE 371 65 Sweden

Product: Penetration Device for Pipe Deck and Bulkhead Penetration Sealing

Model(s): Roxtec RS / RS OMD / RS OC Seals in Steel Divisions

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	19-HS1900390-PDA	19-SEP-2019	18-SEP-2024
Manufacturing Assessment (MA)	18-GB3595269	07-DEC-2018	08-JAN-2024
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3

Intended Service

Single pipe penetrations in Class A0, A15, A30 and A60 bulkheads and decks for Marine and Offshore Application. Penetrations of watertight and gastight steel bulkheads and decks up to the specified pressure.

Description

“Roxtec pipe sealing system with multi diameter technology” composed of steel sleeves (welded or bolted to a steel section or sleeves of SLX-RS type) with RS, RS OMD type (EMC versions included) halogen free rubber sealing’s in size 23-644 and RS OC halogen free rubber in sizes 75-400 mounted in steel decks or bulkheads. RSX kits consist of SLX RS type sleeves including a RS seal.

Ratings

A0, A15, A30 and A60 Bulkheads and Decks

Watertight test pressure 6 bar (except bolted versions test pressure at 5 bar)

Gastight test pressure 4 bar (except bolted versions test pressure at 2.5 bar)

Service Restrictions

a) Outside diameter 6 to 558 mm for steel pipes for bulkhead and 6 to 558 mm for steel pipes for deck, with Roxtec sealing Range RS/RS OMD 23 to 644

b) Outside diameter 6 to 108 mm for copper pipes for bulkhead, and 6 to 225 mm for copper pipes for deck, with Roxtec sealing Range RS/RS OMD 23 to 300.

c) Bundle pipes/ multi core tubes (in stainless steel and copper versions) up to 50 mm outside diameter, with Roxtec sealing Range RS/RS OMD 43 to 100.

d) Fibreglass composite pipes up to 275 mm outside diameter, with Roxtec Sealing Range from RS/RS

OMD 68 to 350.

e) Outside diameter 10 to 273 mm for steel pipes for deck, with Roxtec Sealing Range from RS 75 OC to RS 400 OC.

f) Larger sizes have been tested and will be approved on a case by case basis.

g) Not for use in tank boundaries.

h) Watertight bulkheads or decks are to be examined and tested as per ABS SVR 3-7-1/Table1 .

i) When requested to be used in watertight bulkheads on passenger ships or special purpose ships, the penetration system has to comply with the requirements given in SOLAS Ch. II -1 Reg. 13.2.3 (2009 or latest issue). This approval of penetrations passing through watertight bulkhead is not to be construed as a substitute for flag Administration's approval for the purpose of SOLAS 1974 as amended.

j) Unit Certification is not required for this product. If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments

a) All seal types should be installed in accordance with manufacturer's ABS approved installation drawings.

b) Insulation material is to be A-60 approved type and properly installed to the satisfaction of the Surveyors.

c) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes, Drawings and Documentation

Assesment Transit E_8P07094, Assesment, Revision: -

DBI PGA11301A, Test report, Revision: -

DBI PGA11302A_rev1, Test report, Revision: -

CTO SA RS-18_B-181_E, Test report, Revision: -

CTO SA RS-18_B-292_E, Test report, Revision: -

CTO SA RS-18_B-293_E, Test report, Revision: -

CTO SA RS-18_B-484_E, Test report, Revision: -

CTO SA RS-18_B-485_E, Test report, Revision: -

S1546654, RS/RS OMD With Steel Deck A-0 Class Steel Deck (A-60 Insulation), Revision A

S1546674, RS/RS OMD With Steel Pipe A-0 Class Steel Bulkhead (A-60 Insulation) Revision A

S1546675, RS/RS OMD With Copper Pipe A-0 Class Steel Deck(A-60 Class Insulation) Revision: A

S1546680, RS/RS OMD With Copper Pipe A-0 Class Steel Bulkhead (A-60 Class Insulation) Revision: A

SINTEF Test Reports: 103070.13B&C, 103070.23A&B, 103070.27 A&B,

SINTEF assessment report; 103200.94

Roxtec International AB Fire Test witnessed by DNV on 8 Jul '02, report; 10166-3

Roxtec International AB Fire Test witnessed by ABS on 15 Oct '09, report; GB1741567.

SP Technical Research Institute of Sweden fire test report; P602999, P603000, PX05454, P701755, P603000

Japan Ship Machinery Quality Control Association Test report; 09-346E, 09-345E

Danish Institute of Fire and Security Technology Test report; PGA10141

Roxtec drawings; S1040656 rev.B, S1040652 rev.C, S1040653

rev.A, S1040668 rev.B, S1011020 rev.-, S1011023 rev.-, S1011042 rev.-, S1018777 rev.-.

DNV Survey Report No. SKM-04-4088

DNV Third Party Inspection Report; MLM 010247, MLM 020401 MLM 030473-1

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 18/Sep/2024 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2019 Rules for Conditions of Classification, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2019 Rules for Building and Classing Marine Vessels: 4-6-2/9.7, 4-6-3/7.11, 4-8-1/5.3.1

2019 Rules for Building and Classing Steel Vessels: 4-6-2/9.7, 4-6-3/7.11, 4-8-1/5.3.1

2019 Rules for Conditions of Classification - Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2019 Rules for Building and Classing Mobile Offshore Units: 4-2-1/11.15

2019 Rules for Building and Classing Mobile Offshore Drilling Units: 4-2-1/11.15

2019 Rules for Building and Classing Facilities on Offshore Installations: 3-8/9.13, 4-8/9.13,

International Standards

IMO Resolution MSC.307(88) adopted 3 December 2010

IMO FTP Code 2010 (2012 Edition), Annex 1 Part 3, in conjunction with SOLAS (Consolidated Edition 2014), as amended.

EU-MED Standards

NA

National Standards

NA

Government Standards

This PDA conforms to Transport of Canada requirements

Other Standards

NA



A handwritten signature in blue ink, appearing to read "Joseph W. ...".

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 20-Sep-2019 1:30

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.