



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 10-JUN-2024. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

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.

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.

Product Name: Penetration Device for Pipe Deck and Bulkhead Penetration Sealing

Model Name(s): Roxtec S Series Frames in Steel Divisions

Presented to:

ROXTEC INTERNATIONAL AB
ROMBVAGEN 2
SE 371 65
Sweden

Intended Service:

Multi and single pipe penetrations in Class A0, A15, A30 and A60 bulkheads and decks. Penetrations of watertight and gastight steel bulkheads and decks up to the specified pressure.

Description:

"Roxtec pipe sealing system with multidiameter technology" consisting of Roxtec S series frames (S, SO, SF, SFO, SR, SK, SKR, SRC r20&r40 and BTB) in sizes 1-8 and combinations thereof, bolted or welded on to the steel sections, filled with Roxtec (standard, Ex or EMC) halogen free insert modules. Assembled with Roxtec Wedge Kit (Standard, Ex or EMC).

Tier:

3

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) Maximum tested size of steel and copper pipes: 50 mm OD for steel Pipe and 54 mm OD for Copper Pipes b) Maximum tested size of Bundle pipes/ multi core tubes (in stainless steel and copper versions): 50 mm OD for steel / 20 mm OD for copper c) Maximum tested frame size: 1) Single - 8x1 (One frame of size 8) 2) Multiple Frames - see Below For decks up to A60 rating, two frames of size 8 arranged vertically and seven arranged horizontally, designated S 8+8x7. For

bulkheads up to A60 rating, two frames of size 8 arranged vertically and ten arranged horizontally, designated S 8+8x10. d) Minimum Tested Frame Size 1x1 (size 1 Frame) e) Class A-0, A-15 and A-30 shall be insulated as class A-60 and in addition the division is to be insulated at least 200 mm around the penetration f) Not for use in tank boundaries g) For detail information about insulation arrangement, please see ABS approved drawings specified in the Notes, Drawings and Documentation section of this Certificate. h) Unit Certification is not required for this product. If the manufacturer or purchaser requests 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 instructions in accordance with approved drawings: S1534291, S1011073, & 1011074. b) Watertight bulkheads or decks for pipe penetrations are to be examined and tested as per ABS Marine Vessels Rules 3-7-1/Table1. c) 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. 11-1 Reg. 13.2.3 (2014 Consolidated Edition). 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 (2014 Consolidated Edition). d) The product or packing is to be marked with name of manufacturer, type designation and fire rating. e) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes / Documentation:

1) CTO Fire Test Report Number RS-17/B-395/E dated 30 October 2017 and RS-18/B-485/E dated 10 December 2018 2) SP Fire Test Report Numbers P602999 and P603000 (Both dated 23 January 2007) 3) Multiple sizes, reference fire test reports 6P02516 dated 29 August 2016 & P402000 dated 29 November 2004 4) Roxtec sealing system, Roxtec product sheet 5) Roxtec Ex sealing system, Roxtec Product sheet 6) DNV Watertight and Gastight Test Report MLM020133, dated 26 February 2002, MLM 020400 Dated 25 March 2002 Drawings: Drawing No. S1534291 Revision: A, S- Series Frames With Steel Pipes A- Class Steel Bulkhead/ Deck Drawing No: S1011073 Rev - , S- Series Cu- Pipes Insulation A-Class Division Drawing No: 1011074 Rev. - S- Series Bundle Pipes Insulation A-Class Division

Term of Validity:

This Product Design Assessment (PDA) Certificate 18-LD1770428-PDA, dated 11/Jun/2019 remains valid until 10/Jun/2024 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules:

ABS Marine Vessels Rules 2019 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/9.7, 4-8-4/21.13.1 ABS Mobile Offshore Units Rules 2019 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-1/11.15, 4-3-3/5.13.1

**National Standards:
International Standards:**

SOLAS (Consolidated Edition 2014) Chapter II-2 Reg. 9.3.1 IMO Resolution MSC.307(88) - (2010 FTP Code), Annex I: Part 3, adopted on 3 December 2010

Government Authority:

This PDA conforms to Transport of Canada requirements as per Transport Canada Policy Letter A8706-1 RDIMS#1961446 dated 15 November 2006

**EUMED:
Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	18-LD1770428-PDA	13-JUN-2019	10-JUN-2024



ABS Programs

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 was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. 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.