



Confirmation of Product Type Approval

Company Name: ROXTEC INTERNATIONAL AB

Address: ROMBVAGEN 2 LYCKEBY SE 371 65 Sweden

Product: Penetration Device for Bulkhead and Deck Firetight and Watertight Penetrations

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

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	19-LD1875603-PDA	16-AUG-2019	15-AUG-2024
Manufacturing Assessment (MA)	24-6227546	25-JAN-2024	08-JAN-2029
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Multi and single pipe/cable (armoured or non-armoured) penetrations in Class H-0/ H-60/ 120 bulkheads and decks as per corresponding rating. Penetrations of watertight and gastight steel bulkheads and decks up to the specified pressure.

Description

"Roxtec pipe and cable 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 of type PE, ES and BG, BGB) halogen free insert modules (which consist of two halves of EPDM based rubber, with removable layers to handle cables of different sizes), and assembled with Roxtec Wedge Kit or Roxtec Wedge Kit (Standard, Ex or EMC).

Ratings

Fire resistance: Cables: H-60 for Bulkheads and H0/ H60 /H120 for Decks

Pipes: H-60/ H120 for 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 marine cable outside diameter up to 96 mm, maximum CLX cables outside diameter up to 103 mm & maximum pipe diameter up to 51 mm.

b) For H-120 Decks with BG/BGM Module, maximum marine cable outside diameter up to 82 mm,

maximum CLX cables outside diameter up to 98 mm

- c) Maximum combination frame size tested for cables penetrations: 8+8x3 for Bulkheads and 8+8x2 for Decks
- d) Maximum combination frame size for pipes: 8x2 for Bulkheads and Decks.
- e) EMC Modules types BG and BGB approved to use only on steel deck penetrations.
- f) Not for use in tank boundaries
- g) Chartek 7 reinforced epoxy intumescent fireproofing coating is to be applied in accordance with manufacturer's instructions to protect steelwork (thickness of approximately 12 mm), and armoured cables painted to a length of 250 mm on the fire exposed side of the bulkhead. The use of btb frames is acceptable without any use of coating on the transit face or cables as per drawing S1023004 rev.C.
- h) Unit Certification is not required for this product. If the manufacturer or purchasers 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 H-60/ 120 approved type and properly installed to the satisfaction of the Surveyors. (Insulation drawing No.:S1011758 Rev.B, S1544621 Rev.A and S1023004 Rev.C for CLX Cable).
- c) Refer to ABS approved drawing numbers S1018761 and S1018762 for pipes.
- d) Watertight or fire rated bulkheads or decks for cable penetrations are to be examined and tested as per ABS Marine Vessels Rules 3-7-1/Table1 and 4-8-4/29.15.
- e) 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 (Consolidated Edition 2014). 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 (Consolidated Edition 2014).
- f) The product or packing is to be marked with name of manufacturer, type designation and fire rating.
- g) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes, Drawings and Documentation

CTO Fire Test Report Number RS-19/B-036/E and RS-19/B-037/E both dated 21 March 2019

SP Fire Test Report Numbers 4P02192 dated 26 May 2014, 6P02536 dated 08 June 2016, PX07235 dated 15 December 2010, P601740 dated 28 June 2006, P703775 dated 7 December 2007, 3P04210 dated 24 September 2013.

DNV Watertight and Gastight Test Reports MLM 020106, MLM 020133 both dated 26 February 2006, MLM 020408 dated 28 September 2001

Insulation/Installation drawings Nos:

Drawing No. S1011758 Rev. B, S- Frames With Cables H60/H120 Steel Division

Drawing No: S1023004 Rev.C, S- Frame Including MC/CLX Cable H60/H120 Steel Division.

Drawing Number S1544621 Rev.A, , S-Frames With Cables H-0 Steel Deck

Drawing Number S1018761, S-Frames With Pipes H-60 Steel Division

Drawing Number S1018762, S-Frames With Pipes H-120 Steel Division

Term of Validity

This Product Design Assessment (PDA) Certificate 19-LD1875603-PDA, dated 16/Aug/2019 remains valid until 15/Aug/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

2019 ABS Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/9.7, 4-8-4/21.13.1

2019 ABS Mobile Offshore Units Rules 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-1/11.15, 4-3-3/5.13

2019 ABS Rules for Building and Classing Facilities on Offshore Installations 1-1-4/9.7, 1-1-A2, 1-1-A3, 3-8/9.13.

International Standards

IMO FTP Code 2010 (2012 Edition), Annex 1, Part 3 with Norwegian Petroleum Directorate H Class Temperature Curve

EU-MED Standards

NA

National Standards

Acts, Regulations and Provisions for the Petroleum Activities, Volume 2, Norwegian Petroleum Directorate, Issue June 1, 1999- For H Class Temperature Curve

Government Standards

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

Other Standards

NA



A handwritten signature in black ink, appearing to read 'James J. White'.

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.