



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 08/JAN/2019. 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 20/JUL/2019 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 Bulkhead and Deck Firetight and Watertight Penetrations
Model Name(s): Roxtec S Series Frames

Presented to:

Roxtec International AB
Rombvagen 2
Box 540
Karlskrona
Sweden

Intended Service:

Multi and single pipe/ cable (armoured or non-armoured) penetrations in Class H-60/ 120 bulkheads and decks. 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 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 EMC Wedge Kit.

Tier:

3

Ratings:

Fire resistance: Cables: H-60 for Bulkheads and H60 /H120 for Decks Pipes: 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 and No.: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 SVR 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 (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. f) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes / Documentation:

Approval of the arrangements and materials based on DIFT Test Reports: PG11087, PG11088 and PG11199, and Inspection Report Nos.:MLM 020106, MLM 020133, MLM 020408; and SP Report No.:P400834, PX07235, for CLX cable tests to IMO Res.A.754 (18), NPD HC fire temperature curve , SP Fire Test Report no.: P601740, P703775 and 3P04210.

Term of Validity:

This Product Design Assessment (PDA) Certificate 03-LD396103/5-PDA, dated 21/Jul/2014 remains valid until 20/Jul/2019 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:

The Rules applicable to this assessment are: 2014 Steel Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/9.7, 4-8-4/21.13, 4-8-4/29.15 ; and 2014 Rules for Building and Classing Facilities on Offshore Installations 1-1-A2, 1-1-A3, 1-1-4/9.7 and 3-8/9.13.

**National Standards:
International Standards:**

SOLAS Ch. II-2, Reg. 9.3.1 (2009 edition); IMO Resolution A.754 (18) and IMO FTP Code, Annex 1, Part 3 , and Norwegian Petroleum Directorate 'H' Class test.

Government Authority:

This PDA conforms to Transport Canada requirements.

EUMED:**Others:****Model Certificate****Model Certificate No****Issue Date****Expiry Date**

PDA

03-LD396103/5-PDA

21/JUL/2014

20/JUL/2019



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.