



## ***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 28-MAY-2023. 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:** Cable, Deck and Bulkhead Penetration Sealings  
**Model Name(s):** Roxtec S Series Frames for steel divisions for Marine and Offshore Applications.

**Presented to:**

ROXTEC INTERNATIONAL AB  
ROMBVAGEN 2  
SE 371 65  
Sweden

**Intended Service:**

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

**Description:**

Roxtec Sealing System with multidiameter technology consisting of Roxtec S series frames (different versions or combination of versions approved with the following extensions or combination of extensions -O, -F, -K, -R, -RC, -BTB) in sizes 1-8, bolted or welded onto the steel sections, filled with Roxtec (standard Ex/ATEX or EMC of type PE, ES and BG, BGB, ES 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:**

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 for approved Marine/ Offshore braided Cables: 102 mm outside diameter. b) Maximum tested size of continuously welded aluminium clad cables, CLX Type: 103mm outside diameter. 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. For bulkheads up to A30 rating, three frames of size 8 arranged vertically and ten arranged horizontally, designated S 8+8+8x10. d) Minimum Tested Frame Size 1x1 ( size 1 Frame) e) Not for use in tank boundaries f) For detail information about insulation arrangement, please see ABS approved drawings specified in the Notes, Drawings and Documentation section of this Certificate.. g) Unit Certification is not required for this product. If the manufacturer or purchaser 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 with the manufacturer's instructions in accordance with approved drawing (drawing number S1528041 rev A for bulkheads and S1528021 Rev A for decks; drawing number S1528045 Rev A for deck and bulkhead penetrations for metal clad cables and drawing number S1509814 Rev A for A0 steel deck divisions). b) Watertight or fire rated bulkheads or decks for cable penetrations are to be examined and tested as per ABS Steel Vessels Rules 3-7-1/Table1 and 4-8-4/29.15. 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 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 (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) Test Reports 1.1) SINTEF Test Reports: • 22N007.16A, A-60, penetration sealing system for cables and pipes in insulated steel, dated 25th January 2005 • 22N007.23C (A-60 bulkhead, bolted frames) dated 30 October 2005 • 103070.29B, Fire test of Steel Deck with pipe and cable penetration seals, dated 28th November 2003 1.2) SP Technical Research Institute of Sweden : • P600993, A-60 Insulated Steel Bulkhead, dated 12th April 2006 • PX05454 A-60, Insulated Steel Bulkhead, dated 8th September 2011 • P605253, Fire test of cable transits and pipe penetrations mounted in a bulkhead of steel, dated 9th February 2007. • P402000, Fire test of cable transits and pipe penetrations in a deck, dated 29 November 2004 • 4P04959, IMO test of cable penetration seals in A60 Steel Bulkheads, dated 24 March 2015 • 6P07563, IMO test of cable penetration seals in A60 Steel Deck, Dated 20 Dec 2016 • 6P02249, IMO test of cable penetration seals in A60 Steel Deck, Dated 17 August 2016 \* 6P02516, IMO test of cable penetration seals in A60 Bulkhead, Dated 29 August 2016 1.3) Southwest Research Institute Test Report 01.06061.01.117A, Fire Performance Evaluation of Multi-Cable Transits in accordance with IMO Resolution A.754(18), dated 10 June 2003 1.4) Danish Institute of Fire and Security Technology. • PGA10024, Penetrations through "A" Class Bulkhead, dated 21st December 2011 • PGA10025, Penetrations through "A" Class Deckhead, dated 22nd December 2011. • PGA10651, Cable Transits a steel deck, dated 3rd July 2015 • PGA10652, Cable Transits in a steel bulkhead, dated 3rd July 2015 • PGA10723A, Cable Transits and Pipe Penetration in class A-0 Steel Deck, dated 4 February 2016 • PGA10871Arev1, Cable Transits and Pipe Penetration in class A-60 Steel Deck, dated 09 Dec 2016 1.5) Japan Ship Machinery Quality Control Association – Research Institute of Marine engineering – Test Report 09-344(E), dated 11th December 2009 1.6) Watertightness and Gas Tightness Test Reports by DNV- MLM 020133 dated 26 Feb 2002, SKM-04-4088 dated 16 June 2004 2) Drawings 2.1) Drawing Number S1528041 Revision A, S-Series Frames Cables A-60 Class Steel Bulkhead 2.2) Drawing Number S1509814 Revision A, S Frames with Cables – A0 Steel Division 2.3) Drawing Number S1528021 Revision A, S Series Frames with Cables A-60 Class Steel Deck . 2.4) Drawing Number 1528045 Revision A , S-Series Frames with MC & SW Cables etc. A-60 Class Steel Deck/ Bulkhead

**Term of Validity:**

This Product Design Assessment (PDA) Certificate 18-LD1721317-PDA, dated 29/May/2018 remains valid until 28/May/2023 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:**

2018 Steel Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-4/21.13, 4-8-4/29.15 2018 Rules for Building and Classing Facilities on Offshore Installations 1-1-4/9.7, 1-1-A2, 1-1-A3, 3-8/9.13, 4-8/9.13 2018 Mobile Offshore Drilling Units Rules 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-3-3/5.13

**National Standards:  
International Standards:**


Regulation II-2/ 9.3.1 of SOLAS (2014 Consolidated Edition); IMO Resolution MSC.307(88) - (2010 FTP Code), Annex I: Part 3, adopted 3 December 2010

**Government Authority:**

This PDA conforms to Transport Canada Requirements

**EUMED:  
Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	18-LD1721317-PDA	30-MAY-2018	28-MAY-2023



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.