



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 14/JAN/2020 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: Watertight and Fire Resistant Penetration Device
Model Name(s): Roxtec R Series Frames in aluminium divisions

Presented to:

ROXTEC INTERNATIONAL AB
BOX 540
Sweden

Intended Service:

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

Description:

"Roxtec cable and pipe sealing system with multidiameter technology" composed of aluminium sleeves (welded or bolted) or sleeves of SLX-R type with R type (EMC versions included) halogen free rubber frames in size 70-200, and filled with Roxtec insert modules, mounted in aluminium decks or bulkheads. RX Kit consists of SLX R type sleeves including an R Frame.

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 cable size 62 mm for bulkheads and decks. b) Maximum steel pipe outside diameter up to 54 mm for bulkheads and decks. c) Maximum copper pipe outside diameter up to 54 mm for bulkheads and 57 mm for decks. d) Maximum frame size tested outside diameter 200 mm x 70 mm deep e) Not for use in tank boundaries f) 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) Watertight or fire rated bulkheads or decks for cable penetrations are to be examined and tested as per ABS Steel Vessel Rules 3-7-1/Table1 and 4-8-4/29.15. b) 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. c) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. d) All seal types should be installed with the manufacturer's instructions in accordance with approved drawings S1019789 for R frames with cables and S1019810 for R Series frames with steel/copper pipes. e) Insulation material is to be A-60 approved type and installed in accordance with the attached drawings to the satisfaction of the Surveyor.

Notes / Documentation: Notes/Drawings/Documentation: Declaration of Asbestos-free Test Report number 103070.33A dated 15 Nov 2004 / SINTEF Norwegian Fire Research Laboratory, Trondheim Test Report number 103070.33B dated 17 Nov 2004 / SINTEF Norwegian Fire Research Laboratory, Trondheim DNV Third Party Inspection Report number MLM010238 dated 30 Sep 2001 Test Report number P603001 dated 23 Jan 2007 / SP Technical Research Institute of Sweden, Boras Test Report number P11898 dated 10 Sep 2008 / Danish Institute of Fire and Security Technology, Hvidovre Test Report number P11955 dated 11 Sep 2008 / Danish Institute of Fire and Security Technology, Hvidovre Drawing No. S1019789, R-Frames W Cables A-Class Alu Divs, Sheet 1 of 1, Revision - , dated 26 October 2010 Drawing No. S1019810, R-Frames W St/CU Pipes A-Class Alu Deck/Blkhd, Sheet 1 of 1, Revision - , dated 1 March 2010

Term of Validity: This Product Design Assessment (PDA) Certificate 15-GD1297680-1-PDA, dated 15/Jan/2015 remains valid until 14/Jan/2020 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.

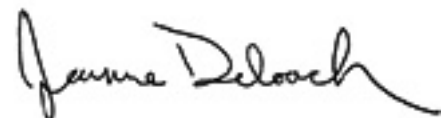
ABS Rules: ABS Steel Vessel Rules (2015) 1-1-4/7.7, 1-1-A3 & A4 ABS Steel Vessels under 90 m in Length Rules (2015) 1-14/7.7, 1-1-A3 & A4 Facilities on Offshore Installations (2015) 1-1-4/9.7, 1-1-A2 & A3 ABS Offshore Support Vessels (2015) 1-1-4/7.7, 1-1-A3 & A4 Mobile Offshore Drilling Units (2015) 1-1-4/9.7, 1-1-A2 & A3 Steel Vessels for Service on Rivers and Intracoastal Waterways (2015) 1-1-4/7.7, 1-1-A3 & A4 Bulk Carriers for Service on Great Lakes (1978) 1-1-4/7.7, 1-1-A3 & A4 High-Speed Craft (2015) 1-1-4/11.9, 1-1-A2 & A3, 4-4-2/7.5 Steel Barges (2015) 1-1-4/7.7, 1-1-A3 & A4 Steel Vessel Rules (2015) 4-6-2/9.7, 4-8-4/21.13, 4-8-4/29.15 Rules for Building and Cladding Facilities on Offshore Installations (2015) 1-1-4/9.7, 1-1-A2 & A3, 3-8/9.13

National Standards:
International Standards: SOLAS Ch. II-2, Reg. 9.3.1 (as amended) IMO Resolution MSC.307(88) 2010 FTP, 2012 edition

Government Authority: This PDA conforms to Transport of Canada requirements

EUMED:
Others:

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	15-GD1297680-1-PDA	10/FEB/2015	14/JAN/2020



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.