



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 12/NOV/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: Penetration Device
Model Name(s): Roxtec S-Series Frames

Presented to:

ROXTEC INTERNATIONAL AB
BOX 540
Sweden

Intended Service:

Cable and pipe penetrations approved of water-and gas tightness in steel bulkheads or decks limited to a pressure of 6 bar water tightness and 4 bar gas (Helium) tightness. Installed according to Roxtec rectangular system (Standard Installation instruction)

Description:

"Roxtec sealing system with multidiameter technology: Roxtec S-series steel frames in sizes 2-8 and combinations thereof. The S-series frame is filled with Roxtec (standard or EMC) halogen free RM modules. Assembled with Roxtec wedge kit or Roxtec EMC wedge kit.

Ratings:

Standard installation: S-series type frames in size 2, 6, 8 installed according to Roxtec rectangular system/standard installation instruction, watertight test pressure 6bar and gastight test pressure 4bar, (also including module size RM80 with 2pcs RM40 size modules besides, drawing arrangement S1039748rev.A). Different module size configuration, "half size": S-series type frames in size 2, 6, 8 installed with different module size configuration having half size modules besides full size module (4pcs half size modules besides 1pcs full size module), watertight test pressure 4bar, drawing arrangement S1036325rev.C, S1036810rev.C, S1039744rev.A, installed according to Roxtec amendment installation instruction ASS2013002901. S-series type frame in size 6 and 8 installed with different module size configuration having half size modules besides full size module (4pcs half size modules besides 1pcs full size module), gastight test pressure 2.25bar, drawing arrangement S1036810rev.C, S1039744rev.A, installed according to Roxtec amendment installation instruction ASS2013002901. Different module size

configuration, "total mix": S-series type frames in size 8 installed with different sized modules onto each other up to and including a maximum packing space height of 60mm, watertight test pressure 2.25bar, drawing arrangement S1025773rev.A. Extended frame width: S-series type frames in size 6 and 8 with packing space width 123,0mm at mid-height frame, installed with extended/compensated packing space height according to Roxtec amendment installation instruction ASS2013004101, tested both without any routed cables (0% fill ratio) and with routed cables at watertight test pressure 6bar and gastight test pressure 3bar, drawing arrangement S1036961rev.B, S1036962rev.B, S1036963rev.B, S1036964rev.B, S1036969rev.A.

Service Restrictions:

a) Not for use in tank boundaries b) Outside diameter up to 68 mm for marine cable c) 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:

1) All seal types should be installed with the manufacturer's instructions in accordance with approved drawings. 2) Watertight or fire rated bulkheads or decks for cable penetrations are to be examined and tested as per ABS SVR 4-8-4/29.15 and 3-7-1/Table1, ABS MODU 4-3-3/5.13 and 7-1-2/19.5 and 7-1-2/Table 2 3) When requested to be used in watertight bulkheads on passenger ships and Special Purpose Ships (SPS), the penetration system has to comply with the requirements given in SOLAS Ch. II-1 Reg. 13.2.3. 4) 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. 5) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes / Documentation:

Drawing No. 40009609/2, Survey Report Witness Of Pressure Testing Third Party Inspection, Drawing No. ASS2013002901 Amendment, Alt module config, half size mix, ASS2013002901 Amendment, Alt module config, half size mix, Drawing No. ASS2013004101 Amendment, Frame width tolerance comp, ASS2013004101 Amendment, Frame width tolerance comp, Drawing No. DNV40007647, Third Party Inspection Report, Drawing No. DNV40009183/1, Survey Report Witness Of Pressure Testing Third Party Inspection, Drawing No. DNV40009336/1, Survey Report Witness Of Pressure Testing Third Party Inspection, Drawing No. DNV40009361, Survey Report Witness Of Pressure Testing Third Party Inspection, Drawing No. DNV40009609/3, Survey Report Witness Of Pressure Testing Third Party Inspection, Drawing No. MLM020133- Survey Report Witness Of Pressure Testing Third Party Inspection Drawing No MLM020400-Survey Report Witness Of Pressure Testing Third Party Inspection Drawing No. MLM050410 Survey Report Witness Of Pressure Testing Third Party Inspection Drawing No. Instructions, Drawing No. Installation instructions, Roxtec rectangular system, Installation instructions, Roxtec rectangular system, Drawing No. Roxtec Asbestos Declaration, Asbestos-free declaration, Drawing No. S1039744 Rev. A, 102345 Tightness test mixed module size, 8x1 Drawing No. S1036810 Rev. C, 102220 Tightness Test Setup 6x1 Drawing No. S1036325 Rev. C, 102197 Tightness Test Setup 2x1 Drawing No. ASS2006003601 Amendment to installation instructions Roxtec regular system, Drawing No. S1025773 Rev. A, 101459 Pressure test 2.25 bar S8x1, Drawing No. S1000013 Rev. F, S-Frame, Single Frame, Drawing No. S1003593 Rev. D, Wedge 120 Assembly, Drawing No. S1005548 Rev. A, Stayplate Assembly, Drawing No. S1005711 Rev. D, RM Modules Assembly, Drawing No. S1000682 Rev. C, RM Modules, Soild Modules, Drawing No. ASS2011005301 Alternative module configuration transit, Drawing No. S1036961 Rev. B, S1036962 Rev. B 102223/102236 Tightness test, Setup 6x1 inner width 123, Drawing No. S1036963 Rev. B, S1036964 Rev. B 102223/102236 Tightness test, Setup 8x1 inner with 123, Drawing No. S1036969 Rev. A, S type frame packing space 123. Drawing No. S1039748 Rev. A, 102350 Tightness test S 8x1, RM80

Term of Validity:

This Product Design Assessment (PDA) Certificate 15-GD1440636-PDA, dated 13/Nov/2015 remains valid until 12/Nov/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 Rules for Building and Classing Steel Vessels (2015): 1-1-4/7.7, 1-1-Appendix 3 & 4, 4-6-2/9.7, 4-8-4/21.13.1 ABS Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length (2015): 1-1-4/7.7, 1-1-Appendix 3 & 4, 4-4-1/9.9, 4-6-3/5.13.1 ABS Rules for Building and Classing Offshore Support Vessels (2015): 1-1-4/7.7, 1-1-Appendix 3 & 4, 4-6-2/9.7, 4-8-4/21.13.1 ABS Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways (2015): 1-1-4/7.7, 1-1-Appendix 3 & 4, 4-3-1/7.9, 4-5-3/5.13.1 ABS Rules for Building and Classing Mobile Offshore Drilling Units (2015): 1-1-4/9.7, 1-1-Appendix 2 & 3, 4-3-3/5.13 and 7-1-2/19.5 and 7-1-2/Table 2 ABS Rules for Building and Classing High-Speed Craft (2015): 1-1-4/11.9, 1-1-Appendix 2 & 3, 4-4-1/9.9, 4-6-3/5.13.1 ABS Rules for Building and Classing Steel Barges (2015): 1-1-4/7.7, 1-1-Appendix 3 & 4, 4-1-1/1.1

National Standards:

International Standards:

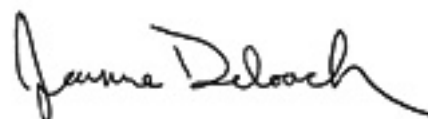
Ch. II-2, Reg. 13.2.3 "SOLAS 1974 (Consolidated Edition 2014)"

Government Authority:

EUMED:

Others:

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	15-GD1440636-PDA	13/NOV/2015	12/NOV/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.