



Confirmation of Product Type Approval

Company Name: ROXTEC INTERNATIONAL AB

Address: ROMBVAGEN 2 LYCKEBY SE 371 65 Sweden

Product: Fire Stop System

Model(s): Roxtec S Series Frames, for Jet fire steel divisions (Bulkhead/Deck)

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	21-2055299-1-PDA	07-OCT-2022	10-AUG-2026
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

Cable and pipe penetration sealing system in Jet fire resisting bulkhead and deck divisions for Offshore Applications.

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, BTB, and BTB/T) in sizes 1-8 and combinations thereof, bolted or welded on to the steel sections, filled with Roxtec (Standard RM, Ex, RMX, or EMC) halogen free insert modules. Assembled with Roxtec Wedge Kit, Roxtec EMC Wedge Kit, or Roxtec Ex Wedge Kit.

Ratings

Jet Fire rating J-30- S- SF-, SK-, SR-, SRC-Roxtec module installed towards the unexposed side, minimum depth of frame 200mm.

Metal Clad Cables - CLX- Maximum cable outside diameter up to 103 mm

Steel Wire Armored cables- SWA- Maximum cable outside diameter up to 89 mm.

Jet Fire rating J-60- S- SF-, SK-, SR-, SRC-Roxtec module installed towards the unexposed side, minimum depth of frame 200mm.

Metal Clad Cables - CLX- Maximum cable outside diameter up to 103 mm

Steel Wire Armored cables- SWA- Maximum cable outside diameter up to 89 mm.

Jet Fire rating J-60- SR BTB/T Ex with RMX modules installed towards the unexposed side, minimum depth of frame 200mm (No Watertight nor Gastight)

Marine Cables - Maximum cable outside diameter up to 47 mm

Jet Fire rating J-60- S BTB- SF BTB-, SR BTB-, SRC BTB--Roxtec module installed towards the unexposed side, minimum depth of frame 300mm.

Marine Cables - Maximum cable outside diameter up to 43 mm

Steel Pipes- Maximum outside diameter up to 20 mm.

Jet Fire rating J-120- S BTB- SF BTB-, SR BTB-, SRC BTB--Roxtec module installed towards the unexposed side, minimum depth of frame 400mm.

Marine Cables - Maximum cable outside diameter up to 79 mm

Steel Pipes - Maximum outside diameter up to 30 mm.

Watertight test pressure 6 bar g. (except bolted versions test pressure at 5 bar g.);

Gastight test pressures 4 bar g. (except bolted versions test pressure at 2.5 bar g.).

Service Restrictions

- 1). Not for use in tank boundaries.
- 2). Maximum cable and pipe sizes per ratings section above.
- 3). Hydrocarbon fire resistance ratings are not covered under this PDA..
- 4). Maximum size of multiple frame combinations shall be in accordance with applicable H-rated certificate.
- 5). HHF jet & pool combination fire tested arrangements (as per attachment to PDA), will be subject to acceptance by the local ABS technical office for the intended use on a case-by-case basis.
- 6). Unit Certification is not required for this product. If the manufacturer or purchaser's 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 in accordance with manufacturer's instructions and ABS approved installation drawing numbers S1566756, Rev. A and S1582746, Rev. A.
- 2). Insulation material is to be H class approved type and properly installed to the satisfaction of the Surveyors.
- 3). Although the jet-fire resistance test has been designed to reproduce conditions similar to those found in large-scale jet fires resulting from realistic releases of hydrocarbons, it cannot guarantee a specific degree of protection from the myriad of possible jet fires. The Jet Fire Resistance Test, or indeed large-scale demonstrations, cannot therefore be used to confer a universal fire resistance rating for a specified time in the way that a standard furnace test confers a hydrocarbon rating. Hence this test does not give a rating analogous to the "H" rating derived from the hydrocarbon fire resistance test as detailed in ISO 834. This test is not intended to replace the hydrocarbon fire resistance test but is seen as a complementary test.
- 4). Although the method specified for jet-fire resistance test has been designed to simulate some of the conditions which occur in an actual jet fire, it cannot reproduce them all exactly. The results of this test do not guarantee safety but may be used as elements of a fire risk assessment for structures or plants.

This should also take into account all the other factors which are pertinent to an assessment of the fire hazard for a particular end use.

- 5). The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- 6). Refer attachment to PDA for additional HHF jet & pool combination arrangements tested and installation drawings Drawing Numbers S1557060 Rev. C and S1557063 Rev. B
- 7). Individual review to the intended use on specific vessel, MODU or facility is required.
- 8). Continued compliance with the statutory requirements requires maintenance of full Type Approval (PDA+MA). The scope of Type Approval is to comply with MSC.1/Circ. 1221 dated 11 December 2006.
- 9). Approval not performed on behalf of any flag Administration.

Notes, Drawings and Documentation

Drawing No. Jet Fire test report 120000-56 2020-04-11, Jet Fire test report 120000-56 2020-04-11, Date 09 December 2019;

Drawing No. Jet Fire test report 120000-59 2020-04-11, Jet Fire test report 120000-59 2020-04-11, Date 17 August 2020;

Drawing No. Jet Fire test report 120000-67 2020-04-11, Jet Fire test report 120000-67 2020-04-11, Date 05 October 2020;

Drawing No. Jet Fire test report F17 120000-15 2020-04-11, Jet Fire test report F17 120000-15 2020-04-11, Date 06 July 2017;

Drawing No. Jet Fire test report F19 120000-48 2020-04-11, Jet Fire test report F19 120000-48 2020-04-11, Date 11 April 2019;

Drawing No. Jet Fire test report F19 120000-48 T2 2020-04-11, Jet Fire test report F19 120000-48 T2 2020-04-11, Date 11 April 2019;

Drawing No. S1557060 2020-11-04, Certificate drawing S1557060 2020-11-04;

Drawing No. S1557063 2020-11-04, Certificate drawing S1557063 2020-11-04;

Drawing No. S1582746, S-Series Ex and RMX Modules with Cables Jet Fire ST B/D Divisions, Revision: A, Page:1.

Drawing No. EFR-22-JF-000974, Efectis France Test Report for Two Fire Resistant Multi-Cable Transits Composed with SRBTB/T Ex Frames and RMX Modules, and Protected by Mineral Insulation Blanket., Revision: 0, Dated 24 August 2022, Les Avenieres Veyrins-Thuellin, France;

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 10/Aug/2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

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 previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2022 Rules for Offshore Units and Structures, 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2022 Rules for Building and Classing Mobile Offshore Unit: 4-2-1/11.15, 5-1-1/3.5, 5-1-1/ 5.17 & 5-1-1/5.21

2022 Rules for Building and Classing Facilities on Offshore Installations: 3-8/9.13, 4-8/9.13

International Standards

Health and Safety Executive, Offshore Technology Report - OTI 95 634 (Published in 1996)- "Jet-Fire Resistance Test of Passive Fire Protection Materials";

ISO 22899-1: 2021- "Determination of the resistance to jet fires of passive fire protection materials"

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



A handwritten signature in blue ink, appearing to read 'James W. ...', is positioned above the printed text.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 13-Feb-2024 12:45

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.

ROXTEC INTERNATIONAL AB
 Roxtec S Series Frames, for Jet fire steel divisions (Bulkhead/Deck)
 PDA Number: 21-2055299-1-PDA
 Issue Date: 07 October 2022
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Penetration designation	Dimension	Tested Configuration	Maximum cable and pipe outer diameter
S-series 1x1 to 8x1 and combinations thereof S BTB- SF BTB-, SR BTB-, SRC BTB-	Min depth of frame 400 mm Center position	HHF JET FIRE 350 (kW/m ²) for 20 min followed by EXTENDED POOL FIRE (250 kw/m ²) for 35 min INTEGRITY ONLY when installed according to S1557060 rev C detail No 1	Cables Ø ≤ 83 mm Steel pipe Ø ≤ 30 mm
S-series 1x1 to 8x1 and combinations thereof S BTB- SF BTB-, SR BTB-, SRC BTB-	Min depth of frame 400 mm with 300 mm exposed position	HHF JET FIRE 350 (kW/m ²) for 20 min followed by EXTENDED POOL FIRE (250 kw/m ²) for 10 min INTEGRITY ONLY when installed according to S1557060 rev C detail No 2	Cables Ø ≤ 83 mm Steel pipe Ø ≤ 30 mm
S-series 1x1 to 8x1 and combinations thereof S BTB- SF BTB-, SR BTB-, SRC BTB-	Min depth of frame 300 mm Unexposed position Frame at a distance of 100 mm from division	HHF JET FIRE 350 (kW/m ²) for 15 min followed by JET FIRE (250 kw/m ²) for 30 min followed by POOL FIRE (150 kW/m ²) for 75 min INTEGRITY ONLY when installed according to S1557060 rev C detail No 3	Cables Ø ≤ 83 mm Steel pipe Ø ≤ 30 mm
S-series 1x1 to 8x1 and combinations thereof S BTB- SF BTB-, SR BTB-, SRC BTB-	Min depth of frame 300 mm Unexposed position Frame at a distance of 100 mm from division	HHF JET FIRE 350 (kW/m ²) for 15 min followed by JET FIRE (250 kw/m ²) for 20 min INTEGRITY ONLY when installed according to S1557060 rev C detail No 4	Cables Ø ≤ 83 mm Steel pipe Ø ≤ 30 mm
S-series 1x1 to 8x1 and combinations thereof S- SF-, SK-, SR-, SRC-	Depth of frame 60 mm Exposed, center and unexposed position	JET FIRE (250 kW/m ²) for 30 minutes INTEGRITY ONLY when installed according to S1557060 Rev.C detail No;5	Cables Ø ≤ 49 mm
S-series 1x1 to 8x1 and combinations thereof S BTB- SF BTB-, SR BTB-, SRC BTB-	Min depth of frame 400 mm Center position	HHF JET FIRE 350 (kW/m ²) for 30 min followed by JET FIRE (250 kw/m ²) for 30 min when installed according to S1557063 rev B detail No 1	Cables Ø ≤ 83 mm Steel pipe Ø ≤ 30 mm
S-series 1x1 to 8x1 and combinations thereof	Min depth of frame 370 mm SF in combination with SKFOH, SF frame facing fire side. SF frame at a	HHF JET FIRE 350 (kW/m ²) for 60 min when installed according to S1557063 rev B detail No 2	Cables Ø ≤ 49 mm Steel pipe Ø ≤ 16 mm

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S BTB- SF BTB- SR BTB-, SRC BTB-	distance of 100 mm from division.		
S-series 1x1 to 8x1 and combinations thereof S BTB- SF BTB- SR BTB-, SRC BTB-	Min depth of frame 370 mm SF in combination with SKFOH, SKFOH frame facing fire side. SF frame at a distance of 100 mm from division.	HHF JET FIRE 350 (kW/m ²) for 20 min followed by POOL FIRE (200 kW/m ²) for 40 min when installed according to S1557063 rev B detail No 3	Cables Ø ≤ 49 mm Steel pipe Ø ≤ 16 mm