



TYPE APPROVAL CERTIFICATE

Certificate No:
TAF00000DW
Revision No:
2

This is to certify:

That the Class H Penetration

with type designation(s)

ROXTEC SEALING SYSTEM WITH MULTIDIAMETER TECHNOLOGY, S-& EMC S-SERIES FRAMES

Issued to

Roxtec International AB
Karlskrona, Sweden

is found to comply with

DNV offshore standards

Application :

Approved as penetration in

- class H-0/H-60/H-120 decks/bulkheads for approved ship cables**
- class H60/H120 decks/bulkheads for steel pipes**

Issued at **Høvik** on **2022-11-08**

for **DNV**

This Certificate is valid until **2028-06-28**.

DNV local unit: **Malmö**

Approval Engineer: **Timo Linn**

Jowita Permoda
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

“Roxtec Sealing System with Multidiameter Technology, S- & EMC S- Series”
consisting of Roxtec S-series steel frames (S, SO, SF, SFO, SR, SK, SRC r20, SRC r40 and SBTB) in sizes 1-8, and combinations thereof, bolted or welded to a steel section. The S frame is filled with Roxtec (standard or EMC, PE, ES, BG, BGB) halogen free RM modules. Assembled with Roxtec Wedge kit or Roxtec EMC Wedge kit.

Additional Place of Production:

Roxtec Sealing System (Shanghai) Co.,Ltd Lingang Branch
Ground Floor A, No.875 QiuXin Road Zhongqilian (Lingang) Global Auto Parts Innovation Center, Shanghai, China.

Application/Limitation

Approved as cable penetration in

- class H-0/H-60/H-120 decks/bulkheads

for approved ship cables including metal cables (CLX/TECK) up to OD 103 mm. (Ref. approved H-class as stated in the drawings mentioned under Type Approval documentation below)

Approved as pipe penetrations in

- class H-60/H-120 decks and bulkheads

for steel pipes in sizes OD 14mm to OD 51 mm. (Ref. approved H-class as stated in the drawings mentioned under Type Approval documentation below)

Deck or bulkhead to be insulated according to classification covering the edge of the steel frame. The penetrations are to be insulated in accordance with approved and stamped drawings listed under Type Approval documentation.

Cable and pipe penetrations approved for water- and gas tightness in steel bulkheads or decks, limited to a pressure of 4 bar water tightness and 2,67 bar gas tightness.

For bolted versions with gasket and self-tapping screws, the pressure is limited to 3,33 bar water tightness and 1,67 bar gas tightness.

When pipe penetrations is requested to be used in watertight bulkheads on passenger ships and Special Purpose Ships (SPS), the pipe penetration system has to comply with the requirements given in SOLAS (2009) Ch. II-1 Reg. 13.2.3 c.f. IMO Res. MSC.429(98) Reg. 13.2.3.4. Pipe penetrations passing through watertight bulkheads are subject for separate examination.

When used in High Speed and Light Crafts the penetrations are subject for approval in each case.

The penetration system is not to be used for penetrating boundaries of tanks.

Each product is to be supplied with its manual for installation/application and maintenance. The manual shall include the relevant drawings listed under type approval documentation.

Type Approval documentation

Certification in accordance with Class Programme DNV-CP-0338, September 2021.

Test Report No (Cables):

- Test report No. 250000.20/90.313, dated 9 November 1990 from Sintef, Norway.
- Test report No. 250000.47/94.062-A dated 20 June 1994 from Sintef, Norway.
- Test report No. 10027 from Roxtec International AB, approved by DNV 20 November 2000 (SRCr20 and SRCr40 frames).
- Test report No. 846007.06 dated 19 September 1997 from SINTEF Energy (deck).
- Test report No. P400834 dated 31 March 2004 from SP, Sweden (S frame CLX cable).
- Test report No. PX07235 dated 15 December 2010 from SP, Sweden (S frame CLX cable).
- Test report No. P703775 dated 7 December 2007 from SP, Sweden (H-60/90 Steel Bulkhead).
- Test report PG11199 Serial number 9138 dated 4 July 2003 from DIFT, Denmark (H-120 Steel Bulkhead)
- Test report No. 22N007.12C dated 16 September 1999 from SINTEF, Norway (H-0/400 Steel Bulkhead)
- Test report No. PGA10024 dated 21 December 2011 and PGA1025 dated 22 December 2011(Reference tests for BG and BGB modules)
- Test report No. 4P02192 dated 2014-06-30 from SP (H0 steel deck, 11x multi-cable transits)
- Test report No. 6P02536 dated 2016-07-12 from SP (H0 steel deck, 6x cable penetration seals)

Test Report No (Steel pipes):

- Test report No. P601740 (H-60/H-120 deck) dated 28 June 2006 from SP Sweden (Steel pipe)
- Test report No. 10528 (H-120 bulkhead) dated 18 April 2007 from Roxtec International AB, witnessed by DNV (Steel pipe).

Test Report No (Water and gas tightness):

- Test report No. MLM 020133 dated 2002-02-26,
- Test report No. MLM 020400 and
- Test report No. MLM 020401 dated 2002-03-25,
- Test report No. MLM 050410 dated 2005-05-20,
- Test report No. MLM 020106 dated 2001-12-19,
- Test report No. MLM 020408 dated 2002-06-03
- Test report No. SKM 04-4088 dated 2004-06-16 from DNV Malmö.

Drawings (Cable penetrations):

- Class H-60, H-120 Deck: Drawing S1008896
- Class H-0 to H-120 Bulkhead: Drawing S1019867 Rev. B.
- Class H-60 Bulkhead: Drawing S1022732, Rev. B (S frame CLX cable).
- Class H-0 Steel deck: Drawing S1514453 Rev C

Drawings (Steel pipe penetrations):

- Class H-60 Deck/Bulkhead: Drawing S1009999
- Class H-120 Deck/Bulkhead: Drawing S1010000

Tests carried out

Tested according to IMO FTP Code Part 3 (IMO Res. A.754 (18)) and with the hydrocarbon time-temperature curve specified in ISO 834-3.

Pressure tests with water and Helium according to Type Approval Programme 8-471.19-1 dated May 2001.

Marking of product

The product or packing is to be marked with name of manufacturer, type designation and fire-technical rating.

Periodical assessment

DNV surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in DNV-CP-0338 Section 4.