



TYPE APPROVAL CERTIFICATE

Certificate No:
TAF00000DH
Revision No:
1

This is to certify:

That the Class H Penetration

with type designation(s)
ROXTEC SEALING SYSTEM WITH MULTIDIAMETER TECHNOLOGY, R-SERIES (CABLE)

Issued to

Roxtec International AB
Karlskrona, Sweden

is found to comply with
DNV offshore standards

Application :

Approved as cable penetration in class H-120, H-60 and H-0 steel decks and bulkheads.

Issued at **Høvik** on **2022-03-08**

for **DNV**

This Certificate is valid until **2027-03-07**.

DNV local station: **Sweden CMC**

Approval Engineer: **Lars Erik Hallbeck Parelus**

Helene David-Andersen
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: R-series (steel)”
 consisting of a steel sleeve welded or bolted to a steel decks and bulkheads. The sleeve is fitted with Roxtec R-frame (standard or EMC) in sizes 50-200. The R-frame is filled with Roxtec (standard or EMC) halogen free RM modules.

For further details, see drawings listed under Type Approval documentation below.

Application/Limitation

Approved as cable penetration in class H-120, H-60 and H-0₄₀₀ steel decks and bulkheads for approved ship cables as specified in the below tables.

General application: Fire against either side*

* In areas with requirements to maximum steel temperature in load bearing constructions, the bulkhead is approved for restricted application: Fire against insulated side

Table 1: Approved cable penetration in H-120 steel bulkhead

Type	Size	Max. cable diameter [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
R	50 - 200	62	55	6	Unexposed	S1572496, No. 2

Table 2: Approved cable penetration in H-120 steel deck

Type	Size	Max. cable diameter [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
R	50 - 200	88	55	6	Top	S1572496, No. 1

Table 3: Approved cable penetration in H-60 steel bulkhead

Type	Size	Max. cable diameter [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
R	50 - 200	88	55	6	Unexposed	S1572485, No. 2
R	50 - 200	90	55	6	Symmetric	S1572485, No. 3

Table 4: Approved cable penetration in H-60 steel deck

Type	Size	Max. cable diameter [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
R	50 - 200	88	55	6	Top	S1572485, No. 1

Table 5: Approved cable penetration in H-0₄₀₀ steel bulkheads

Type	Size	Max. cable diameter [mm]	Sleeve length [mm]	Sleeve thickness [mm]	Sleeve position	Sleeve insulation
R	70 - 200	50	55	6	Unexposed	S1572516, No. 1 ¹⁾

1) The protective coating is not defined as non-combustible and should not be used in accommodation or in enclosed areas.

Approved for penetration in steel deck and bulkheads limited to a pressure of 4.00 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.

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.

Type Approval documentation

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

Test report No. 22N007.12C dated 16 September 1999 from SINTEF, Trondheim, Norway.
 Test report No. 22N007.12B dated 16 September 1999 from SINTEF, Trondheim, Norway.
 Test report No. PG11087 dated 12 February 2003 from DIFT, Hvidovre, Denmark.

Test report No. PG11088 dated 18 February 2003 from DIFT, Hvidovre, Denmark.
Test report No. P400835 dated 14 April 2004 from SP, Borås, Sweden.
Test report No. RS-19/B-036/E dated 21 March 2019 from CTO, Gdansk, Poland.
Test report No. RS-19/B-037/E dated 21 March 2019 from CTO, Gdansk, Poland.
Test report No. PGB10120A dated 17 December 2021 from DBI, Hvidovre, Denmark.

Water tightness/gas tightness:

Test report No. MLM 010238 dated 30 August 2001 from DNV Malmö.
Test report No. MLM 020408 dated 3 June 2001 from DNV Malmö.
Test report No. 40007647-1 dated 13 December 2011 from DNV Malmö.

Drawing No. S1572496 Rev. A dated 26 October 2021 from manufacturer.
Drawing No. S1572485 Rev. B dated 18 February 2022 from manufacturer.
Drawing No. S1572516 Rev. B dated 18 February 2022 from manufacturer.

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 DNV Type Approval Programme 8.471.19-1.

Marking of product

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

Periodical assessment

DNV's 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.