

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class H Penetration

with type designation(s)

ROXTEC SEALING SYSTEM WITH MULTIDIAMETER TECHNOLOGY, R-SERIES

Issued to

Roxtec International AB
KARLSKRONA, Sweden

is found to comply with

DNV GL offshore standards

Application :

Approved as cable and pipe penetration in class H-60/H-120 decks and bulkheads.

Approved as cable penetration in class H-0 bulkheads.

This Certificate is valid until **2022-01-15**.

Issued at **Høvik** on **2017-01-31**

DNV GL local station: **Malmö**

for **DNV GL**

Approval Engineer: **Ivar Bull**

Petter Langnes
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.

Job Id:
Certificate No: **TAF00000DH**

Product description

"Roxtec sealing system with multidiameter technology: R-series"
consisting of steel sleeve, welded or bolted (openable versions included) into steel decks and bulkheads. The sleeve is fitted with Roxtec R-frame (standard or EMC). The R-frame is filled with Roxtec (standard or EMC) halogen free RM modules.

Application/Limitations

Approved as cable and pipe penetration in class H-60/H-120 decks and bulkheads for approved ship cables and steel pipes. Approved as cable penetration in class H-0₄₀₀ bulkheads.

Restricted application is given for penetration of bulkheads: Fire from insulated side only

Maximum size of the penetrations:

Cables: 70-200 (H-60 bulkhead). Fire from both sides only for arrangement shown on drawing S1513261 Rev C.
Cables: 70-200 (H-0₄₀₀ bulkhead). Fire from insulated side only.
Steel pipes: 70-200 (H-60/H-120 deck and bulkhead). Fire from insulated side only.

Deck or bulkhead to be insulated according to classification covering the edge of the steel frame (partially insulated penetration). The pipes are to be insulated with 100 mm FireMaster 607 Blanket with density of 96 kg/m³. For details see approved and stamped drawings listed below.

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

Approved for penetration in 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 DNVGL-CP-0338, October 2015, and DNVGL-CP-0165, February 2016.

Test Reports No:

22N007.12C (Cable H-0/H-0₄₀₀) dated 16 September 1999 from Sintef, Norway
22N007.12B (Cable H-120) dated 16 September 1999 from Sintef, Norway
PG11087 Serial No. 8854 dated 12 February 2003 from DIFT, Denmark
PG11088 Serial No. 8904 dated 18 February 2003 from DIFT, Denmark
P400835 dated 14 April 2004 from SP, Sweden
P601740 (H-60/H-120 deck) dated 28 June 2006 from SP, Sweden
P601739 (H-60/H-120 bulkhead) dated 28 June 2006 from SP, Sweden

Watertightness/gastightness: (MLM = DNVGL Malmö)

Inspection report MLM 010238 (R-70 to R-200 – Cables) dated 30 August 2001
Inspection report MLM 010247 (R-70 to R-200 – Steel pipes) dated 28 September 2001

Insulation/Installation drawings No:

S1010005 dated 2 June 2006 (H-60 deck/bulkhead – Steel pipes) from Roxtec AB
S1010006 dated 2 June 2006 (H-120 deck/bulkhead – Steel pipes) from Roxtec AB
S1513261 Rev. C dated 10 January 2017 (H-Class cable – Bulkhead/Deck) from Roxtec AB



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Tests carried out

Tested according to IMO FTP Code Part 3 (IMO Res. A.754(18)) and NPD HC fire load/temperature curve.

Pressure tests with water and Helium according to DNVGL-CP-0165 ch. 4.

Marking of product

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

Periodical assessment

DNV GL'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 DNVGL-CP-0338 Section 4.