EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007C4

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Penetrations through "A" class divisions: electric cable transits

with type designation(s)
Roxtec SN seal

Issued to
Roxtec International AB
Karlskrona, **Sweden**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2022/1157,**
item No. MED/3.26a. SOLAS 74 as amended, Regulation II-2/9, IMO 2010 FTP Code and IMO MSC.1/1488

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-03-05**.

Issued at **Hamburg** on **2023-03-06**

DNV local unit:
Sweden CMC

Approval Engineer:
Carsten Hunsalz

Notified Body
No.: **0098**

for **DNV GL SE**

Christine Mydlak-Roeder
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2018 dated February 18th, 2019.

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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: Roxtec SN seal series (steel divisions)” consisting of a steel sleeve, welded or bolted. Sleeve is filled with multidiameter technology or fix diameter rubber (standard or EMC) and compression is achieved by tightening the upper nut.

Roxtec SN seals are intended to be used for single cables or as a blank fire stop solution. The installation shall be made in welded or bolted pipe sleeves according to approved sleeve positions (centered, exposed or unexposed).

Approved cable penetration in Class A-0 and A-60, deck / bulkhead

Type	**Single cable range Ø (mm)**	**Min sleeve length (mm)**	**Sleeve position**	**Sleeve insulation**
M26 (standard/EMC ES)	up to 13 or empty / closed with nut	60* BTB L=150mm (A-0, Deck)	exposed / centered / unexposed	S1576228 Bulkhead A-0, A-60, S1576015 Deck A-0, A-60
M33 (standard/EMC ES)	up to 19 or empty / closed with nut	60* BTB L=150mm (A-0, Deck)	exposed / centered / unexposed	S1576228 Bulkhead A-0, A-60, S1576015 Deck A-0, A-60
M33 EMC cushion	up to 19 or empty / closed with nut	80	exposed / centered / unexposed	S1576228 Bulkhead A-0, A-60, S1576015 Deck A-0, A-60

*welded sleeve can be extended by welding the sleeve to a pipe sleeve of corresponding diameter with the minimum wall thickness of 3mm.

Insulation details for A-0 and A-60 Bulkhead/Deck cable penetrations according to drawings Roxtec S1576015 and S1576228.

Bulkhead SN M26-M33 standard and EMC variant (ES and with cushions)

Deck SN M26 unexposed or centred (BTB L=150mm) EMC variant
Deck SN M33 unexposed or centred (BTB L=150mm) EMC variant

Application/Limitation

Approved for use as single cable penetration system in class A-0 and A-60 steel bulkheads and decks. Other applications are subject to case-by-case approval. Approved for use in class A-15 and A-30 when the penetration system is insulated as A-60. In addition the division is to be insulated with A-60 insulation at least 200 mm around the penetration.

Installation shall be made according to installation instruction DOC-004952 revision A or newer.

The insulation materials used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity.

Each product is to be supplied with its manual for installation and maintenance.

The bolted sleeves shall be installed with a nut + spring washer.

Penetration systems are not to be used for penetrating boundaries of tanks.

Type Examination documentation

Test Report No.DMT-DO-53-156, dated 2022-03-10 – A60 steel bulkhead from DMT
Test Report No.DMT-DO-53-157, dated 2022-03-10 – A0 steel bulkhead from DMT
Test Report No.8119632993-10, dated 2022-03-10 – A60 steel deck from DMT
Test Report No.8119411871-10, dated 2022-03-10 – A0 steel deck from DMT

Insulation Drawings:

Tests carried out

- IMO Res. MSC.307(88)-(2010 FTP Code), Annex 1: Part 3,
- MSC.1/Circ. 1488

Marking of product

For identification to this type examination certificate the product or packing is to be marked with:

- Manufacturer's name
- Type designation and fire-technical rating
- Mark of Conformity according to Article 10 of the Council Directive (MED):

Appendix

Additional application/information for watertightness/gas tightness (Not part of the Marine Equipment Directive requirement)

Application/Limitation

Approved for penetration in steel bulkheads or decks limited to a pressure of 4 bar watertightness and 2 bar gas tightness as follows:

For application without any cable or with cable diameter up to 19mm.

Approved for air tightness

Roxtec SN M26-M33 (standard/EMC ES and with cushions) up to a design pressure of 0.2 MPa (2 bar), test pressure - 0.3 MPa (3bar)

Approved for water tightness

Roxtec SN M26-M33 (standard/EMC ES and with cushions) up to a design pressure of 0.4 MPa (4 bar), test pressure - 0.6 MPa (6bar)

Type Approval documentation

Pressure tests: Document No.: N1429Y4V dated 2022-03-21, N142G5DG dated 2022-11-14, N142G51M dated 2022-11-11, Document No.: DOC-004768 dated 2022-06-20, N142JK4V dated 2023-02-27

Tests carried out

Pressure tests according to DNV-CP-0165 Sec. 2 Ch. 4.

END OF CERTIFICATE