

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007BA

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)
KVM Sealing Compound

Issued to

HÖHNE GmbH
Fabrik für elektrochemische Isolierungen
Kaltenkirchen, Schleswig-Holstein, Germany

is found to comply with the requirements in the following Regulations/Standards:

Regulation (EU) 2023/1667,

item No. MED/3.26a. SOLAS 74 as amended, Regulation II-2/9, IMO 2010 FTP Code and IMO MSC.1/1488

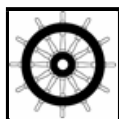
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-12-07**.

Issued at **Hamburg** on **2023-12-08**

DNV local unit:
Hamburg – CMC North/East

Approval Engineer:
Carsten Hunsalz



Notified Body
No.: **0098**

for **DNV GL SE**

Mydlak-Röder, Christine
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) 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 GL 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

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 GL 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

Cable penetration system with KVM sealing compound for class "A-60" bulkheads and decks

Type: KVM Sealing Compound

The system comprises of a steel frame, maximum size 250 x 600 mm, minimum size 100 x 100 mm, min. length 250 mm for bulkheads and 210 mm for decks, 180 mm sealing.
Compound KVM and 35 / 30 mm MANGANA retaining compound.

Mixing ratio:

Volumetric parts: 2 parts powder, 1 part liquid.

Insulation:

Partly insulated transit for class A-60 bulkheads and decks acc. to the manufacturer's drawings included in the test reports.

Bulkhead penetration:

The coaming is welded symmetrically of the bulkhead.

Installation details according drawing No. 21-04-K, 21-05-K, 21-06-K dated 22.04.2022

Application Bulkhead	Size (mm) (W x H x D) Min.	Size (mm) (W x H x D) Max.	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in deck/bulkhead	Cable maximum diameter (mm)
Rectangular	100x100x250	600x250x250	0	40	symmetrically	67,4

Deck penetration:

The coaming is welded symmetrically of the deck.

Installation details according drawing No. 21-01-K, 21-02-K, 21-03-K dated 22.04.2022

Application Bulkhead	Size (mm) (W x H x D) Min.	Size (mm) (W x H x D) Max.	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in deck/bulkhead	Cable maximum diameter (mm)
Rectangular	100x100x210	600x250x210	0	40	symmetrically	67,4

Application/Limitation

Approved for use as a cable penetration system in class A-60 steel bulkheads and decks. Other applications are subject to case-by-case approval. Approved for use in class A-0, 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.

The systems must not be installed in bulkheads and decks if water tightness is required.

Cable occupation: max. 40%

Distance between the adjacent cables: min. 5mm

Approved maximum cable diameter: 67,4 mm.

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

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

Type Examination documentation

Test Reports A-60 Fire Class:
MPA No. 20220409 dated 2022-09-29 (bulkhead)
MPA No. 20220410 dated 2022-11-08 (deck)

Installation Drawings:
No. 21-04-K, 21-05-K, 21-06-K dated 22.04.2022 (bulkhead)
No. 21-01-K, 21-02-K, 21-03-K dated 22.04.2022 (deck)

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 gas tightness (Not part of the Marine Equipment Directive requirement)

Application/Limitation

Approved for air tightness.

up to a design pressure of 0.0023 MPa (23 mbar), test pressure - 0.0035 MPa (35 mbar)

Type Approval documentation

Pressure Test Report for gas – tightness:
HÖHNE dated 2023-10-12

Tests carried out

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

END OF CERTIFICATE