TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB000097Y

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as “Forskrift om Skipsutstyr” by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

that the Penetrations through "A" class divisions: pipe, duct, trunk, etc penetrations

with type designation(s)
NM-NTG-G Pipe Penetration

issued to
Shaoxing Lianyi Machinery & Electricity Manufacture Co., Ltd.
Zhuji, **China**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2024/1975,**
item No. MED/3.26b. SOLAS 74 as amended, Regulation II-2/9, IMO MSC.1/Circ.1276, 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 **2030-07-06**.

Issued at **Høvik** on **2025-07-07**

DNV local unit:
Ningbo FIS

Approval Engineer:
Katarzyna Baczewska

Notified Body
No.: **0575**

for **DNV AS**

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), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2023 dated August 21st, 2023.

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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 USD 300 000.

Product description

"NM-NTG-G pipe penetration"
consist of a steel sleeve fitted symmetrically and welded to a steel division. The steal sleeve is filled with "NTG type" fireproof sleeve (sheet) manufactured by the client and "NM type" sealant of 15 mm thick on each side of penetration device.

For further details, see drawings listed under Type Examination documentation.

Application/Limitation

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

For A-15 and A-30 the penetration is to be insulated as A-60, and in addition the division is to be insulated at least 200 mm around the penetration.

Table 1 Approved pipe penetration in A-0 steel bulkhead.

Type	Pipe material	Pipe diameter (OD) [mm]	Sleeve size [mm]	Sleeve length [mm]	Sleeve Thickness [mm]	Sleeve position	Penetration insulation
Round	steel	5 - 480	Ø25 - Ø536	120	3	Symmetric	None

Table 2 Approved pipe penetration in A-0 steel deck.

Type	Pipe material	Pipe diameter (OD) [mm]	Sleeve size [mm]	Sleeve length [mm]	Sleeve Thickness [mm]	Sleeve position	Penetration insulation
Round	steel	5 - 480	Ø25 - Ø536	120	3	Symmetric	None

Table 3 Approved pipe penetration in A-60 steel bulkhead.

Type	Pipe material	Pipe diameter (OD) [mm]	Sleeve size [mm]	Sleeve length [mm]	Sleeve Thickness [mm]	Sleeve position	Penetration insulation
Round	copper	6 - 324	Ø25 - Ø436	120	3	Symmetric	Partially insulated plus 200 mm along pipe on both sides
Round	steel	5 - 480	Ø25 – Ø536	120	3	Symmetric	Partially insulated
Round	GRE/GRP	25 - 450	Ø100 – Ø600	120	3	Symmetric	Partially insulated

Table 4 Approved pipe penetration in A-60 steel deck.

Type	Pipe material	Pipe diameter (OD) [mm]	Sleeve size [mm]	Sleeve length [mm]	Sleeve Thickness [mm]	Sleeve position	Penetration insulation
Round	copper	6 - 324	Ø25 - Ø436	120	3	Symmetric	Partially insulated on underside plus 200 mm along pipe on both sides
Round	steel	5 - 480	Ø25 – Ø536	120	3	Symmetric	Partially insulated
Round	GRE/GRP	25 - 450	Ø100 – Ø600	120	3	Symmetric	Partially insulated

Minimum distance between pipes and between pipe and sleeve shall not be less than 5 mm.

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

The insulation material used has 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.

Type Examination documentation

Test report no. AJFS2408010093FR-01 dated 13 December 2024 from SGS, Zhejiang, China.
Test report no. AJFS2408010092FR dated 6 November 2024 from SGS, Zhejiang, China.
Test report no. AJFTS25000343R02_EN dated 14 March 2025 from SGS, Zhejiang, China.
Test report no. AJFTS25000343R01_EN dated 14 March 2025 from SGS, Zhejiang, China.

Drawings for bulkhead:
Drawing no. LY-2024-NNG-BZT-A01 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-01 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-02 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-03 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-04 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-05 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-06 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-07 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-08 dated 5 June 2024 from manufacturer.
Drawing no. LY-BZT-2024J01 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG17 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG18 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG19 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG20 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG21 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG22 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG23 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG24 dated 10 November 2024 from manufacturer.

Drawings for deck:
Drawing no. LY-NNG-BZT-A02 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-09 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-10 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-11 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-12 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-13 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-14 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-15 dated 5 June 2024 from manufacturer.
Drawing no. LY-2024-NNG-16 dated 5 June 2024 from manufacturer.
Drawing no. LY-BZT-2024J02 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG25 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG26 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG27 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG28 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG29 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG30 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG31 dated 10 November 2024 from manufacturer.
Drawing no. LY-2024-NNG32 dated 10 November 2024 from manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire technical rating, MED Mark of Conformity and USCG approval if applicable (see first page).

Additional application/information for Watertightness/gastightness (Not part of the Marine Equipment Directive requirement)

Product description

“NM-NTG-G pipe penetration”

consist of a steel sleeve fitted symmetrically and fully welded to a steel division. The steal sleeve is filled with “NTG type” fireproof sleeve (sheet) manufactured by the client and “NM type” sealant of 15 mm thick on each side of penetration device.

Application/Limitation

Approved for penetration in steel bulkheads or decks limited to a pressure of 3.2 bar (test pressure 4.8 bar) watertightness and 3.2 bar gastightness (test pressure 4.8 bar).

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

For GRE/GRP pipes: the pipe penetrations are not approved for use in watertight bulkheads on passenger ships and special purpose ships (SPS).

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

Type Examination documentation

Test Report No. SXLY2025062003 dated 20 June 2025 from manufacturer and witnessed by DNV.

Tests carried out

Pressure tests according to DNV-CP-0165.