



Certificate no.:
TAS00004KU

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Weathertight Door**

with type designation(s)

N-A,N-B,N-C,N-D,N-E,N-G and N-F.

issued to

Hankuk Miboo Co. Ltd.

Busan, Korea, Republic of

is found to comply with

DNV rules for classification – Ships

DNV-OS-C301 – Stability and watertight integrity, Edition July 2020 (Amended August 2021)

DNV rules for classification – High speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2025-07-15**

This Certificate is valid until **2030-07-14**.

for **DNV**

DNV local unit: **Busan, CMC Korea**

Approval Engineer: **Grzegorz Wolski**

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 USD 300 000.

Product description

N-A,N-B,N-C,N-D,N-E,N-G and N-F.

It is a door fabricated from 8.0 mm thick main plate. The plate is reinforced by sunken design. Edge of door is stiffened by gasket rim welded at 90-degree angle to the main plate.

Door is of single acting type with up to fourteen linked toggles and handle mounted close to non-hinged edge of door.

The following table describes the standard weathertight doors.

Light opening (W)	Light opening (H)	Toggle and hinge (T+H)	Toggle spacing [mm]	No. of stiffeners	Stiffener spacing [mm]	Pressure [kN/m ²]
660	1760	3 + 3	669	N/A	N/A	30
760	1760	3 + 3	669	N/A	N/A	30
810	1760	3 + 3	669	N/A	N/A	30
860	1760	3 + 3	669	N/A	N/A	30
960	1760	5 + 3	669	N/A	N/A	30
1060	1760	5 + 3	669	N/A	N/A	30
1260	1760	5 + 3	669	N/A	N/A	30

Application/Limitation

The doors have been Type Approved with respect to weathertightness only, i.e. fire integrity has not been considered.

The weathertight doors are found to comply with DNV-RU-SHIP July 2023 Pt.3 Ch.12 Sec.2 [4] for Weathertight doors and Sec. 6 for doors with installed windows or side scuttles and DNV-OS-C301 January 2023 Ch.2 Sec.2 [4] for Weathertight closing appliances.

Doors without windows are approved for the maximum design pressures as specified in the table above.

The design pressure at the location where the doors are to be fitted shall be equal or less than the design pressure above.

For doors with windows, the maximum pressure rating is to be taken as the lower value of the applicable door and window design pressure, based on the above values.

A door with window on the freeboard deck may not protect openings leading below freeboard deck or openings into enclosed superstructures or deckhouses that are considered buoyant.

A door with a window is to be fitted with a dead light if located in a position where dead light is required for windows.

The side scuttle Ø250 with 10 mm safety glass as indicated on the drawing with a dead light may be fitted on any of the doors without imposing any additional limitations to the use of the door.

Dimensions of the light opening of the doors can be smaller than shown on the drawings, provided that scantlings, maximum distance between the cleats and fabrication method and material are maintained.

The Type Approval does not cover the supporting structure of the doors, which is subject to approval. Interface showing door frame and bulkhead shall be submitted for case-by-case approval by yard/end user.

The door frame may be welded or bolted to the bulkhead (ref. drawing no. xx Rev. C).

Consideration shall be given if located in highly stressed areas or in areas critical of fatigue from global hull loads.

The complete installation shall be function and leak tested according to DNV-RU-SHIP Pt.2 Ch.4 Sec.8 July 2021 or DNV-OS-C301 Ch.2 Sec.2 [9] January 2021.

Type Approval documentation

Drawing No. HKMB240422 rev 1 dated 22 April 2024 from manufacturer.

Tests carried out

Prototype test has been carried out on 20.12.2014 in the presence of a DNV surveyor.

Marking of product

The product is to be marked with the following info:

- Manufacturer's name or brand
- DNV Type Approval Certificate No. TAS00004KU
- The specific type designation

Periodical assessment

DNV surveyor has permission to perform Certification Retention Survey at any time during the validity period of this certificate. Periodical assessment will be required after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.

Manufactured by:

1. **Hankuk Miboo**, Gimhae, Korea.

Manufacturers/production sites not listed here shall be assessed by DNV in accordance with DNV CP-0338 prior to manufacturing of products to this TA certificate, and a request for update of the TA certificate shall be submitted to DNV for addition/change of production sites as relevant.