

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Weathertight Door**with type designation(s)
MO4 & MO5 - Steel door

Issued to

Winel B.V.
Assen, Netherlandsis found to comply with
DNV GL rules for classification – Ships
DNVGL-OS-C301 – Stability and watertight integrity**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels and units classed by DNV GL.**Issued at **Høvik** on **2018-02-13**This Certificate is valid until **2023-02-12**.for **DNV GL**DNV GL local station: **Rotterdam, Offshore & Newbuilding**Approval Engineer: **Alessandro Russo**

Arild Rogne
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.



Product description

Weathertight steel door with max height of 1850mm, 8mm plate thickness (mild steel grade A) and 2 adjustable hinges.

Model	Cleats (n)	Max door width (mm)	Permissible design pressure in kN/m ²
MO4	4	600	71
MO4	4	650	60
MO4	4	700	52
MO4	4	750	45
MO4	4	800	41
MO4	4	850	37
MO5	6	600	71
MO5	6	650	60
MO5	6	700	52
MO5	6	750	45
MO5	6	800	41
MO5	6	850	37

Alternatives for door frames:

75x50x7mm angle bar

68x60x50mm flush U-frame

The door may be fitted with a side scuttle (Ø200, Ø250 or Ø300 with 12mm toughened glass) or window (600x400mm with 12mm toughened glass).

The door may be fitted with 40mm insulation.

Application/Limitation

The weathertight doors are found to comply with:

- DNVGL-RU-SHIP July 2016 Pt.3 Ch.12 Sec.2 [3] for Weathertight doors and Sec. 6 for doors with installed windows or scuttles.
 - DNVGL-OS-C301 January 2017 Ch.2 Sec.2 [4] for Weathertight doors and Sec. 8 for doors with installed windows or scuttles.
- for the maximum design pressures as specified above.

Considering Position 1 and Position 2 as defined in International Convention on Load Lines and DNVGL-OS-C301, the doors can be used as follow:

- MO4
 - o Position 1, doors with width of 700mm or less, without windows.
 - o Position 2, no restrictions.
- MO5
 - o Position 1, doors with a clear opening not greater than 1.35m².
 - o Position 2, no restrictions.

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

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.

Particular consideration shall be given if located in highly stressed areas or in areas critical to fatigue from global hull loads.

The door may not be fitted in a bulkhead where the design pressure is higher than indicated in the table above.

The complete installation shall be function and leak tested according to DNVGL-RU-SHIP-Pt2 Ch4 Sec.8 July 2017 and DNVGL-OS-C301 Ch.2 Sec.2 9.2.4 and 9.3 January 2017.

A door with window may not protect openings into enclosed superstructures or below freeboard deck.

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

Type Approval documentation

Title	Drawing no
MO4 - Weathertight Musketeer Door LH4cl	422.11111.1850x700
MO4 - Weathertight Musketeer Door LH4cl	422.11111.1850x850
MO4 - Weathertight Musketeer Door LH4cl U frame	422.11121.1850x700
MO4 - Weathertight Musketeer Door LH4cl U frame	422.11121.1850x850
MO4 - Weathertight Musketeer Door ISO LH4cl	422.12111.1850x700
MO4 - Weathertight Musketeer Door ISO LH4cl	422.12111.1850x850
MO4 - Weathertight Musketeer Door ISO LH4cl U frame	422.12121.1850x700
MO4 - Weathertight Musketeer Door ISO LH4cl U frame	422.12121.1850x850
MO5 - Weathertight Musketeer Door LH 6cl	422.11112.1850x700
MO5 - Weathertight Musketeer Door LH 6cl	422.11112.1850x850
MO5 - Weathertight Musketeer Door LH 6cl U frame	422.11122.1850x700
MO5 - Weathertight Musketeer Door LH 6cl U frame	422.11122.1850x850
MO5 - Weathertight Musketeer Door LH 6 cl ISO	422.12112.1850x700
MO5 - Weathertight Musketeer Door LH 6 cl ISO	422.12112.1850x850
MO5 - Weathertight Musketeer Door LH 6cl ISO U frame	422.12122.1850x700
MO5 - Weathertight Musketeer Door LH 6cl ISO U frame	422.12122.1850x850
Welding Doorplate 6-8mm	9582.002.01
Welding Frame	9582.003.01
Bulls eyes	321.06.00
Aluminium Window 600x400	321.08.11
Alu.Window for insulated door 600x400	321.08.12

Tests carried out

1475x700mm steel door with window has been hydrostatic preasure tested to 70 kN/m².

Marking of product

The product is to be marked with the following info:

- Manufacturer's name or brand
- DNVGL Type Approval Certificate No. TAS000019U
- Type designation
- Max allowable design pressure as specified above

In addition:

- (S) – If sidescuttle is fitted
- (W) – If window is fitted



Job Id: **262.1-007968-3**
Certificate No: **TAS000019U**

Periodical assessment

DNV GL surveyor has the permission to perform Certification Retention Survey at any time during the validity period of this certificate.

Periodical assessment shall be done bi-yearly with a time window of +/- 3 months.