DNV·GL

Certificate No:
TAS00002E7

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Weathertight Door

with type designation(s)
Weathertight aluminium door WR100/WR30

Issued to
Libra-Plast A/S
HAREID, Norway

is found to comply with
DNV GL offshore standards
DNV GL rules for classification – Ships
International Load Line Convention, 1966

Application :

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

Issued at **Høvik** on **2020-03-23**
This Certificate is valid until **2025-03-22**.
DNV GL local station: **Norway Newbuilding**

Approval Engineer: **Xiaolu Wu**

for **DNV GL**

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.

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Product description

Weathertight aluminium doors with 6mm plate thickness.

B x H (mm)	Type	Min Toggles + Hinges		Pressure (kN/m²)	Pressure with stiffener (kN/m²)
		Pos 1	Pos 2		
600x1200	WR100	2 + 2	2 + 2	40.3	107.9
600x1400	WR100	2 + 2	2 + 2	37.4	89.4
750x1400	WR100	2 + 2	2 + 2	26.7	66.9
900x1400	WR100	4 + 2	4 + 2	20.8	46.4
600x1600	WR100	4 + 2	2 + 2	36.4	77.6
750x1600	WR100	4 + 2	2 + 2	25.0	58.5
900x1600	WR100	5 + 3	4 + 2	19.1	40.6
600x1800	WR100	4 + 2	4 + 2	36.4	64.7
750x1800	WR100	4 + 2	4 + 2	23.7	52.0
900x1800	WR100	5 + 3	4 + 2	17.9	36.1
580x1360	WR30	2 + 2	2 + 2	40.0	95.3
660x1460	WR30	2 + 2	2 + 2	31.7	78.6
810x1460	WR30	4 + 2	4 + 2	23.4	55.0
660x1660	WR30	4 + 2	2 + 2	30.1	68.1
810x1660	WR30	5 + 3	4 + 2	21.8	48.4
660x1860	WR30	4 + 2	4 + 2	30.1	60.8
810x1860	WR30	5 + 3	4 + 2	20.7	43.2
1000x2000	WR30	5 + 3	4 + 3	14.5	27.3

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:

- DNVGL-RU-SHIP July 2019 Pt.3 Ch.12 Sec.2 [4] for Weathertight doors and Sec. 6 for doors with installed windows or side scuttles.

- DNVGL-OS-C301 January 2017 Ch.2 Sec.2 [4] for Weathertight closing appliances.

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

Position 1 and 2 in the table above is as defined in Reg. 13 of the International Convention on Load Lines, as amended 2003.

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

The 650x450mm window with 10mm safety glass is approved for a max design pressure of 42 kN/m².
The 450x300mm window with 10mm safety glass is approved for a max design pressure of 93 kN/m².

For doors with window, 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 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 10mm 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.

Aluminium doors may not be fitted when it is specified that steel doors shall be used i.e. in galley, engine-casing etc., which may be considered as a space of greater fire risk.

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.

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

The complete installation shall be function and leak tested according to DNVGL-RU-SHIP Pt.2 Ch.4 Sec.8 July 2019 or DNVGL-OS-C301 Ch.2 Sec.2 [9] January 2017.

Type Approval documentation

Drawing No: T-1-0166 Rev. D
Drawing No: T-1-0168 Rev. D
Table for aluminium "EN AW 5083 and EN AW 6082-T6"

Marking of product

The product is to be marked with the following info:
- Manufacturer's name or brand
- DNVGL Type Approval Certificate No. TAS00002E7
- Type designation
- Max allowable design pressure as specified above

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 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 DNVGL-CP-0338.