

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Weathertight hatch

with type designation(s)
WRH-E A2

Issued to
Libra-Plast A/S
HAREID, Norway

is found to comply with
DNV rules for classification – Ships
DNV rules for classification – High speed and light craft
DNV-OS-C301 – Stability and watertight integrity, Edition July 2020 (Amended August 2021)

Application :

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

Size See table on page 2
Pressure (kN/m²) See table on page 2

Issued at **Høvik** on **2023-02-15**

This Certificate is valid until **2028-02-14**.

DNV local station: **Norway NB**

Approval Engineer: **Grzegorz Wolski**

for **DNV**

Thomas Revheim
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.

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

WRH-E A2

Is a hatch fabricated from 8 mm thick aluminium main plate. Plate is reinforced by up to four stiffeners welded to the main plate by intermittent welding in middle and by double continuous welding at its ends. Edge of hatch is stiffened by gasket rim welded at 90-degree angle to the main plate.

Hatch is of single acting type with up to eight linked toggles and handle mounted centrally.

For further details see the drawings listed under Type Approval documentation below.

Application/Limitation

The application is limited to vessels built to DNV rules and for a design pressure as per table below.

Light opening (Width) [mm]	Light opening (Length) [mm]	Leaf cover thickness [mm]	Stiffener quantity [pcs]	Stiffener spacing [mm]	Gasket rim [mm x mm]	Stiffener size [mm x mm]	Toggle quantity [pcs]	Hinge quantity [pcs]	Pressure [kN/m ²]
600	600	8	-	-	50x8	-	4	2	72
600	600	8	-	-	80x8	-	4	2	82
700	700	8	-	-	50x8	-	4	2	50
700	700	8	-	-	80x8	-	4	2	49
600	800	8	2W	230	50x8	50x8	4	2	53
600	800	8	2W	230	80x8	80x8	4	2	100
800	800	8	2W	230	50x8	50x8	6	2	35
800	800	8	2W	230	80x8	80x8	6	2	62
1000	1000	8	2W+2L	320	50x8	50x8	8	2	33
1000	1000	8	2W+2L	320	80x8	80x8	8	2	63
1200	1200	8	2W+2L	400	50x8	50x8	8	2	21
1200	1200	8	2W+2L	400	80x8	80x8	8	2	39

Weather tight appliances are subject to hose and function testing after installation onboard the vessel, witnessed by a DNV surveyor, except in cases where plan approval of the hatch arrangement determines that tests are not required.

Hatches are calculated with respect to water pressure only, any other loading pattern is to be assessed on a case-by-case basis.

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

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

Hatch is to be mounted on top of coaming.

Type Approval documentation

Drawing No. A-3-01893 Rev. 0 dated 13 April 2022 from manufacturer.

Drawing No. LG-3-01417 Rev. 3 dated 02 March 2020 from manufacturer.

Tests carried out

According to DNV rules for classification: Class Programme DNV-CP-0338, September 2020.

Marking of product

The product is to be marked with the following info:

- Manufacturer's name or brand
- DNV Type Approval Certificate No. TAS00003JB
- The specific type designation:

Periodical assessment

DNV 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 DNV-CP-0338.