

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Weathertight hatch**with type designation(s)
Weathertight WRH-SF Service Flush hatch

Issued to

Libra-Plast A/S
HAREID, Norwayis found to comply with
DNV GL rules for classification – Ships
DNVGL-OS-C301 – Stability and watertight integrity
DNV GL 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 GL.****Size** 1100 mm x 1400 mm
Pressure (kN/m²) from 46 to 150Issued at **Høvik** on **2020-04-01**This Certificate is valid until **2025-03-31**.for **DNV GL**DNV GL local station: **Norway Newbuilding**Approval Engineer: **Grzegorz Wolski**

Håvard Helling
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 WRH-SF Service Flush hatch

Is a hatch fabricated from 6 mm thick steel main plate. Plate is reinforced by up to five L profiles of 50 mm x 50 mm x 6 mm 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 ten linked toggles and handle mounted centrally or close to non hinged edge of hatch.

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

Application/Limitation

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

Light opening (width)	Light opening (length)	Stiffener spacing [mm]	Gasket rim (height) [mm]	Gasket rim (breadth) [mm]	Stiffener	Pressure [kPa]
400	600	N/A	50	8	N/A	150
			80	8		
600	600	N/A	50	8	N/A	105
			80	8		
700	700	N/A	50	8	N/A	75
			80	8		
800	600	263	50	8	FB 50x8	115
			80	8		150
800	600	263	50	8	FB 50x10	115
			80	8		150
800	600	263	80	8	FB 80x10	150
			80	8	L 50x50x6	150
800	800	263	50	8	FB 50x8	80
			80	8		
800	800	263	50	8	FB 50x10	100
			80	8		
800	800	263	80	8	FB 80x10	150
			80	8	L 50x50x6	
1000	1000	230	50	8	FB 50x8	55
			80	8		
1000	1000	230	50	8	FB 50x10	70
			80	8		
1000	1000	230	80	8	FB 80x10	135
			80	8	L 50x50x6	
1100	1400	230	50	8	FB 50x8	45
			80	8		
1100	1400	230	50	8	FB 50x10	60
			80	8		
1100	1400	230	80	8	FB 80x10	135
			80	8	L 50x50x6	135

Weathertight appliances are subject for hose and function testing after installation onboard the vessel, witnessed by a DNV GL 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 (wheel loads etc.) is to be assessed on a case by case basis.

Job Id: **262.1-033239-1**
Certificate No: **TAS00002F2**

Hatches cannot be used as emergency exit type.

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.

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

Type Approval documentation

Test report No. 740 dated 19 March 2020 from manufacturer.

Drawing No. A-3-01521 Rev. 0 dated 20 February 2020 from manufacturer.

Drawing No. A-3-01523 Rev. 0 dated 20 February 2020 from manufacturer.

Tests carried out

According to DNV GL rules for classification: Class Programme DNVGL-CP-0338, September 2018.

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, approved pressure and certificate number.

Periodical assessment

DNV GL surveyor is to be given permission to perform a Certification Retention Survey at any time during the validity period of this certificate and at least every second year.