DNV·GL

Certificate No:
TAS00002VJ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Watertight Door

with type designation(s)
WRD A3

Issued to
Libra-Plast A/S
HAREID, Norway

is found to comply with
DNV GL offshore standards
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.

Issued at **Høvik** on **2021-08-04**
This Certificate is valid until **2026-08-03**.
DNV GL local station: **Norway Newbuilding**

Approval Engineer: **Grzegorz Wolski**

for **DNV GL**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Product description

WRD A3
Is a door fabricated from 6 mm or 8 mm thick aluminium main plate. Plate is reinforced by up to six stiffeners welded to the main plate by intermittent welding in middle and by double continuous welding at its ends. 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 ten linked toggles and handle mounted centrally or close to non-hinged edge of door.

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 (height)	Stiffener spacing [mm]	Gasket rim [mm]	Toggles + hinges	Stiffener	Pressure [kPa]/[kPa] 6 mm/8 mm
600	1000	250	50x8	6 + 3	50x8	50 / 60
			80x8		80x8	120 / 135
	1200	317	50x8	8 + 3	50x8	40 / 45
			80x8		80x8	85 / 105
	1400	230	50x8	8 + 3	50x8	55 / 65
			80x8		80x8	135 / 140
	1600	270	50x8	8 + 3	50x8	45 / 55
			80x8		80x8	110 / 125
	1800	310	50x8	10 + 4	50x8	40 / 45
			80x8		80x8	90 / 110
	2000	350	50x8	10 + 4	50x8	30 / 40
			80x8		80x8	90 / 95
700	1000	250	50x8	6 + 3	50x8	35 / 40
			80x8		80x8	90 / 95
	1200	317	50x8	8 + 3	50x8	30 / 30
			80x8		80x8	70 / 75
	1400	230	50x8	8 + 3	50x8	40 / 45
			80x8		80x8	100 / 100
	1600	270	50x8	8 + 3	50x8	35 / 40
			80x8		80x8	85 / 90
	1800	310	50x8	10 + 4	50x8	30 / 35
			80x8		80x8	75 / 75
	2000	350	50x8	10 + 4	50x8	25 / 30
			80x8		80x8	65 / 70
800	1000	250	50x8	6 + 3	50x8	25 / 30
			80x8		80x8	65 / 70
			80x8		65x65x8	105 / 160
	1200	317	50x8	8 + 3	50x8	20 / 25
			80x8		80x8	55 / 55
			80x8		65x65x8	65 / 120
	1400	230	50x8	8 + 3	50x8	30 / 35
			80x8		80x8	75 / 75
			80x8		65x65x8	125 / 175
	1600	270	50x8	8 + 3	50x8	25 / 30
			80x8		80x8	60 / 65
			80x8		65x65x8	90 / 155
	1800	310	50x8	10 + 4	50x8	20 / 25
			80x8		80x8	45 / 50
			80x8		65x65x8	70 / 125
	2000	350	50x8	10 + 4	50x8	20 / 20

			80x8 80x8		80x8 65x65x8	45 / 50 60 / 105
900	1200	317	50x8 80x8 80x8	8 + 3	50x8 80x8 65x65x8	15 / 20 40 / 45 65 / 100
	1400	230	50x8 80x8 80x8	8 + 3	50x8 80x8 65x65x8	20 / 25 55 / 60 125 / 135
	1600	270	50x8 80x8 80x8	8 + 3	50x8 80x8 65x65x8	20 / 20 50 / 50 90 / 120
	1800	310	50x8 80x8 80x8	10 + 4	50x8 80x8 65x65x8	15 / 20 40 / 45 70 / 105
	2000	350	50x8 80x8 80x8	10 + 4	50x8 80x8 65x65x8	15 / 15 35 / 40 55 / 90
1000	1200	317	50x8 80x8 80x8	8 + 3	50x8 80x8 65x65x8	15 / 15 30 / 35 65 / 80
	1400	230	50x8 80x8 80x8	8 + 3	50x8 80x8 65x65x8	15 / 20 40 / 45 105 / 110
	1600	270	50x8 80x8 80x8	8 + 3	50x8 80x8 65x65x8	15 / 15 30 / 40 90 / 95
	1800	310	50x8 80x8 80x8	10 + 4	50x8 80x8 65x65x8	15 / 15 30 / 35 70 / 80
	2000	350	50x8 80x8 80x8	10 + 4	50x8 80x8 65x65x8	12 / 15 30 / 30 55 / 75

NOTE: First pressure is for plate 6 mm and second pressure is for plate 8 mm.

Watertight appliances are subject to hydrostatic pressure test that can be done before installation on board of the vessel and shall be witnessed by a DNV surveyor. This test is to be made from the side that is most prone to leakage.

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

Dimensions of the light opening of the door 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.

Type Approval documentation

Test report No. 203979 dated 15 April 2021 from manufacturer.

Drawing No. A-3-01670 Rev. C dated 13 October 2020 from manufacturer.

Tests carried out

According to DNV 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 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.