

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Class A Door**

with type designation(s)

Class A-60 Door A60HBSIAXR 2051x1100

Issued to

**Schoenrock Hydraulik Marine Systems GmbH
Schenefeld, Germany**

is found to comply with

Det Norske Veritas' Offshore Standards**Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended****DNV GL rules for classification – Ships****Application :****Approved for use as an integrated part of fire retarding divisions of class A-60.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****This certificate is recognized by Transport Canada.**This Certificate is valid until **2021-09-15**.Issued at **Hamburg** on **2016-09-16**DNV GL local station: **Hamburg**Approval Engineer: **Timo Linn**for **DNV GL**

Antje Fleischhauer
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

"The Class A-60 door A60HBSIAXR 2051x1100"

Is a Class A-60 hydraulic watertight sliding steel door assembly.

The door leaf consists of a 6mm thick swedged steel plate insulated with a 80mm thick ceramic wool. L-profiles are welded at the edges around the plate and a 1.5mm steel sheet has been used as cover for the insulation. In the area of the counter-inlet the isolation of the door panel has been laid around the claws. At the top and the bottom of the door leaf, a insulated cover of 40 mm thick ceramic wool covered with 1.5 mm thick steel sheet from both sides is screwed to the door leaf.

Devices are welded for a roll mounting at the top and for hydraulic parts at half height of the door

The door frame consists of steel T-profiles welded to the bulkhead around the perimeter of the opening. A steel plate is welded to one side of the door frame on which the door control system is fitted. In the door frame two grooves with an O-ring sealing of the type "NBR 6 mm" and a fire sealing strip of type "Flaton VGP 12" have been installed.

For more details regarding sizes of stiffeners, plate thickness, etc. please see the test report documentation attachment 1.1 – 1.7.

Materials:

Insulation "FireMaster Marine Plus Blanket

Manufacturer: Thermal Ceramics UK Ltd

Nominal thickness: 40 mm

Nominal density 128 kg / m³

Seals for gas-, water- and weather-tight doors "NBR 6 mm"

Manufacturer: Harry Wegener GmbH

Intumescent Materials "Flaton VGP 12"

Manufacturer: Graf von Rex GmbH

Application/Limitation

Fire tests have been performed on both sides of the door.

Door Control system (hydraulic or electric) has to be approved according to IMO 2010 FTP Code Annex 1, Part 4.

The door is approved for installation in steel bulkheads of class A-60. Installation of the door in bulkheads made of other materials (aluminium, FRP, etc.) are subject to case-by-case approval.

A fire door of smaller dimensions may can be accepted when its construction does not deviate from that for the tested door.

Note that this is a fire safety certificate which only covers fire technical properties (i.e. not to cover any evaluations related to watertightness, weathertightness, etc.).

Max. clear opening: 1415 x 2050 mm (w x h)

Max. size of door leaf: 1244 x 2014 mm (w x h)

Any surface materials used have to be approved for smoke and toxicity and low flame spread characteristics (IMO 2010 FTP Code part 2 and 5 (or IMO FTPC Part 2 and 5 when in compliance with the IMO 2010 FTP Code Ch. 5.2 and 8)) when required according to relevant rules.

Each product is to be supplied with its manual for installation and maintenance.

Job Id: **262.1-023652-1**
Certificate No: **TAF00000DM**

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, October 2015.
Test report No. DMT-DO-53-051 and DMT-DO-53-050 dated 24 March 2016 from DMT GmbH & Co.KG, Germany.

Tests carried out

Tested accordance to IMO 2010 FTP Code part 3.

Marking of product

The product is to be marked with name of manufacturer, type designation and fire technical rating.

Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled "*Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)*", DNV GL confirms that the products listed in this certificate are in accordance with Transport Canada's requirements.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4.