EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000083G

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Fire Doors

with type designation(s)
A-60 hydraulic sliding door

Issued to
Wuxi Xinfan Marine Equipment Co., Ltd.
Wuxi, 100, **China**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2021/1158,**
item No. MED/3.16. SOLAS 74 as amended, Regulation II-2/9, IMO 2010 FTP Code and IMO MSC.1/Circ.1511, IMO MSC.1/Circ.1319

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-07-11**.

Issued at **Hamburg** on **2022-07-12**

DNV local station:
Jiangyin NB & CMC

Approval Engineer:
Timo Linn

Notified Body
No.: **0098**

for **DNV SE**

Christine Mydlak-Roeder
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2018 dated February 18th, 2019.

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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

"A-60 hydraulic sliding door"
The A-60 hydraulic sliding water-tight door opens horizontally and comprises a sliding leaf running in lateral guide ways at top and bottom, and door control system on a door frame mounted over an opening in a Class A-60 bulkhead. The materials, construction and installation shall be in accordance with the applicant's drawings WX-XF-06-00JB, WX-XF-06-00JC, WX-XF-06-00, WX-XF-06-1, WX-XF-06-02, WX-XF-06-03, WX-XF-06-06, WX-XF-06-10 and WX-XF-06-14 attached to the test reports listed under "Approval documentation".

The door's L-form frame is constructed from 65 mm and 30 mm thick steel plates. The door frame is arranged with two continuous grooves (arranged on face interfacing with door leaf) one in which a rubber seal for water tightness and in the other a fireproof sealing tape are embedded. The two adjacent inner sides of the door frame are lined with 8 mm thick fireproof board which is clad with 1.5 mm steel sheet. The steel guide ways, one at top and one at the bottom of the bulkhead opening are bolted to the door frame and bulkhead (via steel supports). Blind holes are evenly distributed along one vertical side of the door frame. These accommodate the guide pins arranged on the respective side of the door leaf when the door is closed. The overall size of the door frame is 1350 mm wide, 2350 mm high and 115 mm deep which is welded to the Class A-60 bulkhead.

The door leaf structure is of steel and consists of (from the exposed side) 1.5 mm thick steel sheet + 10 mm thick fireproof board + 14 mm thick steel plate + 10 mm thick fireproof board + ceramic wool + 10 mm thick fireproof board + 1.5 mm thick steel sheet. The total thickness of the door leaf is 115 mm. The 14 mm thick door leaf plate is stiffened with 70 mm x 18 mm flat bars and a 80 mm x 40 mm flat bar arranged around the four peripheral edges. A continuous fireproof seal is arranged additionally around the door leaf where it interfaces with the door frame. A pair of guide rollers are fitted both at the top of and at the bottom of the door leaf. These guide rollers run in the guide ways thus holding the door leaf. The overall size of the door leaf structure is 1120 mm wide, 2120 mm high and 115 mm deep.

The guide ways, rollers, guide pins their fixings, and all fastenings are of steel.

The door control system contains two hydraulic cylinders (actuators) for driving door leaf and associated components such as motor, electric and hand operated pumps, gauges, piping, oil tank, electric control box etc.

Insulation and Sealing Materials:

- Fireproof board TC-C type, 8 mm and 10 mm thick of nominal density 1400 kg/m^3 manufactured by Taicang Qilin Shipping Accessories Co., Ltd.
- Ceramic wool TG-II type, 68 mm and 170 kg/m^3 in nominal thickness and density manufactured by Yixing Marine Insulation Material Factory.
- Fireproof seal tape: expanding graphite 4 mm x 20 mm and 6 mm x 12 mm manufactured by Shanghai Jiar Fu Decoration Material Co., Ltd.
- Watertight rubber bar: Neoprene 14 mm x 16 mm provided by Jiangyin City Junshan Marine Fittings Co., Ltd.

Application/Limitation

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

The A-60 hydraulic sliding water-tight door may be mounted on either side of a Class A-60 bulkhead when the installation is as described in this certificate and test reports listed under "Approval documentation".

Maximum clear opening size of door: 1000 mm x 2000 mm (width x height).

Tested on a Class A-60 bulkhead specimen with stiffeners on the unexposed side, the insulation and A-60 hydraulic sliding water-tight door being on the exposed side (Drawing WX-XF-06-00JB).
Further tested on a Class A-60 bulkhead specimen with stiffeners and A-60 hydraulic sliding water-tight door mounted on the unexposed side with the insulation on the exposed side (Drawing WX-XF-06-00JC).

A fire door of marginally larger dimensions than a fire-tested fire door may be individually assessed and accepted by Flag Administration (or Recognized Organization acting on its behalf) for a specific project with the same classification, provided documented compliance with IMO MSC.1/Circ.1319.

The door control system has to be tested and certified for compliance with IMO 2010 FTP Code.

The insulation materials and adhesives used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity. This requirement may also be applicable for surface materials used, if required by relevant rules and regulations.

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

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

Type Examination documentation

Test reports FT09179 and FT09180 dated 19th of August 2009 issued by the Far East Fire Testing Centre (FEFTC), Shanghai, China.

Tests carried out

Tested according to IMO FTP Code Part 3 and in compliance with IMO 2010 FTP Code Ch.8.

The door has been successfully tested for extended test period of 68 minutes.

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire technical rating, Mark of Conformity and USCG marking if applicable (see first page).