EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00008AC

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

This is to certify:

That the 'A' and 'B' class fire proof windows and side scuttles

with type designation(s)
WDF-C24 Type Class A-0 Rectangular Window

Issued to
Wuxi Dongzhou Marine Equipment Co., Ltd
Wuxi, **China**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2023/1667,**
item No. MED/3.25. SOLAS 74 as amended, Regulation II-2/9, IMO MSC/Circ.1120 and IMO 2010 FTP Code, IGC Code 3

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

This Certificate is valid until **2028-12-06**.

Issued at **Hamburg** on **2023-12-07**

DNV local unit:
Jiangyin NB & CMC

Approval Engineer:
Karolina Kusmider

Notified Body
No.: **0098**

for **DNV GL SE**

Christine Mydlak-Roeder
Head of Notified Body

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 GL 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This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

"WDF-C24 Type Class A-0 fire rectangular window",
is a rectangular window composed of a main window steel frame, a glass pane, and a glass retaining frame.

The glass pane consists of a 19 mm thick fireproof glass (manufactured by Yixing Yu's Specific Glass). The glass pane is insulated from the main steel frame on the sides, starting from the edge of the glass pane, with one layer of 4 mm thick ceramic wool of type TG-2 (nominal density 170 kg/m^3, manufactured by Yixing Yuanyang Ship Material) and, in addition, one layer of 6 mm thick fireproof board (nominal density 1000 kg/m^3, manufactured by Suzhou Youlian Ship Equipment). Between the glass and the main frame flange there is a 4 mm x 40 mm fireproof and smoke proof seal strip (manufactured by Shanghai Jiar Fu Decoration Material) and between the glass and the glass retaining frame there is a watertight rubber strip.

The main steel window frame consists of a flat bar 120 mm x 12 mm to which a 35 mm x 12 mm bar is welded as a flange. Between the flat bar and the flange a L-shaped steel profile, with dimensions 90 mm x 35 mm, 2 mm thick, is connected to the bar and flange by means of screws (M5 x 16 mm), through steel bars welded to those. The volume between the main window frame and the L-shaped profile is filled with ceramic wool of type TG-2 (nominal density 170 kg/m^3, manufactured by Yixing Yuanyang Ship Material).

The glass retaining frame consists of a copper rim 50 mm deep and 6 mm thick, which is fixed to the main steel frame by means of screws (M6 x 20 mm) spaced about 75 mm apart. The main frame is fixed to the bulkhead structural core by means of welding.

Total window thickness (including glass retaining frame): 126 mm.

For further details, see drawings listed under Type Examination documentation below.

Application/Limitation

The window is approved for installation in steel bulkheads of class A-0. Other applications are subject to case-by-case approval.

Restricted application: Fire against glass retaining frame side.

Maximum size of window:	2400 x 2100 mm (W x H)
Maximum size of glass pane:	2350 x 2050 mm (W x H)
Maximum size of clear opening:	2300 x 2000 mm (W x H)

The window has only been evaluated with respect to fire technical properties (e.g. strength requirements have not been considered). Arrangement and location of any window is subject to approval from relevant authorities in each case.

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

Type Examination documentation

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Marking of product

The product is to be marked with name and address of manufacturer, type designation, fire technical rating and the MED Mark of Conformity (see first page).