EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB00008H8

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

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

with type designation(s)
CMWS-A0 Fire Window

issued to
China Marine Windows Shipyard Co., Ltd.
Kaohsiung, **Taiwan**

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 **2029-01-09**.

Issued at **Høvik** on **2024-01-10**

DNV local unit:
Kaohsiung

Approval Engineer:
Timo Linn

Notified Body
No.: **0575**

for **DNV AS**

Mydlak-Röder, Christine
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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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
"Class A-0 Fire Rectangular Window" type: CMWS-A0
is a rectangular window composed of a main window steel frame, a glass pane, and a glass retaining frame.

The glass pane type GLA0 consists of a 5 mm thick toughened glass, 5 mm fireproof gelling interlayer, and 5 mm toughened glass (manufactured by Gelling Technical Corporation). The glass pane is fixed into a 12 mm steel frame which will be fixed with a 8 mm steel retaining frame from the other side.
Between the glass and the main frame flange there is a fireproof material fireproof silicon, ceramic fibre, intumescent strip.

The main steel window frame consists of a flat bar 130 x 12 mm to which a 70 x 12 mm bar is welded as a flange.

The glass retaining frame consists of a steel rim 8 mm thick, which is fixed to the main steel frame by means of screws M5 spaced about 120 mm apart. The main frame is fixed to the bulkhead by means of M8 bolting spaced about 150 mm apart or by welding.

Total window thickness (including glass retaining frame): 130mm.
For further details, see drawings listed under Type Examination documentation below.

Application/Limitation
The window is approved for installation in steel bulkheads of A0-Class. Other applications are subject to case-by-case approval.

Maximum size of window: 2088 x 1288 mm (W x H) exclude 70 x 12 mm flange
Maximum clear view size of window: 2000 x 1200 mm (W x H)

Tested with the stiffened and insulated side which was exposed to the fire. The steel bulkhead side was unexposed to fire.

The window has only been evaluated with respect to fire technical properties. Arrangement and location of any window is subject to approval from relevant authority in each case.

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

Type Examination documentation
Test Report No. FPSRC-GW0584-IMO-F-01-A dated 22 December 2023 from National Cheng Kung University Fire Protection and Safety Research Centre, Tainan City, Taiwan.

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, Mark of Conformity and USCG approval if applicable (see first page).