EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000083V

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)
B-15 Class Window SG-FS2R1B-B15

Issued to
Samgong Co., Ltd.
Busan, Korea, Republic of

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2022/1157,**
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 **2027-11-22**.

Issued at **Høvik** on **2022-11-23**

DNV local station:
Gimhae Station

Approval Engineer:
Karolina Kusmider

Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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
"B-15 Class Window SG-FS2R1B-B15"

The window unit is a 20 mm thick fire resistant glass from Samgong (model FS2R21-B15) composed of 8 mm toughened glass, 7 mm intumescent interlayer and 5 mm toughened glass.

The window frame is composed of a 4.5 mm thick main steel frame screwed (M6, max. c/c 120 mm) to a 4.5 mm thick glass keeper of mild steel and welded to 12 mm thick glass stopper of mild steel on the opposite side, keeping the window unit in position.

The 1.2 mm thick window boxes, sealed by sealant (Kiilto Masa),are insulated by FireMaster Marine Plus Blanket (density 120 kg/m^3) manufactured by Thermal Ceramics UK Ltd and covered by 1.2 mm thick plates.

The window assembly also includes setting blocks (made from hardboard) and sealing (Kiilto Masa) between the window unit and window frame.

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

Application/Limitation
The window is approved for installation in steel bulkheads of class B-15. Other applications are subject to case-by-case approval.

Restricted application: Fire against 5 mm tempered glass.

Maximum size of window:	2140 x 1640 mm (W x H).
Maximum size of clear opening:	2000 x 1500 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
Test report No. KOMERI-0402-22T2179(E) dated 16 September 2022 from KOMERI, Busan, Korea.

Drawing No. SG-FS2R1-B15, dated 22 June 2022 from manufacturer.

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).