DNV·GL

Certificate No:
TAF00001E3

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Window and Glass Partition

with type designation(s)
A60 Fire Resistant Window JG-A60-340

Issued to
Jung Gong Ind. Co., Ltd.
Busan, Republic of Korea

is found to comply with
DNV GL rules for classification – Ships
DNV GL offshore standards
DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations

Application :

Approved for use as a fire retarding division of class A-60.

This certificate is recognized by Transport Canada.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2020-07-01**
This Certificate is valid until **2025-06-30**.
DNV GL local station: **Gimhae Station**

Approval Engineer: **Marcin Tobiasz**

for **DNV GL**

Øyvind Hoff
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

"A60 Fire Resistant Window JG-A60-340"
a window composition constructed of a 6 mm toughened pressure glass (manufactured by Jeong-Am Safety Glass) and 27 mm fire resistant glass type "Contraflam N2" (manufactured by Vetrotech Saint-Gobain) spaced 12 mm apart by an air gap containing (dehydrated air).

Total window thickness is 45 mm.

The window assembly is mounted in a steel frame that is welded to the bulkhead. This steel framing consists of a fire glass frame that is bolted to a window main frame on one side and capped with a fire glass retaining frame on the opposite side.

Main frame is made from 8 mm mild steel. Pressure glass frame is made from 3 mm mild steel. Fire glass frame is made from 1.6 mm mild steel or stainless steel (SUS 304) and bolted (M6) to main frame. Window box constructed from 1.2 mm steel is fitted to retaining frame.

For details see drawing and description in test report as mentioned under Type Approval documentation below.

Application/Limitation

Approved for use as an integrated part of fire resisting bulkheads of class A-60.

Maximum size of exposed fire technical glazing unit: 2000 x 1500 mm (width x height).
Maximum size of window: 2048 x 1548 mm (width x height).

Restricted application: Fire against toughened glass (from outside/weather side).

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 authority in each case.

External windows to comply with ISO 3903 (Ref. DNV GL Rules Pt. 3, Ch.12, Sec. 6, 1.1.4).

Hose stream test was carried out with satisfactory results according to IMO Res. A.754(18) Appendix A.1.5.

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

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, September 2018.

Test Report No. KOMERI-0402-19T5211(E) dated 14 January 2020 from Korea Marine Equipment Research Institute, Busan, Korea

Drawing No: JG-A60-340, Dated 20 January 2020 from Jung Gong Ind. Co., Ltd.

Tests carried out

Tested according 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

product/s listed in this certificate is/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.