DNV·GL

Certificate No:
TAF000009C

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Window and Glass Partition

with type designation(s)
JG-A0-300B

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

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

Application :

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

Approved for use as an integrated part of fire retarding bulkheads of class A-0.

Maximum size of exposed fire technical glazing unit: 2510 mm x 1510 mm (W x H).

Restricted application: Fire against pressure glass, from outside/weather side.

This certificate is recognized by Transport Canada.

This Certificate is valid until **2021-06-15**.

Issued at **Høvik** on **2016-06-16**

for **DNV GL**

DNV GL local station: **Pusan**

Approval Engineer: **Synnøve Bolstad Eri**

Petter Langnes
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.

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Product description

"JG-A0-300B"
The rectangular window is composed of:

- Main frame, made of 12 mm thick steel (breadth: 90 mm), welded to the bulkhead
- Glass retaining frame, made of 5 mm thick steel, screwed to the fire glass frame with M6 screws (max. spacing 75 mm).
- Glass stopper, made of 6 mm thick steel, welded to main frame on the opposite side to the glass retaining frame
- Pressure glass (exposed side), 6 mm thick of type "Toughened", manufactured by Jeong-Am Safety glass Co. Ltd.
- Steel spacer / Dehydrated air, 12 mm
- Fire resistance glass, 16 mm thick of type "Contraflame lite N", manufactured by Vetrotech Saint-Gobain, consisting of two sheets of 6 mm thick tempered glass with 4 mm spacer mainly filled with alkali-silicate in between.

Between the glazing units and main frame, the window is fitted with 5 mm thick insulation of type "Cerakwool 1300 blanket" (density 100 kg/m3) from KCC Corporation, setting block (made of hardboard), polysulphide sealant and silicone rubber.

Total thickness of glass is 34 mm.

For further details, see the drawings listed under Type Approval 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.

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).

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, October 2015.

Test report No. KOMERI-0402-15T1730 dated 27 January 2016 from Korea Marine Equipment Research institute (KOMERI), Korea.

Drawing No. JG-A0-300B (1 page) dated 8 May 2015 from the manufacturer.

Tests carried out

Tested in accordance with 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.

Job Id: **262.1-019778-1**
Certificate No: **TAF000009C**

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.