



Certificate No:
TAF00001J0

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A Door

with type designation(s)
A60-KL-02

Issued to

KwangLim Marine Tech 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 used as class A-60 double leaf fire door.

This certificate is recognized by Transport Canada. (if applicable)

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

Issued at **Hamburg** on **2021-03-31**

This Certificate is valid until **2026-03-30**.

DNV local station: **AK Admin Support**

for **DNV**

Approval Engineer: **Roland Priebe**

Jörg Kallies
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.

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.



Form code: TA 251

Revision: 2021-03

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Page 1 of 3

Product description

The **A60-KL-02** is a double leaf fire door of maximum overall size 1750 mm x 1850 mm (width x height).

Each door leaf is composed of a 8 mm thick steel plate forming the outside surface of the door. A steel profile is welded to the perimeter of the plate, forming the side of each door leaf. Each door leaf is reinforced internally with a framework of one vertical and three horizontal flat-bar stiffeners. Insulation of thickness 75mm and density 110 kg/m³ is applied to the inside face of the door. The insulation is covered with a 3mm thick steel plate. Total door leaf thickness is 95mm.

Each door leaf is fitted with three hinges fastened to the 8 mm steel plate on the outside surface of the door. The leading door leaf is fitted with a locking system consisting of a steel hand lever on both sides of the door acting on a seven-point dogging system. Additionally, the leading door leaf is fitted with a steel hand lever on both sides of the door with latch. The stationary door leaf is fitted with a locking system consisting of a steel hand lever on both sides of the door acting on a four-point dogging system. The dogging and latching mechanisms are mounted on the inside of the door which was the side exposed to the fire hazard.

The door is installed in a peripheral frame, constructed from steel L-profiles 75 x 75 x 9 mm and is welded to the steel bulkhead.

Insulating Material: mineral wool manufactured by KCC Corporation with a thickness of 25 mm and nominal density of 110 kg/m³ and an organic content of 3,13%..

For further details refer to the documentation listed below under "Type Examination documentation".

Application/Limitation

This double leaf door is approved for installation in steel bulkheads of Class A-60. Installation of this door in bulkheads made of other materials (aluminum, FRP, etc.) are subject to case-by-case approval.

Max. overall size: 1750 mm x 1850 mm (width x height)

Max. door size: 1664 mm x 1764 mm (width x height)

Max clear opening: 1600 mm x 1700 mm (width x height)

Insulation materials and adhesives used, other than the once used during testing, have to be tested for low flame spread characteristics according to IMO 2010 FTP Code part 5 and to be approved.

Any surface materials used have to be approved for smoke and toxicity and low flame spread characteristics when required according to relevant rules and regulations.

A fire door having marginally larger dimensions than the fire-tested fire door may be individually assessed and accepted by the Flag Administration (or Recognized Organization acting on its behalf) for a specific project with the same classification, provided documented compliance with IMO MSC.1/Circ.1319.

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. AK2014-0140 dated 2014-03-20 from Fire Insurers Laboratories of Korea (FILK), Korea.

Drawings from manufacturer: KL-WT-A60-002 dated 2014-01-20

This certificate is based on the previous DNV·GL Type Approval certificate 14119-15 HH issued on 2015-07-30.

Tests carried out

Tested according to IMO Res. MSC.307(88) - 2010 FTP Code, Annex 1, Part 3.

Marking of product

The product or packing is to be marked with name and address 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.



Job Id: **262.1-034209-1**
Certificate No: **TAF00001J0**

Periodical assessment

DNV'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.