DNV·GL

Certificate No:
TAF000016F

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A Door

with type designation(s)
A60-KL-06

Issued to
KwangLim Marine Tech 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 :

Approved for use as an integrated part of a horizontal 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 **2019-05-21**
This Certificate is valid until **2024-05-20**.
DNV GL local station: **Gimhae Station**

Approval Engineer: **Marcin Tobiasz**

for **DNV GL**

Mårten Schei-Nilsson
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

"A60-KL-06"
is a single leafed hinged door. The door leaf is composed, seen from outside (unexposed side) to inside (exposed side):
- 13 mm steel plate
- three layers of 3 mm graphite plate
- two layers of 25 mm Hi Wool insulation core with nominal density of 110 kg/m3 from KCC Corporation
- 3 mm steel plate (insulation cover plate)

The door leaf is fitted with 25 x 4 mm fire door seal and 20 x 40 mm fire retardant packing and is stiffened with seven vertical steel L-profiles (carlings) with dimensions 25 x 25 x 5 mm (W x B x T).

The door leaf is is attached to the door frame with 4 hinges.

The door frame is made of a 9 mm thick steel plate which is welded to the bulkhead.

Total door leaf thickness is 75 mm.

The door can be opened by hand wheel, which serves a linked locking mechanism consisting of seven locking points and is equipped with latch assembly.

For further details see the drawing listed under Type Approval documentation below.

Application/Limitation

The door is approved for installation in steel bulkheads of class A-60. Installation of the door in bulkheads made of other materials (aluminium, FRP, etc.) are subject to case-by-case approval.

Max. size of door leaf:	1265 mm x 2275 mm (W x H)
Max. size of clear opening:	1200 mm x 2200 mm (W x H)

Restricted application: fire against 3 mm thick steel inner/insulation cover plate.

Any surface materials used have to be approved for smoke and toxicity and low flame spread characteristics (IMO 2010 FTP Code parts 2 and 5 or IMO FTPC Parts 2 and 5 when in compliance with the 2010 FTP Code Ch. 5.2 and 8) when required according to relevant rules and regulations.

Note that this is a fire safety certificate which only covers fire technical properties (i.e. not to cover strength evaluations related to watertightness, weathertightness, etc.).

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-0402-18T1381, dated 7 February 2019 from Korea Marine Equipment Research Institute (KOMERI), Busan, Korea

Drawing No. KL-WT-A60-007 Rev. A (5 pages) dated 22 August 2018 from the manufacturer.

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 products listed in this certificate 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.