

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Horizontal Class A Hatches**with type designation(s)
A60-KL-HATCH-01

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 fire retarding divisions of class A-60.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****This certificate is recognized by Transport Canada.**Issued at **Høvik** on **2019-05-21**This Certificate is valid until **2024-05-20**.for **DNV GL**DNV GL local station: **Station Geoje SHI**Approval Engineer: **Marcin Tobiasz**

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.



Product description

"A60-KL-HATCH-01"

is a two hinged hatch composed of a coaming, hatch leaf and sealing materials.

Seen from the underside of the hatch leaf is composed as follows:

- 3 mm thick steel plate,
- 2 layers of 25 mm Hi Wool insulation core with nominal density of 110 kg/m³ from KCC Corporation,
- three (3) layers of 3 mm graphite plate,
- 10 mm steel cover plate.

The door leaf is fitted with 25 x 4 mm fire door seal and 20 x 40 mm fire resistance packing and is stiffened with one vertical steel L-profile (carling) with dimensions 25 x 25 x 5 mm (W x B x T).

The 12 mm thick steel coaming is insulated inside with 50 mm thick mineral wool Hi Wool with nominal density of 120 kg/m³. The coaming is welded to the steel deck.

Total door leaf thickness is 72 mm.

The hatch can be opened by hand wheel, which serves a linked locking mechanism consisting of eight locking points and is equipped with spring.

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

Application/Limitation

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

Max. size of hatch leaf:	1372 mm x 1372 mm (W x H)
Max. size of clear opening:	1200 mm x 1200 mm (W x H)

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-0402-18T4116, dated 28 January 2019 from Korea Marine Equipment Research Institute (KOMERI), Busan, Korea

Drawing No. KL-WTHA-A60-001 Rev. 2 (5 pages) dated 5 October 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.



Job Id: **262.1-029024-1**
Certificate No: **TAF000016G**

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.