

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Class A Door**with type designation(s)
"A0-KL-01" A-0 Class Fire Resistance Steel Door

Issued to

KwangLim Marine Tech Co., Ltd.
Busan, Republic of Koreais 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 an integrated part of fire retarding division of class A-0.****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 **Hamburg** on **2020-01-15**This Certificate is valid until **2025-01-14**.DNV GL local station: **Gimhae Station**for **DNV GL**Approval Engineer: **Timo Linn**

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.



Product description

" A0-KL-01 "is a A-0 class fire resistant steel door consisting of a 2 x 25 mm thick rock wool core (density: 110 kg/m³) covered by an 8 mm steel plate + 3 mm graphite layer on unexposed side and 3 mm steel plate on exposed side, fitted with 7 dogs that are part of a central locking mechanism operable by a both-sided handle, the door leaf is provided with a framed fireproof seal strip and is connected to the door frame by 3 steel hinges located on the unexposed side, according to drawings described on pages 9 to 11 of the test report.

Total thickness of door is 64 mm.

Insulation:

Mineral wool manufactured by KCC Corporation (nominal density: 110 kg/m³)

For further details, see drawings listed under Type Approval documentation below.

Application/Limitation

The door is approved for installation in steel bulkheads of class A-0. Installation of the door in bulkheads made of other materials (aluminium, FRP, etc.) are subject to case-by-case approval.

Max. size of clear opening: 950 mm x 1700 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.

External windows to comply with ISO 3903 (Ref. DNV GL rules for classification: Ships, Pt.3, Ch.12, Sec.6 [1.1.4]).

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.).

A fire door of marginally larger dimensions than a fire-tested fire door may be individually assessed and accepted by 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.

This certificate is replacing the previous MED-B 11133-14 HH issued 2014-09-03.

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.: AK2013-0154 dated 2013-07-16 issued by Fire Insurers Laboratories of Korea, Korea.

Drawing no. KL-WT-A0-001-01 to KL-WT-A0-001-05 (total of 5 pages) dated 2013-05-02 from KwangLim Marine Tech 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



Job Id: **262.1-032315-1**
Certificate No: **TAF00001BU**

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 listed in this certificate is 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.