

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Horizontal Class A Hatches**

with type designation(s)

A-60 Class Fire Door: SM-A60-HC

Issued to

Sung Mi Co., Ltd.**Gimhae-si Gyeongsangnam-do, Republic of Korea**

is found to comply with

DNV GL offshore standards**DNV GL rules for classification – Ships****Application :****Approved for use as an integrated part of fire retarding divisions of class A-60.****Max hatch clear opening: 1000 x 1000 mm (width x height)****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.**This Certificate is valid until **2021-05-23**.Issued at **Høvik** on **2016-05-24**for **DNV GL**DNV GL local station: **Gimhae MC & FIS**Approval Engineer: **Piotr Orzechowski**

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.

Product description

"A-60 Class Fire Door: SM-A60-HC"

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

The hatch leaf is made of a 130 mm thick insulation type "Mineral Wool" with nominal density of 120 kg/m³ (from KCC Corporation) and fixed from both sides with 3 mm thick steel sheet.

The hatch frame is made of 4 mm thick steel profile and is bolted with M10 bolts (spacing between bolts is approx. 150 mm) to the steel deck.

Ceramic/neoprene packing is used for sealing hatch door frame and deck and Ø 25 mm ceramic packing for sealing between hatch leaf and hatch frame.

Total hatch leaf thickness: 136 mm

For further details, see the drawing referred to in Type Examination 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 hatch leaf size: 1116 x 1116 mm (width x height)

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

Each product is to be supplied with its manual for installation and maintenance.

Type Approval documentation

Tests carried out

Tested accordance 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.