EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007YH

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

That the Fire Doors

with type designation(s)
COSMO B-15NRK

Issued to
COSMO Co., Ltd.
Busan, 11, Korea, Republic of Korea

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2021/1158,**
item No. MED/3.16. SOLAS 74 as amended, Regulation II-2/9, IMO 2010 FTP Code and IMO MSC.1/Circ.1511, IMO MSC.1/Circ.1319

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-04-12**.

Issued at **Høvik** on **2022-04-13**

DNV local station:
Gimhae Station

Approval Engineer:
Marcin Tobiasz

Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2019 dated February 22nd, 2019.

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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.

Product description

"COSMO B-15NRK"
is a single leaf hinged door and consists of insulation core made of Hi-wool of 120 kg/m^3 nominal density (manufactured by KCC Corporation). The insulation core is faced on both sides by 0.6 mm steel sheets, stiffened along the perimeter by 0.8 mm edge cover. The steel plates are glued to the insulation with an adhesive. The top and the bottom left part of the door leaf are reinforced with a 1.5 mm thick doubling plates. There are 2 vertical window stiffeners fitted in the upper part of the door leaf which end with 2 horizontal window stiffeners. In addition, there are 2 vertical stiffeners fitted in the lower part of the door leaf (along the kick out panel) which end with 2 horizontal stiffeners. All of the stiffeners are of 1.5 mm thick steel profiles. In addition, there is a duct fitted centrally between the window and the kick out panel. It consists of the 0.6 mm thick perforated sheet and is stiffened with 1 mm thick duct supports of 20 mm x 15 mm x 20 mm dimensions.

Total door leaf thickness is 45 mm.

The door may be fitted with:

- the window with the pane of fire glass model Contraflam Lite Marine A0/A15 RFG-T2D16 (manufactured by Vetrotech Saint-Gobain International AG) in the upper part of the door leaf. Thickness: 16 mm. Window frame is made from 1.2 mm thick steel and a tight seal made from cerakwool paper.
- the CD-5600 lock.
- the kick out panel with the ventilation louver of 600 mm x 800 mm maximum size (W x H) in the lower part of the door leaf.

The door leaf is fixed to the door frame with 3 hinges. The four-sided door frame is composed of 1.5 mm thick steel and may either be welded or screwed (Ø4x40) to the bulkhead spaced maximum 400 mm apart.

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

Application/Limitation

Approved for installation in steel bulkheads of class B-15. Installation of the door in bulkheads made of other materials (aluminium, FRP, etc.) are subject to case-by-case approval.

Maximum size of door leaf:	1032 mm x 2112 mm (W x H)
Maximum clear opening of door:	1000 mm x 2100 mm (W x H)
Maximum clear opening of window:	400 mm x 400 mm (W x H)
Maximum size of kickout panel:	600 mm x 800 mm (W x H)

The insulation materials and adhesives used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity. This requirement may also be applicable for surface materials used, if required by relevant rules and regulations.

Each door is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Test Report No. KOMERI-0402-22T0070(E) dated 24 February 2022 from Korea Marine Equipment Research Institute, Korea.

Drawing No. CD-FB15NRKD-0 dated 18 January 2022 from COSMO 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 and address of manufacturer, type designation, fire technical rating, the MED Mark of Conformity and USCG Approval Number if applicable (see first page).

USCG approval limitations

The approval is limited to fire doors without windows and doors with total window area of 645 cm², or less, in each door leaf. For larger windows, USCG shall be contacted.