EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007M1

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Fire Doors

with type designation(s)
A-60E single

Issued to
R & M International GmbH
Hamburg, **Germany**

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 **2026-09-20**.

Issued at **Hamburg** on **2021-09-21**

DNV local station:
Hamburg – CMC North/East

Approval Engineer:
Roland Priebe

Notified Body
No.: **0098**

for **DNV SE**

Christine Mydlak-Roeder
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 European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004, and amended by Decision No 1/2018 dated February 18th, 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 SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

A-60E single is a single leaf hinged fire door optionally equipped with window and hose port.

The door leaf is composed of 0.7 mm steel plate + 18.5 mm stone wool + 12 mm thick fire board + 18.5 mm stone wool + 0.7 mm steel plate. The layers are glued together with an adhesive of approved type. The steel sheets of the door leaf are folded forming an overlap over a reinforcing 25 x 48.5 x 25 mm U-profile along all edges of the door leaf. These edges were finished with a 0.7 mm thick U-profile with dimension 15 x 53 x 15 mm.

The insulating stone wool is Tizol-Flot Lamella 200 (nominal density 200 kg/m³, nominal organic content 2%, from Joint Stock Company “Tizol”) and the fire protection board is Cemval Protect Marine (nominal density 975 kg/m³, organic content 18.4%, from Cem Trade GmbH).
Alternative: the fire protection board “PROMARINE PX1” (nominal density 750 – 850 kg/m³, from Promat Research and Technology Centre) may be use (see Expert Opinion No. 20210738).

An intumescent strip (1.9 x 20 mm) is mounted along the bottom and top edge of the door leaf and the hose port and along the vertical edges of the door frame.

The door frame is a three-sided steel Z-profile (60 x 64 x 29 x 4 mm). It is mounted to the bulkhead with M10 mm bolts with nuts and washer.
Alternative a Rina-frame profile with an extra flange (65 x 65 x 64 x 34 x 4 mm) must be fully welded to the steel bulkhead (see PHD10036A).

The window is positioned in the upper half of the door leaf. The cut out in the door leaf is 450 x 450 mm and the clear opening of the glass section is 400 x 400 mm. The glass pane consists of 27 mm thick Pilkington Pyrostop 60-201 (from Pilkington Deutschland AG, Gelsenkirchen, Germany). The window frame is on both sides formed from a 62.5 x 3 mm steel profile and fixed to the door leaf with counter sunk screws. 4 mm thick insulfrax paper is glued inside the window frame towards the glass pane.
Alternative: a round window with Ø 400 mm clear view may be used (see PHD10036A).
Alternative: a glass of “Type A-60” from Yuehua Industrial And Technical Glass Factory, Qinghuangdao, China, may be used (see PHD10036A).

The hose port is located at the bottom of the door leaf on the lock side. The clear opening is 155 x 153 mm. The piano hinge of the hose port was mounted to the door leaf with pop-rivets. The hose port is closing automatically by means of a concealed spring fetter (chain spring).
Alternative 1 (as tested in PHD10033A) is equipped with a finger hole with a pipe and cover extending 14 mm into the hose port.
Alternative 2 (as tested in PHD10033A) is not equipped with any finger hole.

The door leaf is furnished with three steel hinges, a magnetic sensor at the top edge lock side and with a latch/bolt lock.

Total door leaf thickness (excluding window fixing frame): 50.0 mm.

For further information please see the documents under Type Examination 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. door leaf size: 1242 x 2216 x 50 mm (width x height x thickness)
Max. door clear opening: 1200 x 2200 mm (width x height)
Max. window glass size: 440 x 440 x 27 mm (width x height x thickness), alternative: Ø 440 x 27 mm (diam. x thickness)
Max. window clear opening: 400 x 400 mm (width x height), alternative: Ø 400 mm (diameter)
Max. hose port clear opening: 155 x 153 mm (width x height)

Doors with windows shall not be fitted in the boundaries of machinery spaces of category A.

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

Type Examination documentation

- Test report No. PGB10108A dated 2021-06-23 from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.
- Test report No. PHD10033A dated 2021-06-23 from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.
- Fire technical assessment No. PHD10036A dated 2021-07-06 from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.
- Expert Opinion No. 20210738 dated 2021-07-08 from MPA Dresden, Freiberg, Germany.

Tests carried out

Tested according to IMO Res. MSC.307(88) – 2010 FTP Code Annex1, Part 3

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire technical rating, the MED Mark of Conformity and USCG approval if applicable (see page 1).

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. Doors with a window area exceeding 645 cm² are not part of this certificate and need direct USCG approval.