EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000042Y
Revision No:
3

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL 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-60 double

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

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2022/1157,**
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 **2028-07-30**.

Issued at **Hamburg** on **2023-07-31**

DNV local unit:
Hamburg – CMC North/East

Approval Engineer:
Roland Priebe

Notified Body
No.: **0098**

for **DNV GL 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 GL 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This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

Product description

"A-60 double"
Consisting of a A-60 double fire door.
The structure and shape of each door leaf A+B is symmetrical and consists of:
-Face sheet I: 1.5 mm thick galvanized steel
-Insulation: The insulation inside the door leaf consisted of two layers of 22 mm thick stone wool ABM-SR 150 with a density of 150 Kg/m³, provided by Shanghai ABM Rockwool Co., Ltd, China and with a 6 mm thick fire board type Promina M with a density of 1000 Kg/m³ , provided by Promat Research and Technology Centre, Belgium, mounted between them. The three layers were glued together as well as to the steel sheets with adhesive of approved type.

As alternative insulation material the "TIZOL-FLOT Lamella 150" (density 150 kg/m³) from Joint Stock Company "TIZOL" in combination with "Promarine PX1" (density 885 kg/m³) from Promat Research & Technology may be used – see assessment No. 20191249 from MPA Dresden.

The steel sheets of both door leaves were folded forming an overlap of 20 mm along the vertical edges as well as along the top edge of the door leaves. The steel sheets were spot welded together along the bottom edge.

Both door leaves were mounted with a 1.9 x 20 mm intumescent strip type: Promaseal PL provided by Promat GmbH; Germany adhered along the lock side, as well as along the hinged side, the top edge and the bottom edge of both the door leaves.

Both door leaves were furnished with three steel hinges.

Total thickness of each door leaf: 53,5 mm.

Door frame:
The exterior dimensions (width x height x depth x thickness) of the door frame were:
- 2670 x 2315 x 56 x 4 mm.

The steel door frame consisted of three 4 x 29 x 56 x 60 mm Z-profile along the top and the vertical edges as well as a steel U-profile 4 x 30 x 56 x 30 mm mounted upside down along the bottom. The various frame profiles were fixed together by means of brackets. The door frame was mounted to the bulkhead with M10 mm bolts with nut per approx. 270 mm along the vertical door frames and per approx. 270 mm along the top door frame.

Alternatively the Z-shaped profile may be substituted by an U-shaped profile of 34 x 56 x 65 x 65 mm, 4 mm thick and fully welded to the bulkhead – see assessment PGA11194A from DBI.

Door leaf A (inactive door):
The exterior dimensions (width x height x thickness) of the door leaf were:
- 1270 x 2235 x 53,5 mm.
The door leaf was provided with a casing along the entire lock side covering the two espagnolette locks. The lock at the top consisted of an espagnolette latch lock activated by a door handle mounted approx. 380 mm from the top of the door leaf. The espagnolette lock at the bottom of the casing is activated when the active door is closing pressing the latch inwards and the bolt downwards
An intumescent strip Promaseal, provided by Promat GmbH, Germany was adhered along the top, the bottom the hinged side and the lock side of the door leaf.

Door leaf B (active door):
The exterior dimensions (width x height x thickness) of the door leaf were:
- 1270 x 2235 x 53,5 mm.
The door leaf was provided with a three-point lock. The lock at the top and the bottom consisted of a latch lock. The central lock consisted of a latch/bolt lock. All three lock casings were covered with a 1.5 mm thick steel casing and insulated inside on both sides with 6 mm thick Promina M fire board. Along the opposite door leaf a protection cap was welded on the inside along the openings in the espagnolette casing. The protection caps were covering the holes for the latches and bolt of the three locks.
At the central part of the lock side the door leaf was mounted with two fire hooks. (300 mm above and 300 mm below the lock).
An intumescent strip Promaseal, provided by Promat GmbH, Germany was adhered along the top, the bottom and the hinged side of the door leaf.

Door may also be fitted with:

Windows:
Both door leaves can be mounted with a window situated in the upper part of the door leaf. The cut out in the door leaf was approx. 460 x 460 mm (width x height). The clear opening of the glass section was 405 x 405 mm. The glass pane Pyrostop 60-201 glass consisted of a 27 mm thick toughened safety glass provided by Pilkington. The exterior dimensions of the glass pane were 445 x 445 x 27 mm.

Alternatively, the door leaves may be fitted with a round window with same dimension (ø 405 mm). The glas “Type A-60” is 32 mm thick and made by Yuehua Industr., China - see assessment No. PGA11194A from DBI.

Hose port:
At the bottom of the lock side the active door leaf B was mounted with a hose port. The dimensions of the hose port were 200 mm wide including 20 mm overlap and 167 mm height excluding overlap. The thickness of the hose port was 53.5 mm. The clear opening of the hose port on the exposed side (with the door closed) was 150 x 150 mm.

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.

The door was tested with the door frame fixed to the bulkhead with bolts (acc. to the test report) and is also approved for use with door frames both bolted, tack- and fully welded to the bulkhead.

Maximum size of clear opening of the fire door: 2500 x 2200 mm (width x height).
Maximum size of clear opening of the hose port: 150 x 150 mm.
Maximum size of exposed fire technical glazing units is 405 x 405 mm or alternatively ø 405 mm.

The insulation materials and adhesives and gaskets 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.

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

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

Type Examination documentation
Test report no.: PGA11194A dated 07th of March 2018 from Danish Institute of Fire and Security Technology (DBI), Denmark.
Assessment Report No. PGA11194A dated 26th June 2018 from DBI, Denmark.
Assessment Report No. PGA11194A dated 31st August 2018 from DBI, Denmark.
Assessment Report No. 20191249 dated 04th November 2019 from MPA Dresden, Germany.

Tests carried out
Tested according to IMO 2010 FTP Code Annex1, Part 3.

Marking of product
The product or packing is to be marked with name of manufacturer, type designation, MED Mark of Conformity and USCG approval number if applicable.

USCG approval limitations
The approval is limited to fire doors without windows and doors with total window area of 645 cm^2, or less, in each door leaf. Doors with a window area exceeding 645 cm^2 are not part of this certificate and need direct USCG approval.