

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 "B" Class divisions, fire integrity

with type designation(s)

W25 - Wall panel without/with fixtures, restricted

Issued to

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

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2018/773**,

item No. MED/3.11b. SOLAS 74 as amended, Regulation II-2.3.4 & II-2/9 and IMO 2010 FTP Code

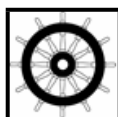
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-08-28**.

Issued at **Hamburg** on **2019-08-29**

DNV GL local station:
Hamburg

Approval Engineer:
Pavel Golyshev



Notified Body
No.: **0098**

for **DNV GL SE**

Gerhard Aulbert
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.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

"W25 - Wall panel without/with fixtures, restricted"

B-Class wall construction composed of individual panels which are joined together by means of tongue connection and are additionally fixed with steel screws and pop rivets.

An individual panel is a sandwich construction made by 0.6 mm thick steel sheet (from the side exposed to fire) and 0.5 mm thick steel sheet (from the other side) facings and a mineral wool core. The mineral wool is fixed to the steel sheets by means of approved adhesive. The panels are jointed together with 4.2 x 16 mm self-drilling steel screws at c/c 300 mm along the joints on the unexposed side and with one screw near each joint at a height of 2200 mm from the bottom of the bulkhead. Further fixing details acc. to the manufacturer drawings included in test reports.

For the mineral wool, one of the following mineral wool types may be installed:

- Tizol-Flot Lamella 200 from Joint Stock Company "Tizol" with nominal density of 200 kg/m³ (as tested);
- SeaRox SL 485 from Rockwool International A/S with nominal density of 200 kg/m³ (acc. to Assessment no. 20140873/01).

Total panel thickness: 25 mm.

Following optional installations may be included according to test reports PGA10432:

Installation 1 "Switch/plug cover box type 1"

The dimensions of the cover box type 1 are 175 mm x 300 mm (width x height), with a depth of 24 mm (excluding thickness of insulation material) and with additional 25 mm flaps projected 25 mm outwards in a 90° angle. The cover box is fixed to the unexposed side of the bulkhead with steel screws and is fitted with notch for cable. Further details acc. to drawing No. SW-25mm+FIXTURES_FIRETEST_03.2014_06-7.

Installation 2 "Switch cover type 2"

The dimensions of the cover box type 2 are 100 mm x 100 mm (width x height), with a depth of 24 mm (excluding thickness of insulation material) and with additional 25 mm flaps projected 25 mm outwards in a 90° angle. The cover box is fixed to the unexposed side of the bulkhead with steel screws and is fitted with notch for cable. Further details acc. to drawing No. SW-25mm+FIXTURES_FIRETEST_03.2014_07-7.

Cover box used in installations 1 to 2 is manufactured by 0.6 mm thick steel sheet and insulated with 6 mm thick Glasroc F Multiboard with nominal density of 1000 kg/m³ which is glued to the box with approved adhesive. For each cover box, 25 mm outer bends are arranged along all edges for fixing the box to the bulkhead panel. Between the 25 mm outer bends and the ceiling panel, strips of Sika Firesil Marine N are arranged. For insulation of the cover box the following materials may be also used (acc. to Assessment 20150182):

- "Promaxon Type A" with density of 850 kg/m³ and thickness of 8 mm or
- "Promina®M" with density of 1000 kg/m³ and thickness of 6 mm,

both manufactured by Promat Research and Technology Centre NV.

Installation 3 "Reinforcement type 1"

The reinforcement type 1 consists of two U-shaped 21.5 mm x 80 mm x 21.5 mm x 2.0 mm steel profiles spot welded together at c/c 500 mm forming a post with the exterior dimensions 24 mm x 82 mm. The void inside the reinforcement is filled out with Tizol-Flot Lamella 200. The reinforcement post is mounted vertically inside along the central part of the bulkhead panel. Further details acc. to drawing No. SW-25mm+FIXTURES_FIRETEST_03.2014_04-7.

Installation 4 "Reinforcement type 2"

The reinforcement type 2 consists of two U-shaped 21.5 mm x 100 mm x 21.5 mm x 1.5 mm steel profiles spot welded together at c/c 500 mm forming a square with the exterior dimensions 25 mm x 101.5 mm. The void inside the reinforcement is filled out with Tizol-Flot Lamella 200. The reinforcement

profile is mounted horizontally inside the bulkhead panel at a height of 1765 mm to the centre of the reinforcement profile. For further see drawing No. SW-25mm+FIXTURES_FIRETEST_03.2014_05-7.

Installation 5 "Cable duct"

Manufactured by cutting a groove with the dimensions of 13 mm x 90 mm x 2075 mm (depth x width x length) in the panel insulation, covered with a 140 mm x 2275 mm (width x length) lid made by 1.0 mm thick steel and fixed to the panel with steel screws. A cable is mounted inside the duct and is projected through the steel sheet from a cut-out of Ø33 mm on the exposed side. The penetration is sealed with Rukomarine Fireproof. Further details acc. to drawing No. SW-25mm+FIXTURES_FIRETEST_03.2014_03-7.

Following optional installation may be included according to test reports PGA10498:

Installation 6 "Water closet with reinforcement and back box"

The reinforcement for the water closet consists of two U-shaped 2475 mm long steel profiles of specifications 23 mm x 40 mm x 23 mm and 21 mm x 36 mm x 21 mm made by 1.5 mm thick steel and spot welded together at c/c 500 mm. The horizontal reinforcement between the vertical posts consists of several U-shaped 260 mm long steel profiles made by 1.5 mm thick steel and welded to the vertical posts. The voids inside the reinforcements are filled out with Tizol-Flot Lamella 200. The water closet is mounted to the bulkhead reinforcement from the side exposed to fire with two M12 x 100 steel bolts and is covered with cover box from the other side. Additional cover box is mounted to cover each of the two M12 x 100 bolts. The water closet is also mounted with Ø50 mm drain pipe (flush pipe).

The cover box has exterior dimensions of 631 mm x 260 mm (height x width), with a depth of 76 mm (excluding thickness of insulation material), manufactured from 0.6 mm thick steel sheet with Tizol-Flot Lamella 200 glued to the steel sheet with approved adhesive. The sheet is bent 20 mm outwards along the bottom of the cover box. Between the bulkhead and the cover box the surface is insulated with 6 mm thick Glasroc F Multiboard with nominal density of 1000 kg/m³. Inside the box the connection between the bulkhead and the box as well as pipe penetrations are sealed with Sika Firesil Marine N sealing. The cover box is fixed to the bulkhead with steel screws. The cover box is mounted with upper (fixed with steel bolts) and lower (fixed with steel screws) lids. Both lids are insulated with Tizol-Flot Lamella 200 glued to the steel sheet with approved adhesive. Insulfrax Paper is mounted around the drain pipe at the penetration in the cover box lid.

For further details see drawings included in test report PGA10498.

Instead of Glasroc F Multiboard insulating material used in the construction of the cover box, the following materials may be alternatively used (acc. to Assessment 20150182):

- "Promaxon Type A" with density of 850 kg/m³ and thickness of 8 mm or
- "Promina®M" with density of 1000 kg/m³ and thickness of 6 mm,

both manufactured by Promat Research and Technology Centre NV.

Following optional installations may be included according to test reports PGA11314A:

Installation 7 "Astro Fuse wall light"

Type designation Astro "FUSE" with integrated locking mechanism. On the unexposed side of the panel the entire wall light is covered with a soft cover box having exterior dimensions of 235 mm x 150 mm x 60 mm (height x width x depth). 35 mm of the edges of the box are bent 90° outwards and the edges are fixed to the bulkhead panel along all four sides with screws with pressed washer. A strip of 100 mm wide aluminium duct tape is adhered with 65 mm on the bulkhead panel covering the screws and 35 mm upwards along the sides of the cover box. Further details acc. to drawing No. W25+FIXTURES_FIRETEST_08.2018_06-06.

Installation 8 "Duty alarm panel"

Duty alarm panel type "DAP 2200". A reinforcement frame consisting of four 8 mm x 23.5 mm x 8 mm x 1.0 mm steel U-profiles is mounted along the edges of the cut-out inside the bulkhead panel and is spot welded together along the corners forming a frame. The alarm panel is fixed to the frame by means of four M4 x 40 mm locking screws and four 7 mm x 21.5 mm x 7 mm x 0.7 mm steel holding brackets

On the unexposed side of the panel the entire wall light is covered with a soft cover box having exterior dimensions of 340 mm x 185 mm x 70 mm (height x width x depth). 40 mm of the edges of the box are bent 90° outwards and are fixed to the bulkhead panel along all four sides with steel screws with pressed washer. A strip of 100 mm wide aluminium duct tape is adhered with 60 mm on the bulkhead panel covering the screws and 40 mm upwards along the sides of the cover box. Further details acc. to drawing No. W25+FIXTURES_FIRETEST_08.2018_04-06.

Installation 9 "5 x switch socket"

5x switch unit with cavity sockets, covered with a soft cover box having exterior dimensions of 400 mm x 165 mm x 55 mm (height x width x depth). 45 mm of the edges of the cover box are bent 90° outwards and are fixed to the bulkhead panel along all four sides with steel screws with pressed washer. A strip of 100 mm wide aluminium duct tape is adhered with 65 mm on the bulkhead panel covering the screws and 35 mm upwards along the sides of the cover box. Further details acc. to drawing No. W25+FIXTURES_FIRETEST_08.2018_05-06.

The soft cover box in installations 7, 8 and 9 is formed from 3.5 mm thick aluminium coated needle mat of type VitriBond Marine (with nominal density of 220 kg/m³ and manufactured by Culimeta Textiles-Technologie GmbH).

Installation 10 "Reinforcement for handrail"

The reinforcement consists of a U-shaped 1.5 mm thick steel sheet glued to the steel sheet and the mineral wool inside the panel towards the exposed side of the bulkhead. Further details acc. to drawing No. W25+FIXTURES_FIRETEST_08.2018_03-06.

For further details, see test reports (all with included drawings) listed under Type Examination documentation below.

Application/Limitation

Approved for use as a vertical fire retarding division of Class B-15.

Approved for use as a vertical fire retarding division of Class B-0 if the adhesive of type YB2002x/8001 (100 g/m²) is used.

Restricted application: the bulkhead is to be installed with the 0.6 mm thick steel sheet side to the fire hazard.

Maximum panel size: 2475 mm x 1200 mm (height x width).

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, use and maintenance.

Type Examination documentation

Test Reports Nos. PGA10431 dated 16th of June 2014 (basic wall without fittings), PGA10432 dated 4th of August 2014, PGA10498 dated 5th of August 2014 and PGA11314A dated 30th of November 2018 (walls with fittings), all issued by DBI Danish Institute of Fire and Security Technology, Hvidovre, Denmark.

Assessments nos. 20150182 dated 7th of July 2015 and 20140873/01 dated 22nd of July 2019 both issued by MPA Dresden (Fire Test Laboratory) Germany.

Tests carried out

Tested according to IMO Resolution MSC.307(88) – 2010 FTP Code Annex 1, Part 3.

Marking of product



Job Id: **344.1-009020-1**
Certificate No: **MEDB000050F**

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

USCG Approval Category (Module B) number

This product has been assigned a U.S. Coast Guard Module B number 164.108/EC0098 to note type approval to Module B only as it pertains to obtaining US Coast Guard approval 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.