

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)
SD35 - Ceiling panel without/with fixtures

Issued to
R & M International GmbH
Hamburg, Germany

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2019/1397,**
item No. MED/3.11b. SOLAS 74 as amended, Regulation II-2/3.4 & II-2/9, IMO 2010 FTP
Code, IMO MSC/Circ.1120 and IMO MSC.1/Circ.1581

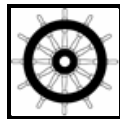
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-07-02.**

Issued at **Hamburg** on **2020-07-03**

DNV GL local station:
Hamburg CMC

Approval Engineer:
Roland Priebe



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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

The **SD35 - Ceiling panel without/with fixtures** is a suspended ceiling. The panels are manufactured as sandwich panel consisting of two layers of galvanised steel sheets with mineral wool glued between them. On the exposed face the galvanised steel sheet is 0.6 mm and on the unexposed face 0.5 mm. The panels are approx. 37 mm thick.

The insulation consists of 35 mm thick "SeaRox SL 340" (density: 80 kg/m³, organic content: 2.2%) from Rockwool B.V. the Netherlands.

Alternatively, the isolation "TIZOL-FLOT 80" may be used – see assessment No. 16/1036 from Currenta.

The mineral wool is fixed to the steel sheets with adhesive of approved type.

The panels are jointed with groove and tongue and are fixed by screws in a supporting frame. Alternatively, the panels can be fixed by adjustment hooks to the supporting frame.

The distance between the exposed side of the ceiling and the lower surface of the steel deck is approx. 300 mm.

Following optional installations may be included according to test report PGA10963A:

Installation 1: Hatch 420 x 420

The hatch is made of 24 mm thick "Tizol-Flot Lamella" (200 kg/m³) with 0.6 mm galv. steel sheets glued on both sides. On both steel sheets all four edges are bent 23 mm 90° so that the overlapping sides were closed by pop-rivets. A 1.5 mm thick Z-shaped steel profile is surrounding the hatch door and is welded together at the corners. The edge of the clear opening is reinforced with an L-profile fixed with pop-rivets.

The hatch is mounted with a piano hinge on one side and a pivot lock in the center of the opposite side.

Exterior dimension of the hatch: 420 x 420 x 25 mm

Clear opening of the hatch: 400 x 400 mm

Installation 2: Downlight DL52

The down light model LightPartner DL52 is mounted in the panel from the exposed side by fixing it in a circular cut-out of ø 143 mm with self-tapping screws. On the unexposed side of the panel the entire downlight is covered with a cover box made of 3,5 mm thick aluminium coated needle mat VitriBond Marine. The edges of the box (20 mm) are bent 90° outwards and are fixed to the ceiling panel with 100 mm wide aluminium duct tape as well as across the cable. The dimension of the cover box is 200 x 400 x 70 mm.

Installation 3: Downlight DLT RT(M) FR

The downlight model Glamox DLT RT(M) FR is mounted in the panel in a cut-out of 277 x 579 mm. It is mounted by means of four suspension brackets, two along each longitudinal edge, fixed with screws. The cover plate on the exposed side is clipped on along the edges. On the unexposed side of the panel the entire downlight is covered with a cover box made of 3,5 mm thick aluminium coated needle mat VitriBond Marine. The edges of the box (20 mm) are bent 90° outwards and are fixed to the ceiling panel with 100 mm wide aluminium duct tape as well as across the cable. The dimension of the cover box is 450 x 700 x 90 mm.

Installation 4: Hatch 820 x 620

The hatch is made of 24 mm thick "Tizol-Flot Lamella" (200 kg/m³) with 0.6 mm galv. steel sheets glued on both sides. On both steel sheets all four edges are bent 23 mm 90° so that the overlapping sides were closed by pop-rivets. A 1.5 mm thick Z-shaped steel profile is surrounding the hatch door and is welded together at the corners. The edge of the clear opening is reinforced with an U-profile fixed with pop-rivets.

The hatch is mounted with a piano hinge on one long side and two pivot lock on the opposite side.

Exterior dimension of the hatch: 820 x 620 x 25 mm

Clear opening of the hatch: 800 x 600 mm

Installation 5: Hatch 598 x 800

The hatch is made of 24 mm thick "Tizol-Flot Lamella" (200 kg/m³) with 0.6 mm galv. steel sheets glued on both sides. On both steel sheets all four edges are bent 23 mm 90° so that the overlapping sides were closed by pop-rivets. The clear opening of the hatch is formed by the panel edges mounted with a stopper profile along the longitudinal edge of the hatch. The edge of the short sides is formed by bending the panel edge 20 mm inwards. The hatch is mounted with a piano hinge on one short side and two pivot lock on the opposite side.

Exterior dimension of the hatch: 598 x 800 x 25 mm

Clear opening of the hatch: 545 x 765 mm

Installation 6: Loudspeaker ML 16A

The loudspeaker model FUNA ML 16A is mounted in the panel in a cut-out of \varnothing 143 mm and fixed to the exposed side with self-taping screws. On the unexposed side of the panel the entire loudspeaker is covered with a cover box made of 3,5 mm thick aluminium coated needle mat VitriBond Marine. The edges of the box (20 mm) are bent 90° outwards and are fixed to the ceiling panel with 100 mm wide aluminium duct tape as well as across the cable. The dimension of the cover box is 200 x 200 x 50 mm.

Installation 7: Smoke detector RM 149

A smoke detector model Smartwares RM 149 was fixed to the ceiling panel on the exposed side by means of an adaptor fixed to the ceiling panel with self-drilling screws. The cut out in the ceiling panel is \varnothing 24 mm and solely for the cable. The hole was sealed off with Sika Firesil Marine N ending with an \varnothing 23 mm sealing O-ring, EPDM cable sleeve.

Installation 8: Cable penetration

An \varnothing 8 mm cable is mounted in a cable penetration in ceiling panel. The cut out in the ceiling panel was an \varnothing 20 mm through-going hole, where the cable was passing. The hole was sealed off with Sika Firesil Marine N ending with an \varnothing 23 mm sealing O-ring, EPDM cable sleeve.

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

Application/Limitation

Approved for use as a horizontal fire retarding division of class B-0.

With a minimum distance between exposed side of the ceiling and the A-Class structural steel deck of 300 mm, the whole construction may be regarded as a horizontal fire retarding division of Class A-30.

Max. panel dimension: 600 mm x 3000 mm x 37 mm

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 report No. GH07/5214.1 dated 11th June 2007 from TÜV Nord, Hamburg, Germany.
- Test report No. PGA10641 dated 10th March 2015 (basic ceiling without fittings) from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.
- Test report No. PGA10963A dated 12th November 2018 (ceiling with fixtures) also from DBI.
- Assessment No. 16/1036 dated 08th June 2016 from Currenta GmbH & Co. OHG, Leverkusen, Germany.

Tests carried out

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



Job Id: **344.1-010411-1**
Certificate No: **MEDB00006GO**

Marking of product

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 164.110/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.