

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB000096W

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 **A & B Class divisions fire integrity: B class divisions.**

with type designation(s)
C50SG - 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) 2023/1667,

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

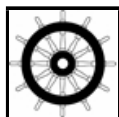
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2029-08-28**.

Issued at **Hamburg** on **2024-08-29**

DNV local unit:
Essen

Approval Engineer:
Meike Grabau



Notified Body
No.: **0098**



for **DNV SE**

Digitally Signed By:
Christine Mydlak-Röder
Location: **DNV Hamburg, Germany**

Mydlak-Röder, Christine
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 1/2023 dated May 26th, 2023.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

“C50SG - Ceiling panel without/with fixtures”

is a ceiling panel consisting of a 49 mm mineral wool core covered by 0.6 mm galvanized steel sheets on the exposed side and 0.5 mm galvanized steel sheets on the unexposed side. The mineral wool type “ABM-SR 120”, produced by Shanghai ABM Rock Wool Co., Ltd. with nominal density of 120 kg/m³, is fixed to the steel sheets with adhesive of approved type. The panels are joined to each other with tongue and groove, covered by a 4.5 mm fire board “Cemval Protect Marine”, produced by CemTrade GmbH with nominal density of 975 kg/m³. The panel joints of start and end panels consisted of a 1.5 mm joint cover profile fixed with rivets.

Total panel thickness: 50 mm.

Following optional installations may be included:

Installation 1 “Inspection Hatch”

The inspection hatch was installed into an 840 mm x 628 mm opening in the ceiling using a piano hinge fastened to the hatch frame made of 1.5 mm thick steel. The frame had a clear opening of 585 mm x 585 mm and was fixed to the ceiling panels using steel rivets. The inspection hatch was manufactured from two 0.7 mm steel half-shells and one 0.6 mm steel half-shell. The hatch was insulated in between the three half-shells with 25 mm + 20 mm thick “ABM-SR 200”, produced by Shanghai ABM Rock Wool Co., Ltd. with a nominal density of 200 kg/m³ adhered to the half-shells using an approved adhesive. A 50 mm wide band of 3.5 mm aluminum coated needle mat designated „VitriBond Marine” was adhered to the ceiling panel(s) and hatch frame using aluminum duct tape designated “Coroplast 930 Alu SE” around the hatch opening on the unexposed side. Two steel turning locks were installed to close the inspection hatch. A strip of 2 mm x 20 mm “RM2002” intumescent sealing was installed between the frame and hatch on the lock side. See drawings C50SG_WITH_FIXTURES_FIRETEST_06.2024_09-10 + 10-10 for details.

Installation 2 “Cable Penetration”

An Ø8 mm electric cable designated “CJPF/SC” was penetrating the ceiling panel through a Ø30 mm cutout in the panel. A sealant designated “Sika Firesil Marine N” was used on the unexposed side. See drawing C50SG_WITH_FIXTURES_FIRETEST_06.2024_07-10 for details.

Installation 3 “Downlight”

The downlight designated “DL60-RF 155” from Glamox was installed into a Ø155 mm cutout in a ceiling panel. The unexposed side of the sensor was covered with a box (470x260x150 mm) made of 3.5 mm aluminum coated needle mat designated “VitriBond Marine” adhered to the ceiling panel(s) using aluminum duct tape designated “Coroplast 930 Alu SE”.

See drawing C50SG_WITH_FIXTURES_FIRETEST_06.2024_06-10 for details.

Installation 4 “Speaker”

The speaker designated “CL-200T” from Zenitel Norway AS was installed into a Ø171 mm cutout in a ceiling panel. The unexposed side of the sensor was covered with a box (245 mm x 245 mm x 120 mm) made of 3.5 mm aluminum coated needle mat designated “VitriBond Marine” adhered to the ceiling panel(s) using aluminum duct tape designated “Coroplast 930 Alu SE”.

See drawing C50SG_WITH_FIXTURES_FIRETEST_06.2024_05-10 for details.

Installation 5 “Escape Sign”

The escape sign designated “CBD5ML” from Anhui Sunny Electric Group was installed into a 80 mm x 375 mm cutout in a ceiling panel. The unexposed side of the sensor was covered with a box (460 mm x 165 mm x 100 mm) made of 3.5 mm aluminum coated needle mat designated “VitriBond Marine” adhered to the ceiling panel(s) using aluminum duct tape designated “Coroplast 930 Alu SE”.

See drawing C50SG_WITH_FIXTURES_FIRETEST_06.2024_08-10 for details.

Installation 6 “HI-FOG Nozzle”

The fire sprinkler designated “HI-FOG 3000” was installed through a Ø30 mm cutout from the ceiling panel. The sprinkler was sealed to the ceiling panel using the sealant designated “Sika Firesil Marine N”. The nozzle was connected to a 90° elbow with a short nipple parallel to the ceiling panel.

See drawing C50SG_WITH_FIXTURES_FIRETEST_06.2024_04-10 for details.

For further details, please see documents listed under “Type Examination documentation” below.

Application/Limitation

Approved for use as a horizontal fire retarding division of continuous class B-15.
With a minimum distance between exposed side of the ceiling and the class A structural steel deck of 300 mm, the whole construction may be regarded as a horizontal fire retarding division of class A-30.

Maximum panel size: 350 mm x 3000 mm (W x L).

The insulation materials and adhesives used have to be approved according to the Marine Equipment Directive and bear the MED 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. PGB10332A dated 7 November 2023 (ceiling without fittings) from DBI - Danish Institute of Fire and Security Technology, Hvidovre, Denmark.

Test report no. PGB10382A dated 12 June 2024 (ceiling with fittings) from DBI - Danish Institute of Fire and Security Technology, Hvidovre, Denmark.

Tests carried out

Tested according to IMO 2010 FTP Code, Part 3 and Part 3 Appendix 4.

Marking of product

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