

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment (MED) as amended by directive (EU) 2015/559. This Certificate is issued by DNV GL SE based on the notification of the German Federal Ministry of Transport, Building and Urban Development.

This is to certify:

That the "B" Class divisions, fire integrity

with type designation(s)
B-15 ceiling with fitting "30mm"

Issued to

Wenker GmbH & Co. KG
Ahaus, Germany

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

Annex A.1, item No. A.1/3.11b and Annex B, Module B in the Directive; SOLAS 74 as amended, Regulation II-2.3.4.4. and IMO 2010 FTP Code.

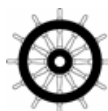
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2021-08-23**.

Issued at **Hamburg** on **2016-08-24**

DNV GL local station:
Essen

Approval Engineer:
Timo Linn



Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudzus
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 Council Directive 96/98/EC, as amended.

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.

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.

"Class B-15 ceiling panels with fitting (30mm thickness)"

B-Class ceiling mounted together with different fittings with an A-Class steel deck. Ceiling panels consisting of 29 mm mineral wool Conrock 15 (density: 150 kg/m³) covered with 0.6 mm steel sheets on exposed side and 0.6 mm galvanized steel sheets on unexposed side. The panels are joined to each other with tongue and groove and secured by screws. The mineral wool is fixed to the steel sheets with adhesive of approved type; acc.to manufacturer's drawings.

Total thickness: 30 mm

Installation 1 (downlight, DL170, Light Partner Lighting Systems GmbH)

Downlight the type "DL170" with cover fixed from exposed side with 3 screws to the ceiling panel in an opening of 48mm in diameter. The Downlight was connected with two cables of the type "FLAME-JZ / OZ-H FRNC" of TKD KABEL GmbH with a length of 500 mm.

Installation 2 (downlight, DL170, Light Partner Lighting Systems GmbH)

Downlight the type "DL170" with cover fixed from exposed side with 2 screws to the ceiling panel in an opening of 46mm in diameter. The Downlight was connected with two cables of the type "FLAME-JZ / OZ-H FRNC" of TKD KABEL GmbH with a length of 500 mm. Unused cable of downlight was sealed with a sealant of the type "ISOLEMFI 3104/11 MONO".

Installation 3 (downlight, DL170, Light Partner Lighting Systems GmbH)

Downlight the type "DL170" with cover fixed from exposed side with 2 screws to the ceiling panel in an opening of 46mm in diameter. The Downlight was connected with two cables of the type "FLAME-JZ / OZ-H FRNC" of TKD KABEL GmbH with a length of 500 mm. Connecting element of the downlight and the gap between downlight and ceiling panel are sealed with sealing type "ISOLEMFI 3104/11 MONO".

Installation 4 (ceiling speakers, ML 16 A, VISATON GmbH & Co. KG)

Loudspeaker type "ML 16A" from Visaton fixed from exposed side with 6 screws to the ceiling panel in an opening of 145 mm in diameter covered with a mineral wool insulation hood ("Paroc Marine Slab 220"; 275 mm x 275 mm x 15 mm) and a composite of 30 mm wide and 25 mm high stripes of the mineral wool frame fixed from the unexposed side. Loud-speaker cable of the type "MarineCom YOZc X-FR 250 V" manufactured by the Twentsche Cable Fabrik BV connected with a length of 500 mm.

Installation 5 (ceiling speakers, ML 16 A, VISATON GmbH & Co. KG)

Loudspeaker type "ML 16A" from Visaton fixed from exposed side with 6 screws to the ceiling panel in an opening of 145 mm in diameter covered with a mineral wool insulation hood ("Paroc Marine Slab 220"; 275 mm x 275 mm x 15 mm) and a composite of 30 mm wide and 25 mm high stripes of the mineral wool frame fixed from the unexposed side. Loud-speaker cable of the type "MarineCom YOZc X-FR 250 V" manufactured by the Twentsche Cable Fabrik BV connected with a length of 500 mm. In addition a layer of non-combustible material "Insulfrax Paper" has been fixed to the inside of the insulation hood.

Installation 6 (ceiling speakers, ML 16 FL, VISATON GmbH & Co. KG)

Loudspeaker type "ML 16FL" with cover from Visaton fixed with screws to the ceiling panel in an opening of 46 mm in diameter. Cover is fixed with a bajonett locking device from exposed side of the fire. Connected loud-speaker cable (length 500 mm), Typ "FLAME-JZ/OZ-H FRNC" of TKD KABEL GmbH and gap between ceiling are sealed with sealing type "ISOLEMFI 3104/11 MONO".

Installation 7 (ceiling speakers, ML 16 FL, VISATON GmbH & Co. KG)

Loudspeaker type "ML 16FL" with cover from Visaton fixed with screws to the ceiling panel in an opening of 46 mm in diameter. Cover is fixed from exposed side of the fire with a bajonett locking device. Loudspeaker cable (length 500 mm), Typ "FLAME-JZ/OZ-H FRNC" of TKD KABEL GmbH has been connected.

Installation 8 (trapdoor)

A 600 mm wide ceiling panel was manufactured with an opening of 300 x 600 mm (width x length). A mounting frame (dimensions: 637.5 mm x 637.5 mm x 28 mm; clear opening: 594 mm x 593 mm), made of 1.25 mm thick steel, is fixed by screws in the opening from the fire side to the ceiling panels. In this mounting frame a trapdoor is installed fixed with two stainless steel wire ropes and locked with a twist lock.

The gap between trapdoor and fastening-supply frame is covered from the unexposed side of fire with an insulation frame. The insulating frame consisted of mineral wool strips (PAROC Marine Slab 220).

Installation 9 (ventilation outlets, URH 160, Halton Group)

A exhausted air nozzle, vent connection of the type "URH-160" of Halton Group with a tapered opening (diameter fire space side: 164 mm diameter, rear facing: 195 mm) fixed with screws to the ceiling panel. A fire connection piece was installed and fixed by screws from the unexposed side. On the transition piece a flexible aluminum tube was postponed and fixed with a strip of aluminum tape. Finally a pipe insulation type "ROCKWOOL Lamella Mat RLAM 32-45 EMN" was used for to cover.

Installation 11 (pipe penetration)

A copper pipe (15 mm x 1.7 mm) fixed in the opening of the ceiling panel (Ø 60 mm). Pipe was insulation with "Armaflex Protect", Type "19 x 015" from fire side, the length of the insulation was 180 mm, from the unexposed side 140 mm. The insulation of the pipe from the unexposed side has been continued with insulation type "AF3-015" the Armaflex GmbH & Co. KG for a length of 500 mm. Finally the gap between the "Armaflex Protect" - insulation and the ceiling panel was sealed with "ISOLEMFI 3104/11 MONO"/Z6/.

Installation 12 (reinforcement).

Reinforcement consisted of a U-shaped profile made of steel (25 mm x 24 mm x 2 mm) integrated in the ceiling panel. The distance to exposed steel side of the panel was 5 mm. Cavities between profile and steel sheets have been filled with the insulation type "ROCKWOOL Conrock 15".

Materials:

"ROCKWOOL Conrock 15"
Manufacturer: Rockwool International A/S
Nominal Density: 150 kg/m³

"Paroc Marine Slab 220"
Manufacturer: PAROC GROUP OY
Nominal Density: 220 kg/m³

Job Id: **344.1-005631-1**
Certificate No: **MEDB0000187**

„ROCKWOOL Lamella Mat RLAM 32-45 EMN
Manufacturer: Rockwool International A/S
Nominal Density: 32 kg/m³

Adhesive:

„ISOLEMFI 3104 Mono“
Manufacturer: EMFI S.A.S.
Application: 150 g/m²

„ISOLEMFI 3104/11 MONO“
Manufacturer: EMFI S.A.S.

Application/Limitation

Approved for use as a horizontal fire retarding division of class B-15.

The ceiling combined with installation 2,3,6,8,9,11 and 12 fulfils the requirements for a Class B-15 deck.
The cable penetration by the insulation hoods of installation 4 and 5 fulfils the requirements for a Class B-0 deck.

The ceiling combined with installation 1 and 7 fulfils the requirements for a Class B-0 deck.

The ceiling itself combined with an A-Class steel deck fulfils the requirements for a Class A-30 deck.

Maximum size of panels: 3000 x 600 mm (length 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 and maintenance.

Type Examination documentation

Test report no. 20649788-10-1 dated 2016-08-22 issued by DMT GmbH & Co. KG , Germany

Tests carried out

Tested according to IMO FTP Code Annex1, Part.

Marking of product

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