DNV·GL

Certificate No:
MEDB00003FS

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)
Class B-15 ceiling / A-30 deck construction with built-in components

Issued to
Stengel GmbH
Ellwangen, Germany

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2017/306,**
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 **2022-11-27**.

Issued at **Hamburg** on **2017-11-28**

DNV GL local station:
Augsburg

Approval Engineer:
Pavel Golyshev

Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudszus
Head of Notified Body

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

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Product description

"Class B-15 ceiling/ A-30 deck construction with built-in components"
Class B-15 ceiling, consisting of 25 mm thick rock wool, type Rockwool RPI 17 (density 170 kg/m³) covered with 0.7 mm thick galv. steel sheets, panels connected to each other with tongue and groove on two levels and rivets. The joint gap is covered half-way with an insulated 6 mm thick steel plate. The covering steel plate is fixed on side with one ceiling panel by screws, acc. to test report 20630438a. Remark acc. to Assessment 20632599 GS-BS-Hau: evidence of equivalence between glued or screwed insulation boxes, range of size L=200 mm to 550 mm, B=200 mm to 330 mm and H=40 mm to 65 mm (length, width and height).

Total panel thickness: 25 mm.

Class B-15 ceiling with following optional fittings (test report 20630438b):

Detail 1, loudspeaker (screwed), type "Visaton DL8":
fixed in a drilled hole (diameter: 93 mm), covered with a mineral wool box (external dimensions: 200 mm x 200 mm and 65 mm height), box is screwed, acc. to appendix 1.3.

Detail 2, loudspeaker (glued), type "Visaton DL8":
fixed in a drilled hole (diameter: 93 mm), covered with a mineral wool box (external dimensions: 200 mm x 200 mm and 65 mm height), box is fixed with EMFIMASTIC PU 50, acc. to appendix 1.3.

Detail 3, spotlight (glued), type LightPartner DL90S":
fixed in a drilled hole (diameter: 74 mm), covered with a mineral wool box (external dimensions: 200 mm x 200 mm and 50 mm height), box is fixed with EMFIMASTIC PU 50, acc. to appendix 1.2.

Detail 4, PL downlight (glued), type " SLV Signe Elektronik PL Downlight 18w x 2:
screwed in a drilled hole (diameter: 143 mm), covered with a mineral wool box (external dimensions: 550 mm x 330 mm and 65 mm height), box is fixed with EMFIMASTIC PU 50, acc. to appendix 1.2.

Detail 5, URH valve with insulated duct, type "Halton URH/A 125, Novenco RDFUIN 125 100:
fixed on unexposed side within a two stage hole (diameter 158 mm and 130 mm), at the air passage an insulated reducer is fixed (diameter 130 mm to 100 mm), a 600 mm long piece of a flexible ventilation duct is fixed to the reducer, both are insulated and conducted to the exposed steel plate and fixed with aluminium duct tape to the ceiling, acc. to appendix 1.5.

Detail 6, PL Downlight (screwed), type SLV Signet Elektronik, PL Downlight 18w x 2:
screwed in a drilled hole (diameter: 143 mm), covered with a mineral wool box (external dimensions: 550 mm x 330 mm and 65 mm height), box is screwed, acc. to appendix 1.2.

Detail 8, highfog, type Minimax Minifox FX":
the base body is set from the unexposed side in a drilled hole (diameter 36 mm). Two round metal plates with a hexagonal hole are pushed over the base body and fixed with two screws to prevent the base body from distortion. The covering rosette is pushed from the exposed side over the main body and clamped to the nozzle which is screwed into the main body. On unexposed side drilling hole is sealed with "EMFIMASTIC PU 50", acc. to appendix 1.5.

Detail 9, spotlight (screwed), type LightPartner DL90S:
screwed in a drilled hole (diameter: 66 mm), covered with a mineral wool box (external dimensions: 200 mm x 200 mm and 40 mm height), box is screwed, acc. to appendix 1.3.

Detail 10, cable penetration, type "Cable MPRX 5G1":
drilled hole (diameter: 14 mm), opening is sealed with "EMFIMASTIC PU 50", acc. to appendix 1.4.

Detail 11, water pipe penetration (screwed), type SanFix wall penetration with SC-Contur":
concentric with a drilling hole (diameter: 30 mm) a 10 mm deep deepening (diameter: 72 mm) is made in the ceiling. An adapter plate is screwed on unexposed side at this deepening, ceiling duct is set on the

adapter plate and screwed on ceiling, at this ceiling duct a piece of the compound tube "Saniflex" (diameter 15 mm) is fixed, covered with a mineral wool box (external dimensions: 200 mm x 200 mm and 40 mm height), box is screwed, acc. to appendix 1.4.

For further details, see test reports and assessment listed under Type Examination documentation below.

Application/Limitation

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

Maximum panel size: 1451 mm x 2980 mm (width x length).

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 nos: 20630438a-V3 dated 20th of April 2016 and 20630438b-V3 dated 11th of August 2016, assessment 20632599 GS-BS-Hau dated 8th of November 2012 all issued by DMT GmbH & Co. KG, Dortmund, Germany.

Tests carried out

Tested according to IMO FTP Code Part 3 and in compliance with IMO 2010 FTP Code Ch.8.

Marking of product

The product 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 164.105/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.