DNV·GL

Certificate No:
MEDB00002SC

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the "B" Class divisions, fire integrity

with type designation(s)
B-15 Class Ceiling with AC Cabin Units

Issued to
Kariner Oy
FORSSA, Finland

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 **2022-05-21**.

Issued at **Høvik** on **2017-05-22**

DNV GL local station:
Turku

Approval Engineer:
Ginevra Giustiniani

Notified Body
No.: **0575**

for **DNV GL AS**

Vidar Dolonen
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 United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

"B-15 Class Ceiling with AC Cabin Units Type KCUS and KCUD"
composed of 0.7 mm thick galvanized steel sheets cassettes insulated on top with 60 mm thick "Paroc Marine Slab 100" slab wool with density 110 kg/m³. Cassettes carriers (U-profile 65x60x5 mm) were mounted perpindicular to the ceiling panels (c/c 1500 mm).

The panels can be fitted with:

1) Single duct cabin unit type "KCUS" with following modifications
   a) KCMS (with manual operation)
   b) KCES (with electrical reheating)
   c) KCVS (with VAV operation)
   d) KCPS (with pneumatic motor)
   e) KCWS (with water reheating)
2) Dual duct cabin unit type "KCUD" with following modifications
   a) KCMD (with manual operation)
   b) KCAD (with damper motor)

Cabin unit can be equipped with diffusers type: "KDS", "KDC", "KDD", "KDA" and swingdown system (including cabin unit, KDA/KDD diffuser and swingdown equipment KSE)

Cabin unit and swingdown frame attached to panels with 4.2x19 mm screws. Cabin unit as well as swingdown frame are insulated around with 10 mm thick "Paroc Marine Slabs 220" fixed to ceiling with sealant and Seja screws.

For further details, see drawings and test report listed under Type Examination documentation below

Application/Limitation

Approved for use as a horizontal fire retarding division of class B-15. In combination with a structural steel deck located 500mm above, the whole construction is to be regarded as class A-30 deck.

Maximum panel size: 300 x 2400 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 No. VTT-S-02408-11 dated 28 February 2011 from VTT Expert Services Ltd., Finland.
Test report No. VTT-S-3165-08 dated 14 February 2008 from VTT Expert Services Ltd., Finland.
Drawings Nos.: KCUS; KCUD; KDC; KDS; KDD-40; KDD-60; KDA-400; KSE; Assembly_1 all dated 27 February 2012 from manufacturer.

Tests carried out

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

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire-technical rating, the MED Mark of Conformity and USCG Approval Number if applicable (see page 1).