

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00004TY
Revision No:
3

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 AS under the authority of the Government of Norway.

This is to certify:

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

with type designation(s)
A-60 Class bulkhead, RAC+

Issued to

CBG Systems International Pty Ltd
DERWENT PARK, TASMANIA, Australia

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

Regulation **(EU) 2023/1667**,

item No. MED/3.11a. SOLAS 74 as amended, Regulation II-2/3.2 & II-2/9, IMO 2010 FTP Code, IMO MSC/Circ.1120 and IMO MSC.1/Circ.1434,1435; IMO MSC.1/Circ.1616, 1621

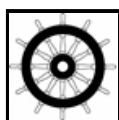
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-12-11**.

Issued at **Høvik** on **2023-12-12**

DNV local unit:
Australia NB

Approval Engineer:
Tessa Bieber



Notified Body
No.: **0575**



for **DNV AS**

Digitally Signed By:
Kristin Grønnæss Hovden
Location: DNV AS, Høvik,
Norway
on behalf of

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 United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2023 dated August 21st, 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 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.

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

'A-60 Class bulkhead, RAC+'

structural aluminium bulkhead insulated with Rapid Access Composite PLUS (RAC+) bulkhead structural fire protection system consisting of composite panels (RAC+ panel) supported by a stainless-steel framework mounted with an air gap of 150 mm between the panels and the ship bulkhead. The bulkhead may be provided with an inspection hatch.

RAC+ panel

The RAC+ panel is composed of a 20 mm thick layer of non-combustible material named Marine Board with nominal density of 160 kg/m³ (manufactured by Unifrax) facing on both sides by means of Hybrid Inorganic Polymer System (HIPS) impregnated into a fiberglass cloth and covered with a self-adhesive veneer named VentureClad-1577CW-WML on each side or aluminium foil on the unexposed side.

The VentureClad-1577CW-WML on fire exposed side may be substituted by:

- an aluminium foil lining named RAC-2 Alu foil facing
- a venture tape lining named RAC-2 facing

Total panel thickness: 20 mm.

The panels are mounted inside a framework created by 0.45 mm thick stainless-steel channels. The framework is fixed to the aluminium bulkhead stiffeners using Omega shaped standoff brackets, having dimension of 50 x 100 x 150 mm. Joints between panels are covered with stainless steel cover strips, which are insulated with 6 mm thick Superwool paper with density of 230 kg/m³ (manufactured by Morgan Thermal Ceramics) and screwed to the framework at nominal 600 mm spacing.

Each intersection of 4 panels is supported by a stainless-steel corner support bracket and a locking disc, covered with a pressed stainless steel cover plate insulated with 6 mm thick Superwool Paper with density of 230 kg/m³ (manufactured by Morgan Thermal Ceramics).

Inspection hatch

The bulkhead is fitted with an inspection hatch with maximum clear light opening of 900 x 900 mm, with the hinge fitted on the exposed side, installed in the middle of a RAC+ panel. The hatch leaf, having dimensions of 900 x 900 mm, is composed of a stainless-steel frame, 0.9 mm thick and, in between, the insulating material. This material is composed of two layers of 20 mm each of Marine Board with density of 160 kg/m³ (manufactured by Unifrax), externally facing by means of Hybrid Inorganic Polymer System (HIPS) impregnated into a fiberglass cloth and covered with a self-adhesive veneer named VentureClad-1577CW-WML. The VentureClad-1577CW-WML on fire exposed side may be substituted by:

- an aluminium foil lining named RAC-2 Alu foil facing
- a venture tape lining named RAC-2 facing

The frame is composed of a C shaped stainless steel profile having dimensions of 1000 x 1000 x 70 mm and thickness of 0.9 mm. Between the frame and the leaf a gasket type Intumescent Promaseal-LFC Fire protection laminate, having thickness of 3 mm, is fitted. The leaf is equipped with a closure system, that acts on three points, actuated by a removable handle and fitted with one sliding stainless steel rod having diameter of 10 mm.

Application/Limitation

Approved for use as a vertical fire retarding division of class A-60.

Restricted application: fire against insulated side.

Only the system consisting of structural aluminium bulkhead fitted with the insulated composite panels minimum 150 mm from the bulkhead, is approved as an A-60 class bulkhead.

Maximum panel dimensions: 2383 x 1183 mm (H x W).

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. 2018CS012387/1 dated 12 November 2018 from RINA, Genova, Italy.

Test report No. 103603859SAT-002 dated 27 July 2018 from Intertek, Texas, US.

Test report No. 103447451SAT-002 dated 18 April 2018 from Intertek, Texas, US.



Job Id: **344.1-008823-4**
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Drawing No. RAC-PLUS-BULK-H-G Rev. A dated 25 September 2018 from manufacturer.
Drawing No. RAC-PLUS-BULK-P Rev. 0 dated 11 September 2018 from manufacturer.
Drawing No. RAC-PLUS-HATCH Rev. A dated 31 October 2018 from manufacturer.

DS10 Design Specifications RAC PLUS Bulkhead version 2.0 dated 30 July 2020 from CBG Systems PTY. Ltd.

Tests carried out

Tested in according to IMO 2010 FTP Code part 3.

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 page 1).