

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 Norway.

This is to certify:

That the Fire resisting divisions for high speed craft

with type designation(s)

Rapid Access Composite plus light (RAC+ light) - 60 minutes deckhead

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) 2020/1170,**

item No. MED/3.34. SOLAS 74, Regulation X/3, 2000 HSC Code 7, IMO MSC.1/Circ.1457 and IMO 2010 FTP Code

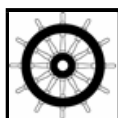
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-10-14.**

Issued at **Høvik** on **2020-10-15**

DNV GL local station:
Australia NB

Approval Engineer:
Tessa Bieber



Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
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 1/2019 dated February 22nd, 2019.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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

"Rapid Access Composite plus light (RAC+ light) - 60 minutes deckhead"

Is a lightweight composite fire resisting division consisting of non-homogenous composite panels and light gauge stainless steel supporting structure, mounted so that a minimum 350 mm air gap is maintained between the back (non-fire side) of the panels and the aluminium deckhead plate.

Aluminium deck

Aluminium deckhead consists of a 1.9 mm plate with T shaped 1.9 mm thick stiffeners of dimensions 30.2 mm x 15 mm with pitch of 106 mm. The deck is also fitted with two T shaped stiffeners having height of 120 mm and composed of 6 mm thick web and flange having width of 100 mm. These stiffeners are welded, perpendicularly to the other, with pitch of 1200 mm.

Composite panels

The RAC+ light panel consist of a 20 mm (nominal) thick non-combustible material Marine Panel (manufactured by Unifrax with nominal density of 160 kg/m³) faced on both sides by means of HIPS (Hybrid Inorganic Polymer System) impregnated in a fiberglass cloth and covered by a veneer named VentureClad-1577CW-WML (on fire exposed side) and an aluminium foil lining (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.

The panels have nominal maximum dimensions of 2382 mm x 1182 mm and are typically 20 mm thick.

Supporting infrastructure and installation

The panels are mounted on a stainless-steel framework suspended below the aluminium deck using eye bolt, hanging rod and clips. An air gap of 350 mm is to be maintained between the aluminium shell plating and the non-fire side of the panels. Suspension rods are to be installed at 1500 mm nominal maximum centres in the longitudinal and transverse directions.

Joints between the panels are covered with stainless steel cover strips which are insulated with 6 mm thick Superwool Paper (manufactured by Morgan Thermal Ceramics, having density of 230 kg/m³) 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 (manufactured by Morgan Thermal Ceramics, having density of 230 kg/m³)

For further details see documentation under Type Examination documentation below.

Application/Limitation

Approved for use as a horizontal, non load bearing, fire-resisting division in light crafts, meeting for a period of 60 minutes the requirements to stability, integrity and insulation for class A divisions.

During fire test the average temperature of aluminium deck structural core did not exceeded 140°C.

Max. nominal panel size: 2382 mm x 1182 mm (L x W)

Restricted application: Fire hazard shall be on the stiffened insulated side.

Only the combined product (composite panels, stainless steel supporting structure, air gap and aluminium structure) is approved as a fire resisting division. Maker is to ensure that the product is manufactured and installed as tested (see Type Examination documentation), the main issues are listed below. The system in general is only approved for use on vessels built according to the 2000 HSC Code or rules based on this Code.

Materials used in fire resisting divisions shall be non-combustible or fire-restricting and 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.

Job Id: **344.1-010900-1**
Certificate No: **MEDB00006Z3**

Vessel operators shall ensure that the fire resisting division system is maintained as per the Original Equipment Manufacturers requirements.

Each product is to be supplied with its manual for installation and maintenance.

Type Examination documentation

Test report Nos.:

- 2020CS01313/1 dated 25th May 2020 from Test Laboratory of RINA services, Genova, Italy.
- 103603859SAT-002 dated 27th July 2018 from Intertek, Texas, USA (RAC-2 Alu Foil facing).

Drawing Nos. (assembly drawings):

- RAC-PLUS-PAS Rev. A dated 2020-09-17 (panel cross section)
- CBG-RAC-PLUS-DECK-A dated 2019-03-12 (panel installation)
- RAC-PLUS-DECK-SIDVIEW dated 2019-12-17 (installation side view)

All from manufacturer.

DS09 Design Specifications RAC PLUS Deckhead version 2.0 dated 30 July 2020 from CBG Systems Pty. Ltd. Revisions of Design Specifications are to be approved by DNV GL.

Title	Drw. No.	Rev. No.	Date
Cover plate	RAC-PLUS-COV (RAC-PLUS-COVERPLATE)	-	2019-04-04
Locking disc & spacer	RAC-CSB (RAC- CORNER-SUPPORT-BRACKET)	C	2020-06-15
Corner Bracket	RAC-CSB (RAC- CORNER-SUPPORT-BRACKET)	C	2020-06-15
Channel intersection join detail	CBG-RAC-PLUS-DECK-A (DECK ANNOTATED)	-	2019-03-12
Support Channel	RAC-CHL (RAC-CHANNEL-LONG) RAC-CHS (RAC-CHANNEL-SHORT)	E E	2017-09-18 2017-09-18
Cover strip	RAC-PLUS-CSL-24 (RAC-PLUS-COVERSTRIP-LONG-2400) RAC-PLUS-CSL (RAC-PLUS-COVERSTRIP-LONG) RAC-PLUS-CSS (RAC-PLUS-COVERSTRIP-SHORT)	-	2019-04-04 2019-04-04 2019-04-04
Caddy clip hanging detail	RAC-CLIP (RAC-CLIP-SS-SPECIAL-4H24) RAC-CLIP (RAC-CLIP-SS-SPECIAL-4H58) RAC-CLIP (RAC-CLIP-SS-SPECIAL-4H912)	C C C	2016-11-10 2016-11-10 2016-11-10

Tests carried out

Tested according to IMO 2010 FTP Code Part 11.

Marking of product

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