DNV·GL

Certificate No:
MEDB00006R8

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)
FReD 60 Minute Deck

Issued to
Ayres Composite Panels
Bayswater, WA, Australia

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2019/1397,**
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 **2025-05-14**.
Issued at **Høvik** on **2020-05-15**

DNV GL local station:
Australia FIS/CMC

Approval Engineer:
Synnøve Bolstad Eri

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.

NORWEGIAN ACCREDITATION PROD 019

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

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Product description

"FReD 60 Minute Deck"
is a fire resisting division consisting of Ayrlite 3007 composite panels and stainless steel supporting structure, suspended below structural aluminium deck so that a minimum 300 mm air gap is maintained between the back (non-fire side) of the panels and the structural aluminium deck, and a minimum 150 mm air gap is maintained between the back (non-fire side) of the panels and the aluminium stiffeners.

Aluminium deck
Aluminium deckhead shall consist of 6 mm shell plate with stiffeners of 150 mm x 100 mm x 9 mm every 600 mm. Equivalent stiffness will be accepted.

Ayrlite 3007 composite panels
The Ayrlite 3007 composite panels consist of a 12.5 mm thick aluminium honeycomb core with glass fibre faces and aluminium foil backing. A layer of 7 mm thick intumescent material (type: see PS 3007-D item 4.3), and a layer of 0.25 thick veneer (type: see PS 3007-D item 4.4). The panels have maximum dimensions 1184 mm x 2384 mm (W x L). Total thickness of composite panel is 20 mm.

Stainless steel framework structure
The framework structure with panels is suspended below the structural aluminium deck using stainless steel eye bolts, hanging rods and clips. An airgap of minimum 300 mm is maintained between the structural aluminium deck and the reverse (non fire side) of the panels and minimum 150 mm air gap is maintained between the back (non-fire side) of the panels and the aluminium stiffeners. Suspension rods are to be installed at maximum 1500 mm centres in panel length direction and 1200 mm centres in panel width direction.

For further details see documentation under Type Examination documentation below.

Application/Limitation

The system is approved as a horizontal load bearing fire-resisting deck 60.

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

During fire test the average temperature of aluminium deck structural core did not exceeded 150°C.

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 (Ayrlite 3007) 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.

Vessel operators shall ensure that the structural fire protection 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 no. FRT200024 R1.0 dated 6 March 2020 from Warringtonfire, Melbourne, Australia

Design specification no. DS01 Version 2.0 "FReD Deck" dated 28 April 2020 from the manufacturer
Material specification no. PS 3007-D dated 12 November 2019 from the manufacturer (Ayrlite 3007)

Drawing no. FReD-60-001 rev. 1 dated 12 March 2020 from the manufacturer (System parts)

Drawing no. FReD-CSS rev. 1 dated 12 March 2020 from the manufacturer (Cover strip short)
Drawing no. FReD CSL rev. 1 dated 12 March 2020 from the manufacturer (Cover strip long)
Drawing no. FReD-CHL rev. 2 dated 12 March 2020 from the manufacturer (Support channel long)
Drawing no. FReD-CHS rev. 2 dated 12 March 2020 from the manufacturer (Support channel short)
Drawing no. FReD-CSB rev. 1 dated 12 March 2020 from the manufacturer (Corner Bracket)
Drawing no. FReD-COV rev. 1 dated 12 March 2020 from the manufacturer (Cover plate)
Drawing no. FReD-CLP-24/58 rev. 1 dated 12 March 2020 from the manufacturer (Clip)
Drawing no. FReD-HR rev. 1 dated 12 March 2020 from the manufacturer (Hanging rod)
Drawing no. FReD-EYEBOLT rev. 1 dated 12 March 2020 from the manufacturer (Eye bolt)

Tests carried out

The system is 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 USCG Approval Number if applicable (see first page).