

EC Type Examination (Module B) Certificate

USCG-EU MRA

This is to certify that:

LLOYD'S REGISTER Marine Deutschland GmbH (LRMD), designated as a "notified body" based on the notification of the Federal Maritime and Hydrographic Agency of Germany, did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU and the valid Commission Implementing Regulation (EU) in force indicating design, construction and performance requirements and testing standards for marine equipment, subject to the conditions below and the attached Schedule which also forms part of this Certificate.

Manufacturer	Unifrax Limited
Address	Mill Lane, Rainford, St. Helens, Merseyside, WA11 8LP, United Kingdom (UK)
Reference	Marine Equipment Directive (MED) 2014/90/EU, Regulation (EU) 2021/1158
Regulation Item (No. & Item Designation)	MED/3.11a 'A' And 'B' Class Division Fire Integrity: 'A' Class Divisions
Product Type	A-60 BULKHEAD
Product Description	Fire Resisting 'A' Class Aluminium Bulkhead – Type: "A60 Aluminium Bulkhead FyreWrap LT Blanket 70" 4mm thick aluminium bulkhead insulated on both side with Alkaline Earth Silicate (AES) wool insulation (55mm thick and 70kg/m3 density)
Specified Standard	IMO Res. MSC.307(88) – (2010 FTP Code), Annex 1, Part 3 IMO MSC.1/Circ.1435
Trade Name	"A60 Bulkhead FyreWrap LT Blanket 70"

The attached Design Appraisal Document (schedule) forms part of this certificate. This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to and agreed with the notified body named on this certificate. The manufacturer should notify LRMD of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd's Register Marine Deutschland
GmbH, Überseeallee 10, D-20457
Hamburg, Germany.
A member of the Lloyd's Register group

Ratheesh Rajagopal

Fire & Safety Specialist
For and on behalf of Lloyd's Register Marine
Deutschland GmbH (2923)

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This equipment is covered by the scope of the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed on 27 February 2004 and amended by Decision No.1/2018 dated 18 February 2019 according to U.S. Coast Guard approval category USCG Module B number:

164.107/EC2923

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).

Should the specified regulations or standards be amended during the period of validity of this certificate, the product is to be re-approved prior being placed on the market and on board vessels to which the amended regulations or standards apply.

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-control phase module (D, E, or F) of ANNEX II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

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ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. LR22171000MB

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

This Certificate is a Renewal of Certificate Number 0525-MED-DE-MED 1750103

Approval Documentation

Test Reports

Far East Fire Testing Centre (FEFTC), 511 Chuhua Zhi Lu, Shanghai Chemical Industry Park, Fengxian Sub-Zone, Shanghai, China; Fire Test Report No. FT16456, dated 21 December 2016

Conditions of Certification

1. When used in conjunction with an approved A Class aluminium bulkhead.
2. Minimum aluminium bulkhead plate thickness and stiffener dimensions specified in 2010 FTP Code; $6.0 \pm 0.5\text{mm}$ and $(100 \pm 5) \times (75 \pm 5) \times (9 \pm 1)$ mm respectively. The insulation system was tested on 4mm thick aluminium plate and stiffener 100mm x 75mm x 9mm bulkhead and the 200° C criteria was not exceeded for 60 minutes, therefore it could be considered for use on aluminium bulkheads of thickness 4mm or greater (for the fire rating/duration achieved in the tests), as permitted by 2010 FTP Code Annex 1 Part 3 Appendix 1 Paragraph 1.11, subject to final approval by the Plan Approval Authority for the specific ship/project on a case-by-case basis.
3. For all MED applications the aluminium bulkhead specifications should meet the requirements of 2010 FTP Code, as above.
4. 'A-60 Aluminium Bulkhead FyreWrap LT Blanket 70' A-60 Class bulkhead consisting of: 4mm thick aluminium bulkhead plate insulated with one layer of (55mm thick, density 70 kg/m³) 'FyreWrap LT Blanket' Alkaline Earth Silicate (AES) wool insulation fitted on to the aluminium bulkhead plate and stiffeners, and one layer of (55mm thick, density 70 kg/m³) 'FyreWrap LT Blanket' Alkaline Earth Silicate (AES) wool insulation fitted on to the aluminium bulkhead plate on the flat side. Total thickness of bulkhead is 114mm.
5. Insulation retained to the aluminium bulkhead plate and stiffeners with 3mm diameter steel pins and 38mm diameter steel washers on both side: spaced at maximum centres of 300mm horizontally, 200mm vertically on the bulkhead layer of insulation; a maximum distance of 100mm from insulation joints; a maximum of 150mm from vertical edge boundaries; a maximum of 100mm from both the floor edge boundaries and ceiling edge boundaries.
6. Maximum width of insulation blankets following installation: 600mm.
7. Insulation fixing method should be same as tested arrangement in all cases.
8. The Core temperature of aluminium alloy shall not rise above a maximum 200° C limit above ambient temperature for 60-minute duration of test (SOLAS Chapter II-2 Regulation 11).

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9. Composition, application and installation of subcomponents, including adhesives, seals and any fire retardants, to be maintained in production and use in accordance with originally tested composition formula and method of application and installation, and manufacturer's instructions.
10. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.
11. The Certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products are fully compliant with the relevant statutory regulations as applicable and are designed, manufactured and installed to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties.
12. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place.
13. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place.
14. The manufacturer shall keep a copy of the EC type-examination certificate, its annexes and additions together with the technical documentation at the disposal of the national authorities for at least 10 years after the wheel mark has been affixed on the last product manufactured and in no case for a period shorter than the expected life of the marine equipment concerned.

Place of Production

Unifrax Limited

Mill Lane, Rainford,
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United Kingdom (UK)

Unifrax France

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Ratheesh Rajagopal
Specialist
Fire & Safety, Statutory Discipline Team
UK&I Technical Support Office, Marine & Offshore
For and on behalf of Lloyd's Register Marine Deutschland
LRMD EC Distinguishing No. 2923

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