



## CERTIFICATE OF FIRE APPROVAL


This is to certify that

The product(s) detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations for use on offshore installations classed with Lloyd's Register, and for use on offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

<b>Manufacturer</b>	Unifrax Limited
<b>Address</b>	Mill Lane Rainford St. Helens Merseyside, WA11 8LP United Kingdom (UK)
<b>Type</b>	<b>H-60 BULKHEAD</b>
<b>Description</b>	Steel Bulkhead Insulated on the Fire Exposed Side with – Type: H-60 Restricted Bulkhead “FyreWrap LT Blanket” AES wool insulation system
<b>Specified Standard</b>	UK Department of Energy Hydrocarbon Time/Temperature Relationship and IMO Resolution A.754(18) Performance Criteria

The attached Design Appraisal Document forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue	29 July 2018	Expiry date	28 July 2023
Certificate No.	SAS F180148	Signed	
Sheet No	1 of 3	Name	B. Geary Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



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## DESIGN APPRAISAL DOCUMENT

Date	Quote this reference on all future communications
29 July 2018	SOUTSO/SFS/TA/BG/WP32819674

### ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F180148

This Design Appraisal Document forms part of the Certificate.

#### APPROVAL DOCUMENTATION

Exova Warringtonfire, Warrington, Cheshire, UK, Fire Test Report No. 325435 dated 1 March 2013.

#### CONDITIONS OF CERTIFICATION

1. When applied to the stiffened and exposed side of a steel bulkhead, the "FyreWrap LT" AES wool insulation system described below, may be considered as an "H-60 Bulkhead" restricted to hydrocarbon fire risks on the insulated side of the bulkhead
2. Consisting of: two roll layers of "FyreWrap LT" AES wool insulation (40mm thick, 70kg/m<sup>3</sup> density), applied vertically on the plate between stiffeners and an additional two strip layers 210mm wide fitted vertically over stiffeners; all retained with 3mm diameter welded steel pins and spring washers, spaced at 130mm and 470mm horizontally, 350mm vertically and at 50mm from all insulation joints and boundaries. All butt joints to be staggered at least 450mm vertically between layers
3. For such non-combustible insulation materials the arrangements for this insulation system being fitted on the flat side of a bulkhead may also be considered for H-60 applications, subject to suitable fixing arrangements being separately approved by Lloyd's Register at the design stage
4. "FyreWrap LT" AES wool insulation may be considered with alternative facing materials that have been tested for Low Flame Spread Characteristics
5. Application in each case to be approved by Lloyd's Register at the design stage
6. 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



Lloyd's  
Register

## Lloyd's Register EMEA

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#### ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F180148

##### PLACE OF PRODUCTION

Unifrax Limited  
Mill Lane,  
Rainford,  
St. Helens  
Merseyside, WA11 8LP  
United Kingdom

Unifrax France  
17 Rue Antoine  
Durafour  
F-42420 Lorette  
France

Unifrax Inc LLC,  
54401 Smilax Road,  
New Carlisle,  
Indiana 46552,  
USA.



Ben Geary  
Technical Manager  
Statutory Fire & Safety  
Southampton Technical Support Office, Marine & Offshore  
Lloyd's Register EMEA

##### Supplementary Type Approval Terms and Conditions

*This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).*