



CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Morgan Advanced Materials, Thermal Ceramics
Address	Tebay Road Bromborough Wirral Merseyside CH62 3PH United Kingdom (UK)
Type	A-60 BULKHEAD
Equipment Description	Steel Bulkhead Insulated on one side with- Type: "FireMaster Marine Plus Blanket (60mm, 80kg/m ³)"
Specified Standard	IMO Res.MSC.61(67)-(FTP Code), Annex 1, Part 3 IMO MSC/Circ.1120 IMO Res. MSC.307 (88)-(2010 FTP Code) Section 8 (Period of Grace)

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 23 April 2019 Expiry date 22 April 2024

Certificate No. SAS F190090 Signed 

Sheet No 1 of 3 Name K. Taylor
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.



Lloyd's
Register

Lloyd's Register EMEA (Southampton)

Marine & Offshore UK&I

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DESIGN APPRAISAL DOCUMENT

Date 4 July 2019	Quote this reference on all future communications UKITSO/FIRE/TA/KT/WP35610684
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F190090

This Design Appraisal Document forms part of the Certificate.

This Certificate is a replacement of previous Lloyd's Register EMEA Certificate of Fire Approval No. SAS F140102/M1.

APPROVAL DOCUMENTATION

1. Far East Fire Testing Centre, Shanghai, People's Republic of China, Fire Test Report No. FT12072, dated 05 April 2012.
2. Manufacturer's Data Sheet, Ref. FM 4.101, Rev. 5, dated June 2013.

CONDITIONS OF CERTIFICATION

1. A-60 Class steel bulkhead insulated on one side with one layer of (60mm thick, 80kg/m³ density) alkaline earth silicate fibre based "FireMaster Marine Plus Blanket", applied over the steel plate and the stiffeners and secured with 3mm diameter x 80mm long welded steel anchors and 30mm diameter friction fit steel washers. Insulation securing arrangements are to be in accordance with Manufacturer's Data Sheet Ref. FM 4.101, Rev. 5, dated June 2013
2. The size of the insulation blanket must be sufficient to allow suitable compression at all joints
3. When requested for application on corrugated divisions, the insulation layout and securing arrangements, depth of the corrugations and support arrangements are to be separately appraised for fire aspects and structural loadings on a project basis
4. 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
5. The Certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products, whether manufactured by themselves or their licensee manufacturers, if agreed by Lloyd's Register, are fully compliant with the relevant statutory regulations and Lloyd's Register Class Rules as applicable and designed and manufactured to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties

PLACES OF PRODUCTION

Thermal Ceramics
Lieu-dit Les Plantées
St. Marcellin-en-Forez
F-42680
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Thermal Ceramics
2102 Old Savannah Road
Augusta
GA 30906
United States of America (USA)

Thermal Ceramics
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Dal Sung-Gun, Dae Gui-Shi
711 855
Korea



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Thermal Ceramics
Cerrada de la Paz No. 101
Zona Industrial la Paz
CP. 4218
Mineral de la Reforma Hidalgo
México

M/S Murugappa Morgan
Thermal Ceramics Ltd., Plot No.
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United Arab Emirates (UAE)

Keith Taylor
Team Lead, Fire & Safety
Statutory Discipline Team
UK&I Technical Support Office, Marine & Offshore
Lloyd's Register

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).