

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 the Kingdom of Norway.

This is to certify:

That the "A" Class divisions, fire integrity

with type designation(s)

A-60 Steel Bulkhead - 75 mm FireMaster Marine Plus Blanket

Issued to

Thermal Ceramics UK Ltd
WIRRAL MERSEYSIDE, United Kingdom

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2015/559,**

Annex A.1, item No. A.1/3.11a and Annex B, Module B in the Directive; SOLAS 74 as amended, Regulation II-2/3.2.5 and IMO 2010 FTP Code.

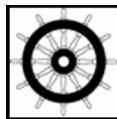
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2020-04-13.**

Issued at **Høvik** on **2017-01-08**

DNV GL local station:
Manchester

Approval Engineer:
Helge Bjørnarå



Notified Body
No.: **0575**

for **DNV GL AS**

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Vidar Dolonen
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.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Product description

"A-60 Steel Bulkhead - 75 mm FireMaster Marine Plus Blanket", composed of a structural steel bulkhead insulated on the stiffened side with 75 mm of FireMaster Marine Plus Blanket (density 64 kg/m³) applied in two layers between stiffeners (1 x 45 mm + 1 x 30 mm) and one layer 25 mm (300 mm wide strips) on the stiffeners.

The blankets are held in place using copper coated steel pins (Ø 3 mm / typically 90 and 120 mm long) welded to the bulkhead and 38 mm friction-fit washers. The pins are to be installed with a nominal spacing of 350 mm between stiffeners and 175 mm on both sides of the stiffeners. Maximum distance between pins and blankets edge to be 75 mm. At the blanket joints the pins shall have a nominal spacing of 100 mm.

Alternative insulation - Profile Wrap Installation:

First layer (45 mm or 50 mm) applied on stiffened side of bulkhead plate between stiffeners. Second layer (30 mm or 25 mm) is fitted over stiffeners to make up the required total thickness of 75 mm installed between the stiffeners. Stiffeners always filled with insulation.

The pins are to be installed with a nominal spacing of 350 mm.

At the joints the blankets should be compressed. Joints between blankets can be placed a maximum of 350 mm from an anchor pin across the blanket width and a maximum of 250 mm from an anchor pin where lengths of blanket are joined together.

The installation is to be performed according to the manufacturers Fire Protection Systems Information, reference No. FM-MS 01 PW and No. FM 4.70.

The insulation may be treated with a water repellent additive without reducing its performance.

Application/Limitation

Approved for use as a vertical fire retarding division of class A-60.

General application: Fire hazard from either side

The insulation materials and adhesives used have to 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.

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

Type Examination documentation

Test report No. 227561 dated 16 June 2006 from BRE, Garston, United Kingdom.

Thermal Ceramics Fire Protection Systems Information, reference No. FM-MS 01 PW and No. FM 4.70, Rev. 6.

Assessment Report No. P105762-1001A, Issue 1, dated 02 December 2016 from BRE Global Ltd., Watford, UK.

Tests carried out

Tested according to IMO FTP Code Part 3 (IMO Res. A.754(18)) and in compliance with IMO 2010 FTP Code Ch. 8.

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 front page).