DNV·GL

Certificate No:
TAF00000HR

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class H Fire Wall and Bulkhead

with type designation(s)
H-60 Steel Bulkhead - 2 x 40 mm FireMaster Marine Plus Blanket

Issued to
Thermal Ceramics UK Ltd
WIRRAL MERSEYSIDE, United Kingdom

is found to comply with
DNV GL offshore standards

Application :

Approved for use as a fire retarding division of class H-60.
Restricted application: Fire hazard from the insulated side only

This Certificate is valid until **2018-06-30**.

Issued at **Høvik** on **2017-01-08**

for **DNV GL**

DNV GL local station: **Manchester**

Approval Engineer: **Helge Bjørnarå**

Petter Langnes
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id:
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Product description

"H-60 Steel Bulkhead – 2 x 40 mm FireMaster Marine Plus Blanket",
composed of a structural steel bulkhead insulated on the stiffened side with two layers of 40 mm thick FireMaster Marine Plus Blanket (density 70 kg/m^3) between stiffeners and two layers (min. 200 mm wide strips) of 40 mm thick FireMaster Marine Plus Blanket (density 70 kg/m^3) on the stiffeners.

Total insulation thickness: 80 mm

The blankets are held in place using steel pins (Ø 3 mm / length should be 12 to 25 mm longer than blanket lining thickness) welded to the bulkhead and friction-fit washers. The pins are to be installed on adjacent sides of the stiffeners with a nominal spacing of 350 mm and 450 mm between stiffeners crosswise the blanket. The nominal blanket width is 610 mm and is to be compressed to a width of 600 mm at joints.

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

The installation is to be performed according to the manufacturers Method Statement No. FM-MS 01 PW and Fire Protection Systems Information No. FM 4.93.

Application/Limitation

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

Restricted application: Fire hazard from the insulated side only

Any surface materials used have to be approved for smoke and toxicity and low flame-spread characteristics (IMO 2010 FTP Code Annex 1 Parts 2 and 5) when required according to relevant rules.

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

The products may be manufactured at the premises of:
- Thermal Ceramics UK Ltd, Wirral, UK
- Grupo Industrial Morgan S.A De C.V, Pachuca, Mexico
- Thermal Ceramics de France S.A., Saint Marcelin en Forez, France
- Thermal Ceramics, Augusta, United States
- Thermal Ceramics Korea, Daegu, Korea
- Morgan Kailong (Jingmen) Thermal Ceramics Co,. Ltd., China
- Morganite Brasil, Rio de Janeiro, Brazil
- Murugappa Morgan Thermal Ceramics, Ranipet, India

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, October 2015.

Test report No. FT07286 dated 27 December 2007 from Far East Fire Testing Laboratory, Shanghai, China.
Thermal Ceramics Method Statement No. FM-MS 01 PW and Fire Protection Systems Information No. FM 4.93, Rev. 2.

Assessment Report No. P105762-1001B, 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)) with the hydrocarbon time-temperature curve specified in ISO 834-3.

Marking of product

The product or packing is to be marked with name of manufacturer, type designation and fire technical rating.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4.