DNV·GL

Certificate No:
TAF00001F6

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A Bulkhead

with type designation(s)
"FyreWrap Durablanket Marine" - A60 Steel Bulkhead (General)

Issued to
Unifrax France SA
Lorette, France

is found to comply with
DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations
DNV GL rules for classification – Ships
DNV GL offshore standards

Application :

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

This certificate is recognised by Transport Canada.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2021-01-18**
This Certificate is valid until **2021-06-23**.
DNV GL local station: **France CMC**

Approval Engineer: **Helge Bjørnarå**

for **DNV GL**

Mårten Schei-Nilsson
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Job Id: **262.1-017901-21**
Certificate No: **TAF00001F6**

Product description

"FyreWrap Durablanket Marine" - A60 Steel Bulkhead (General),
composed of a structural steel bulkhead insulated of two layers "FyreWrap Durablanket Marine" of density 128 kg/m^3. 25 mm thick bottom layer placed between stiffeners and 38 mm thick surface layer covered between and upon the stiffeners.

Anchoring of insulation to bulkhead is arranged with steel pins and washers (22 set/m^2).

Total thickness is 63 mm.

For further details, see drawing listed under Type Approval documentation below.

This product can be manufactured at:
- Unifrax Brazil Ltd, Avenida Independencia, 7033, Bairro Sao Matheus, Vinhedo SP 13280-000, Brazil.
- Unifrax (Suzhou) Co. Ltd, 59 Shiyand Road, Xushuguan New Zone, 21551 Suzhou, China.
- Luyang Energy-saving Materials Co., Ltd, Plant #1, No.11, Yihe Road, Yiyuan County, Zibo, Shandong, China (Mainland).
- Unifrax France, 17 Rue Antoine Durafour, BP2, 42420 Lorette, France.
- Unifrax India Private Ltd., 99 KM Stone, Ahmedabad Surendranagar Highway, Dist. Surendranagar, Lakhtar, 382775, Gujarat, India.
- Unifrax I LLC, 54401 Smilax Road, New Carlisle, Indiana 46552, USA.

Application/Limitation

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

General application: Fire against either side

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

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

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, September 2018.

Test report No. FT10060 dated 26 January 2010 from FEFTC, Shanghai, China.
Drawing No. FP-130, Rev. A from manufacturer.

Tests carried out

Tested according to IMO FTPC Part 3 and in compliance with IMO 2010 FTP Code Ch.8.

Marking of product

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

Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV GL confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

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.