DNV·GL

Certificate No:
TAF00000C2

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A Bulkhead

with type designation(s)
A60 bulkhead - Biowool Marine Blanket Wrapped

Issued to
Luyang Energy-saving Materials Co., Ltd.
Zibo SD, China

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

Application :

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

This certificate is recognized by Transport Canada.

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

This Certificate is valid until **2021-09-04**.

Issued at **Høvik** on **2016-09-05**

for **DNV GL**

DNV GL local station: **Qingdao**

Approval Engineer: **Tessa Biever**

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: **262.1-022698-1**
Certificate No: **TAF00000C2**

Product description

"A60 bulkhead - Biowool Marine Blanket Wrapped"
composed of a structural steel bulkhead insulated with a two layers of 20 mm thick LYKR-900T type Biowool Marine blanket (density 96 kg/m^3) applied on the steel structural core as well as on the stiffeners following their contours.

Both the top and bottom blanket width compress from 610 to 600 mm and to be installed in 600 mm widths to form slight compressed butted joints.

The blankets are held in place using steel copper coated pins (Ø 3 mm) welded to the bulkhead with Ø 30 mm steel washers. The pins are to be installed with a nominal spacing of 300 mm across the blankets and on average 300 mm (max. 350 mm) along the blankets, whereas pins at the joints between blankets shall have a nominal spacing of 150 mm from the blanket edge. Maximum pin distance to lengthways joint is 250 mm.

Application/Limitation

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

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.

Type Approval documentation

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

Test report No. FT16131 dated 2016 from Far East Fire Testing Centre, Shanghai, China.
Drawings BULKHEAD-KRBW and BULKHEAD-KRBW-THA dated feb. 2016 from manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code Part 3.

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.