Certificate No:
TAF00001UX

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A Bulkhead

with type designation(s)
LH Spray R-B101 Type "A-60"Class Bulkhead

Issued to
Shanghai Lihui Marine Equipment Co., Ltd.
Shanghai, **China**

is found to comply with
DNV offshore standards
DNV rules for classification – Ships
DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021

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.

Issued at **Høvik** on **2023-10-20**
This Certificate is valid until **2028-10-19**.
DNV local unit: **Shanghai**

Approval Engineer: **Timo Linn**

for **DNV**

Jowita Permoda
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 AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") 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.

Product description

The **LH Spray R-B101 Type "A-60"Class Bulkhead** is a heat insulation material applied on the stiffener side of a steel structural core bulkhead. The core steel plate is 5 mm thick and reinforced with stiffeners of L65 x 65 x 6 mm.

The insulation material is LH Spray R marine rock wool product produced by Shanghai Lihui Marine Equipment Co., Ltd. The structure is a spray mix with a nominal density of 140 kg/m³. It is applied on the steel structural core with one layer of 40 mm nominal thickness and on the stiffeners with one layer of 25 mm nominal thickness. LH Spray R marine rock wool is a dual component adhesive sprayed on the surface by a special spraying device, thus the close coating layer is formed and which is the exposed side of fire.

For further details refer to the documentation listed below under “Type Examination documentation”.

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, use and maintenance.

Type Approval documentation

Certification in accordance with Class Program DNV-CP-0338, September 2021.

Test report No. FT21400 dated 10th of January from Far East Fire Testing Centre (FEFTC), Shanghai, China.

Drawing No. LH-RW-B101-001 Rev.3 “A-60 (LH Spray R-B101)” from manufacturer.

Tests carried out

Tested according to IMO Res. MSC.307(88) – 2010 FTP Code Annex1, Part 3.

Marking of product

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

Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled “Procedures for Approval of Life-Saving Appliances, Fire Safety Systems, Equipment and Products (TP14612)”, DNV confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

Periodical assessment

DNV’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 Program DNV-CP-0338, Section 4.