Certificate No:
TAF00001U7

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A Bulkhead

with type designation(s)
A-60 Bulkhead Insul side W-105-M

Issued to
KCC Corporation Ltd. Gimcheon Plant
Gimcheon, Gyeongsangbuk-do, Republic of Korea

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

Application :

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

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

This certificate is recognized by Transport Canada.

Issued at **Høvik** on **2023-08-20**
This Certificate is valid until **2028-08-19**.
DNV local unit: **Ulsan**

Approval Engineer: **Izabela Misztal**

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.

Product description

"A-60 Bulkhead Insul side W-105-M"
Is composed of a structural steel bulkhead insulated on the exposed side with:

- 40 mm thick mineral wool, type "KCC Hi Wool" (manufactured by KCC Corporation Ltd. - density 150 kg/m^3) between the stiffeners
- 40 mm thick mineral wool "KCC Hi Wool" (manufactured by KCC Corporation Ltd. - density 150 kg/m^3) around the stiffeners (2 methods of applying)
- Mineral wool "KCC Hi Wool" (manufactured by KCC Corporation Ltd. - density 110 kg/m^3) inside the stiffeners

The insulation is fixed to the bulkhead by means of standard Ø 2.5 - 4 mm stud pins with washers.

Distance between the pins on the bulkhead is approx. 300mm, the distance between the pins on the stiffeners and pins on the bulkhead is approx. 150 mm.

For further details see reports and drawings listed under Type Examination documentation.

Application/Limitation

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

Restricted application: Fire against insulated and stiffened side of the bulkhead.

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 DNV-CP-0338, October 2021.

Test report No. KOMERI-0402-17T2395 dated 8 November 2017 from Korea Marine Equipment Research Institute, Busan, Republic of Korea.

Drawing No.KCC-GC-2017-07-C-1 dated 19 July 2017 from KCC Corporation.
Drawing No.KCC-GC-2017-07-C-2 dated 19 July 2017 from KCC Corporation.

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 "Procedures for Approval of Life-Saving Appliances, Fire Safety Systems, Equipment and Products (TP14612)", DNV confirms that the product listed in this certificate is 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 Programme DNV-CP-0338, Section 4.