DNV·GL

Certificate No:
TAF00000TC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Surface Material of Low Flame Spread

with type designation(s)
PET Film + ALCSM + Mineral wool

Issued to
You Shin Dan Yeol Co., Ltd.
Ulsan, Republic of Korea

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 :

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

This certificate is recognized by Transport Canada.

Issued at **Høvik** on **2017-11-08**
This Certificate is valid until **2022-11-07**.
DNV GL local station: **Ulsan**

Approval Engineer: **Tessa Biever**

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.

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

Job Id: **262.1-026858-1**
Certificate No: **TAF00000TC**

Product description
"PET Film+ ALCSM + Mineral Wool"
Consisting, seen from exposed to unexposed surface, of a PET Film (0.012 mm), Al-foil (0.04 mm), CSM-300 mat (0.60 mm), glue (0.05 mm) and Mineral Wool 150 K (40 mm – manuafactured by KCC Corporation).

Total thickness: 40.7 mm
Tested color: silver
Organic content: 15.2 %

Application/Limitation
Approved for use as low flame spread material, not generating excessive quantities of neither smoke nor toxic products in fire.

Approved for use as decorative veneers on non-combustible substrate with a greater thickness than 10 mm.

Any adhesive used, other than the one used during testing, has to be tested for low flame spread characteristics according to IMO FTP Code Part 5.

The product satisfies the requirement for maximum calorific value (ref. SOLAS Chapter II-2, Reg. 5.3.2.2) without further testing.

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

Type Approval documentation
Certification in accordance with Class Programme DNVGL-CP-0338, October 2017.

Test Report No. A2017-0777 dated 22 September 2017 from Fire Insurers Laboratories of Korea (FILK), Gyeonggi-Do, Korea.

Drawing No: YSDY-FM-002-2017 dated 28 August 2017 from manufacturer.

Tests carried out
Tested according to IMO 2010 FTP Code Part 5 and Annex 2 item 2.2 and item 2.3.

Marking of product
The product or packing is to be marked with name of manufacturer and type designation.

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.