

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Surface Material of Low Flame Spread**with type designation(s)
BUSEAL

Issued to

Sam Hwa Chemicals Co., Ltd.
Cheonan-si Chungcheongnam-do, Republic of Koreais found to comply with
DNV GL rules for classification – Ships
DNV GL offshore standards
DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations**Application :****Approved for use as low flame spread surface material, not generating excessive quantities of smoke nor toxic products in fire.****This certificate is recognized by Transport Canada.****Product approved by this certificate is accepted for installation on all vessels classed by DNV GL.**This Certificate is valid until **2022-01-10**.Issued at **Høvik** on **2017-01-11**for **DNV GL**DNV GL local station: **Seoul**Approval Engineer: **Tomasz Werchowicz**

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.

Job Id:
Certificate No: **TAF00000F1**

Product description

"BUSEAL"

is composed of butyl rubber compound laminated to aluminium foil on top.

Total thickness: 1.25 mm
Nominal density: 1.50 g/cm³
Approved colors: Aluminium Gray / Aluminium Black
Max. organic content: 46.45 %

Application/Limitation

Approved for use as low flame spread surface material, not generating excessive quantities of smoke nor toxic products in fire.

Approved for use on any non-combustible substrate.

Maximum gross calorific value shall be documented separately where applicable, ref. SOLAS Chapter II-2 Reg. 5.3.2.

Any adhesive used, other than the one used during testing, has to be tested for low flame spread characteristics according to IMO 2010 FTP Code part 5.

Each product is to be supplied with its manual for application and maintenance.

Type Approval documentation

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

Test Report No. KOMERI-0402-16T0417-1 dated 9 December 2016 from KOMERI, Korea.

Test Report No. KOMERI-0402-16T0416 dated 25 April 2016 from KOMERI, Korea.

Test Report No. KOMERI-0402-16T3700 dated 9 December 2016 from KOMERI, Korea.

Tests carried out

Tested according to IMO 2010 FTP Code part 5 and part 2.

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 Program DNVGL-CP-0338, Section 4.