

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Class C Division**with type designation(s)
Class C panels

Issued to

Kah Brothers Construction Pte Ltd.
Singapore, Singaporeis 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 class C division and a non-combustible bulkhead. The panel surface is approved as a low flame spread material, not generating excessive quantities of smoke nor toxic products in fire.****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**This Certificate is valid until **2020-06-30**.Issued at **Høvik** on **2016-08-10**DNV GL local station: **Singapore**Approval Engineer: **Espen Kultorp**for **DNV GL**

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.

Product description

"DKS-H Aluminium Honeycomb Composite Panel material"

Aluminium honeycomb bulkhead panel composed of:

- 0,8 mm thick Aluminium reverse sheet
- 0,2 mm thick adhesive film
- 20 mm non combustible aluminium honeycomb core
- 0,2 mm thick adhesive film
- 0,8 mm thick Aluminium reverse sheet

Total panel thickness: 22 mm.

For further details see approved drawings under Type approval documentation below.

Application/Limitation

The load-carrying capability of this product have not been considered with this approval, and must therefore be evaluated in each case.

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.

Any surface materials used have to be approved for smoke and toxicity and low flame characteristic (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, use and maintenance.

Type Approval documentation

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

Test report Nos.:

719195424-MEC11-GZJ dated 30 March 2011 from TÚV SÜD PSB Pte. Ltd Fire Test Laboratory, Singapore (non-combustibility).

264238 dated 1 November 2010 from BRE Global, UK (surface flammability).

263120 dated 9 September 2010 from BRE Global, UK (smoke and toxicity).

Drawing "DKS-H" Aluminium composite panel details dated 15 January 2010 from manufacturer

Tests carried out

Tested according to IMO FTPC Part 1, Part 2 and 5 and in compliance with IMO 2010 FTP Code Ch.8.

Marking of product

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

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 DNVGL-CP-0338 Section 4.

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.