



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **F-20534**

This is to certify that the
Class C Division

with type designation(s)
Larcore

Manufactured by
ALUCOIL, S.A.
Miranda de Ebro Burgos, Spain

is found to comply with
Det Norske Veritas' Offshore Standards
Det Norske Veritas' Rules for Classification of Ships
Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended

Application

Approved for use as a class C division and a non-combustible lightweight bulkhead.
The panel surface is approved as a low flame spread material, not generating excessive quantities of smoke nor toxic products in fire.

This certificate is recognized by Transport Canada.

This Certificate is valid until **2017-12-31**.

Issued at **Høvik** on **2013-09-09**

DNV local station: **Bilbao**

Approval Engineer: **Øyvind Hoff**

for **Det Norske Veritas AS**

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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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

Product description

"Larcore",
an Aluminium composite panel consisting of a 8-28 mm thick non-combustible ALUNID 3000 aluminium honeycomb core (6.35-19.05 mm cell size) bonded on both sides with 0.5-1.0 mm thick aluminium sheets.

Panel thickness is 10-30 mm.

Application/Limitation

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

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.

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 installation, use and maintenance.

Type Approval documentation

Certification in accordance with Standard for Certification No. 1.2, Type Approval, January 2013.

Test report no. IN02341/2009-B-1 dated 15 December 2009 from Leitat Technological Center, Barcelona, Spain (Part 1 test).

Test report no. 2011-2025-2 dated 21 October 2011 from Exova Warringtonfire, Frankfurt, Germany (Part 5 reference test).

Test report no. 20625331 GS-BS-Mat/Lov dated 06 December 2011 from DMT GmbH & Co. KG (Prüfstelle für Brandschutz), Dortmund, Germany (Part 5 reference test).

Tests carried out

Tested according to IMO FTPC Part 1 and reference testing to IMO FTPC Part 5 and Annex 2 item 2.2.

Tested 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.

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)*", Det Norske Veritas confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

Periodical Assessments for Retention of the Type Approval Certificate

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 Standard for certification No. 1.2 Type Approval Item 4.