

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Class A Bulkhead**

with type designation(s)

A-30 STEEL BULKHEAD, PAROC MARINE FIRE SLAB 100, 40/25 mm

Issued to

**PAROC GROUP OY
Helsinki, Finland**

is found to comply with

**Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended
Det Norske Veritas' Rules for Classification of Ships
Det Norske Veritas' Offshore Standards****Application :****Approved for use as a fire retarding division of class A-30.** **General application: Fire against either side.****This certificate is recognized by Transport Canada**This Certificate is valid until **2018-12-31**.Issued at **Høvik** on **2014-09-16**DNV GL local station: **Helsinki**Approval Engineer: **Ragnar Tonjer**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. If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, then the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million. In this provision the "Society" shall mean DNV GL AS as well as all its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV GL AS.

Certificate No: **F-20835**
File No: **471.11**
Job Id: **262.1-017560-3**

Product description

"A-30 STEEL BULKHEAD, PAROC MARINE FIRE SLAB 100, 40/25 mm"

A-Class steel bulkhead insulated with stone wool slabs having a nominal density of 100 kg/m³. The insulation is applied in one layer. Between the stiffeners the thickness of the insulation layer is 40 mm. Upon the stiffeners, the thickness of the insulation layer is 25 mm. The insulation is fastened by using steel pins with sizes Ø3 x 35 mm and Ø3 x 50 mm, and steel washers with a diameter of 38 mm or with bent pins without washers. The maximum distance of pins is 300 mm.

For further details, including pinning details, see test report and drawing stated under Type Approval documentation below.

Application/Limitation

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 Standard for Certification No. 1.2, Type Approval, January 2013.

Test Report No. 2000CSTO1556/5, dated 9 March 2001, from RINA, Italy.

Drawing No. 355918, dated 12 October 2000, from PAROC OY AB Helsinki, Finland.

Tests carried out

Tested according to IMO FTPC Part 3, and in compliance with IMO 2010 FTP Code Ch.8.

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)*", Det Norske Veritas confirms that the product/s listed in this certificate is/are 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 Standard for certification No. 1.2 Type Approval Item 4.