



MARINE DIVISION

Certificate number: 05885/A0 BV

File number: ACI 1200/051/021

Product code: 5130H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

ALVEDOOR AB

Alvesta - SWEDEN

for the type of product

A60 CLASS DOORS

A-60 CLASS SINGLE or DOUBLE-LEAF HINGED DOOR

Requirements:

BV Rules Part C Chapter 4 - SOLAS 74 Convention, as amended, Regulations II-2/9.4.1.1.2, II-2/9.4.1.2.1, II-2/9.4.2 - IMO Resolution A.754(18) - IMO Resolution MSC.61(67) Annex 1, Part 3 and Annex 2 - IMO MSC/Circ.916 - IMO MSC/Circ.1004

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 20 Oct 2014

For BUREAU VERITAS,

At BV GOTHENBURG, on 20 Oct 2009,

Magne Moller



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

A-60 CLASS SINGLE or DOUBLE-LEAF HINGED DOOR.

Composed of single or double leafed hinged door with doorblades of total thickness 53 mm made up of steel sheets 1.5 mm thick on both sides and an insulating core of mineral wool "Rockwool 337" (density approx. 140 kg/m³) 38 mm thick covered on both sides with "Glasroc S GRG" (density approx. 1000 kg/m³) boards 6 mm thick. The central profile is insulated with "Durablanket S" (density approx. 128 kg/m³). It incorporates a single point latching system to the active door leaf.

The door frame is made up steel Z-profiles. The frame can be fixed to the bulkhead as follows:

- bolted to 4 mm thick plate around its full perimeter (which is welded to the perpendicular surface of the steel bulkhead). The frame is fixed to the plate by 10 mm diameter steel fixings at no more than 300 mm centers,
- with continuous weld on one face of the bulkhead and intermittent welds (tack welds) on the other face,
- with 30 mm long intermittent welds at 300 mm maximum centres on both faces of the bulkhead.

The active doorblade may be fitted with a hose port operated by a door closer "Aditech 18", manufactured by Aditech.

The doorblades may be fitted with a rectangular window. Between the glass and the window frames, two layers of 3 x 12 mm ceramic fibre band Fiberfrax 970 are mounted. Before mounting the window a strip of ceramic fibre Fiberfrax Durablanket S is inserted along the edges of the cut out in the door leaves.

Maximum nominal clear opening size (height and width):

- Double-leaf hinged door: 2200 x 2700
- Single-leaf hinged door: 2200 x 1350.

Maximum clear size opening for the hose port: 150 x 150 mm

Maximum clear size opening for the window: 390 x 390 mm

Other materials and/or components :

- Ceramic fibre band "Fiberfrax 970" (nominal density 190 kg/m³) manufactured by Unifrax Ltd, UK. To be of low flame spread characteristics.
- Glass, 24 mm Contraflam 60-N2-24, Emma Boda Glas. Non-combustibility of glass in accordance with IMO FTP Code Annex 1 § 1 (without testing).

2. DOCUMENTS AND DRAWINGS :

As per the Manufacturer's drawings N° B100152, B201376, C100810, C.100758-C, C.201341-B, C201368, D.100764-A, D.100765-A, D.201582-A, D.201581-C, C.201591-A, B.200864-C & B200863.

3. TEST REPORTS :

3.1 - Test report N° 94R12545 dated September 14, 1994 as per IMO FTP Code Annex 1 Part 3 [testing standard: IMO Resolution A754(18)] from SP, Sweden.

3.2 - Technical assessments WRFC n° C118314 dated March 26, 2001, n° C122134 dated November 27, 2001 and n° C123849 dated March 20, 2002 as per IMO Resolution A754(18) from the Warrington Fire Research Center, UK.

3.3 - **With window:** Test report N° PG 11117 Serial N° 8992 dated March 20, 2003 as per IMO FTP Code Annex 1 Part 3 [testing standard: IMO Resolution A754(18)] from DIFT, Denmark.

3.4 - **Non-combustible material:** "Rockwool 337" (nominal density 150 kg/m³) manufactured by Rockwool AB, Sweden . Test report n°PF10851 Serial n°7402 DATED December 16, 1999 as per IMO FTP Code Annex 1 Part 1 [testing standard: IMO Resolution A799(19)] from DIFT, Denmark. To be EC type approved and to bear the \square mark.

3.5 - **Non-combustible material:** "GLASROC S GRG board" nominal density 1000 kg/m³ manufactured by British Gypsum, UK. Test report n°PF11102 Serial n°8062 dated May 30n 2001 as per IMO FTP Code Annex 1 Part 1 [testing standard: IMO Resolution A799(19)] from DIFT, Denmark. To be EC type approved and to bear the \square mark.

3.6- **Non-combustible material:** Ceramic fibre "Fiberfrax Durablanket S" (nominal density 128 kg/m³) manufactured by Unifrax Ltd, UK. Test report WARRES N° 103056, dated June 6, 1998 as per IMO FTP Code Part 1 [testing standard: IMO Resolution A.799(19)] issued by the Warrington Fire Research Centre, UK.

4. APPLICATION / LIMITATION :

Application / Limitation of use :

4.1- Approval also valid for ships having to comply with IMO Resolution A649 (The "MODU Code").

On board installation & Maintenance requirements :

4.2 - Flame spread characteristics and calorific value of the lining to be as per Rule requirements.

4.3 - The fitting aboard to be the same as used for the test.

5. PRODUCTION SURVEY REQUIREMENTS :

The A60 fire doors are to be manufactured, examined and tested by **Alvedoor AB** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **Alvedoor AB** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

Alvedor AB has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production sites :

Alvedor AB
Blädingevägen 32
34232 Alvesta
Sweden

6. MARKING OF PRODUCT :

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

7. OTHERS :

7.1 - This approval is given on the understanding that the Manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper methods of fitting and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***