



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. F-18378
This Certificate consists of 3 pages

This is to certify that the
Class A Door

with type designation(s)
ALVEDOOR A-60


Manufactured by
Alvedoor AB
ALVESTA, Sweden

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

Application
Approved for use as an integrated part of fire retarding divisions class A-60.
Max. clear opening: 2200 x 2700 mm (H x W, double door) and
1995 x 975 mm (H x W, single door).

This certificate is recognized by Transport Canada.

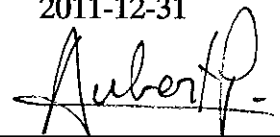
Place and date
Høvik, 2007-07-04
for DET NORSKE VERITAS AS


Hilde Smedal Thunes
Head of Section

Local Office
DNV Gothenburg

This Certificate is valid until
2011-12-31




Patrick Aubert
Surveyor

Notice: 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.



Cert. No.: F-18378
File No.: 471.13
Job Id.: 262.1-003209-1

Product description

ALVEDOOR A-60"

single or double leaf hinged door with door blade made from 1.5 mm steel sheet, insulated with 6 mm thick "Glasroc Multiboard S GRG" of density 1000 kg/m³, on each side of 38 mm thick "Paroc Slab 337-00" of density 140 kg/m³. The door frame may be bolted or welded to the bulkhead.

Total thickness of door blade is 53.5 mm.

Application/Limitation

A door may also be fitted with a:

- concealed door closer type "Geze Boxer".
- hose port with max. clear opening 150 x 150 mm (H x W).
- window type "Contraflam 60-N2-24 Emma Boda Glas", or Pilkington "Pyrostop 60-10 G II". Max. clear opening 390 x 390 mm (H x W).

For double leaf door, max. size of one single door leaf should not exceed 1350 mm.
The door frame may be bolted or welded to the bulkhead.

The construction and installation is to be in accordance the type approval documents listed below and with the manufacturer's manual for installation.

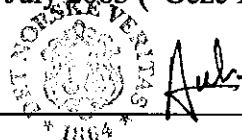
Type Approval documentation

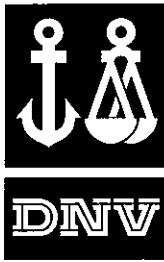
Certification in accordance with Certification Note No. 1.2, Type Approval, December 1996.

Test reports No. 94R12545 dated 14 September 1994 and No. 96R12817 dated 29 April 1996 from SP, Borås, Sweden and No. PG10818 dated 21 August 2001, No. PG11117 dated 20 March 2003 and PG 10689 dated 4 September 2000 from DIFT, Hvidovre, Denmark.

Assessment WFRC No. C118314 dated 26 March 2001, No. C122134 dated 27 November 2001 (double door clear opening) and No. C123849 dated 20 March 2002 (door looking system) from Warrington Fire Research, UK.

Drawings No. D 100764A, No. D 100765B, No. B 200863, No. D200897, No. B201376 dated 30 March 2001 (bolted installation), No. C201368 dated 14 March 2001 (bolted or welded installation) and No. B201658 dated 4 July 2003 ("Geze Boxer" door closer) from Alvedoor AB.





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Certification Retention Survey Report GOT-06-143 dated 12 April 2006 from DNV
Gothenburg.

Hose-stream tested with satisfactory results in accordance with IMO Res. A.754(18),
Appendix A.1, Part 5.1.

When the door is fitted with the window Pilkington "Pyrostop 60-10 G II, hose- stream test
is not approved.

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)).

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.

Certificate retention survey

Det Norske Veritas' surveyor is to be given permission to perform Certification Retention
Surveys at any time during the validity period of this certificate and at least every second
year. The arrangement is to be in accordance with procedure described in item 4.3,
Certification Note No. 1.2.

END OF CERTIFICATE

