

DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2002/75/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. MED-B-4690

This Certificate consists of 3 pages

This is to certify that the product
Windows and side scuttles

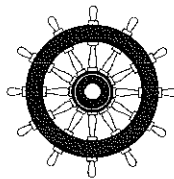
with the type designation(s)
A-60 WINDOW 1500 x 1300

Manufactured by
C.C. Jensen A/S
SVENDBORG, Denmark

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.25 and Annex B, Module B in the Directive SOLAS 74 as amended, Regulation II-2/9.4.1.3, MSC/Circ.847 and IMO FTP Code.

Further details of the product and conditions for certification are given overleaf.

Place and date
Høvik, 2008-04-17
for DET NORSKE VERITAS AS



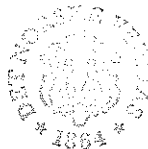
This Certificate is valid until
2011-05-15

Notified Body No. 0575

Kristen Ulveseter
Manager, MTPNO370
Department Systems & Components

Øyvind Hoff
Surveyor

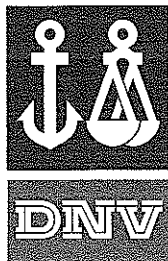
DNV local office:
DNV Fredericia



Notice: The certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.

The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

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.: MED-B-4690
Case No.: 344.1-000427-3
File No.: A.1/3.25

Product description

"A-60 WINDOW 1500 x 1300"

composed of steel frame incorporating a glass unit consisting of one of the following:

1. pressure glass, minimum 10 mm, an air cavity of 15 mm and a fire technical glass sheet unit made from "Contraflam N2" (4+5+3+5+6). Total glass unit thickness is 48 mm.

For more details, see approved drawings VA91000501 and VA91000501b listed under Type Examination documentation on page 3.

2. a glass construction - SCHOTT Pyranova A60 – with the following construction details: UV protective glass pane, min. 10 mm, an air cavity of 8 mm and a 27 mm insulating glass (consisting of 7 layers of glass with 1 layer of PVB foil and 5 layers of gel between them). Total glass unit thickness is 45 mm.

For more details, see approved drawings VA910700904 and VA910700904b listed under Type Examination documentation on page 3.

Complete side of window frame to be insulated on unexposed side to the same fire rating as that of the bulkhead, to which the window frame is welded.

Applications/Limitations

The window is approved for use as an integrated part of fire retarding bulkheads of class A-60.

Maximum size of fire technical glazing unit: 1530 x 1330 mm (width x height).

Maximum exposed window size: 1500 x 1300 mm (width x height).

Fire against external (pressure glass) side for the 48 mm thick glass unit (items 1 above), and against the UV protective glass pane for the 45 mm thick glass unit (item 2 above).

Strength glass against weather side to be marked according to ISO 614.

The window has only been evaluated with respect to fire technical properties (e.g. strength requirements have not been considered). Arrangement and location of any window is subject to approval from relevant authorities in each case.





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Hose Stream test was carried out with satisfactory results according to IMO Res. A.754(18) Appendix A.I.5. (Not carried out for the SCHOTT Pyranova A60 glass.)

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Test report No: File No. PG 10712 Serial No. 7668 dated 19 July 2000 and File No. PG 11458 Serial No. 11435 dated 22 January 2008, both from Danish Institute of Fire Technology, Copenhagen, Denmark.


Drawings VA91000501 (drawn, 29.03.00), VA91000501b (drawn, 28.03.00), VA910700904 (rev.1, 29.11.07) and VA910700904b (rev.2, 18.12.07), all from C.C. Jensen.

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

Marking of product

The product is to be marked with name of manufacturer, type designation, fire technical rating and the Mark of Conformity (see below).

Mark of conformity

The manufacturer is allowed to affix the Mark of Conformity  according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

- Module D: The quality system for production and testing shall be approved by the Notified Body.
- Module E: The quality system for inspection and testing shall be approved by the Notified Body.
- Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

END OF CERTIFICATE

