

MARINE DIVISION

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Certificate number: 19158/A0 BV

File number : ACC 123/36

Product code : 6468H

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

TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Classification Rules

This certificate is issued to

C.C. JENSEN
SVENDBORG - DENMARK

for the type of product

PORTHOLES / WINDOWS / SIDE SCUTTLES

Non opening window/side scuttle frame type CCJ "Clamp-on window"
(Area not exceeding 1800x1500mm)

Regulations and standards :

BV Rules for the classification of steel ships (NR 467 R02 E issue April 2005)

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 of the Regulations and standards mentioned above.

This certificate is valid until : 26 Apr 2012

At Paris la Défense, on : 26 Apr 2007

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV FREDERICIA
Surveyor : H. Andersen

L.COURREGELONGUE



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. 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 :

The main principle of the new CCJ "Clamp-on window" is based on the built-in advantages of mounting without welding or bolting. The window/side scuttle will be mounted with a number of clamps (maximum spacing = 350mm, length = 40mm in general, 15mm in the corner) on the back side any contamination and damage to the bulkhead only by tightening the screws of the clamps. Hereby the pre-mounted gasket system will be compressed, and thus securing watertightness.

Toughened structural safety-glass panes from 6 to 19 mm can be mounted in the standard frame. Structural glass panes of 25 mm can be mounted in an extended edition frame. All dimensioning of the glass pane thicknesses should comply with the requirements of ISO 21005:2004(E) and ISO 614.

The window/side scuttle frame can be delivered with two corner radii : R200mm or R90mm.

Mounting :

The window/side scuttle frame is to be mounted in the bulkhead and kept into position with clamps.

The window/side scuttle can be mounted into bulkhead thicknesses up to 20 mm. The extended edition frame can be mounted into a 25 mm bulkhead.

The frame and the glass pane have a minimum individual distance of 3mm, ensuring no contact if possible. Further more, the distance between the frame and the bulkhead is of minimum 2mm, giving a total clearance of 5 mm to adapt movements of the hull.

The screws of the clamps have to be cross tightned with maximum 9N.m (\pm 2N.m).

A window box can be delivered with fire insulating as requested by the classification compagny. It will be fitted with a "click-on" feature.

Part of materials :

The frames and the clamps are manufactured of high quality extruded aluminium AlmgSi 0.5 (aluminium alloy 6060 T5). The surface is pre-treated (anodized electrochemical process) and covered with a powder coating of 50-120 μ .

All windows/side scuttles have to be fitted with a minimum of 2 clamps on each side. The frames with R200 have to have an additional clamp mounted in each corner (length =15mm). Spacing of the clamps have to be at a maximum of 350mm, incl. the circular arc in the corners. This means, that a window/side scuttle with R90/R200 have a minimum of 8 and 12 clamps respectively.

The clamps are fitted with self-locking stainless steel screws secured with locking adhesive.

The glass pane is glued into the frame with a special adhesive developed for maritime use.

Watertightness to supertstructure is obtained by EPDM gasket with a "built-in" buthyl strip, and thus tightness will be enforced by encreased pressure from the outside.

2. DOCUMENTS AND DRAWINGS :

2.1 - As per the Manufacturer's drawings referenced :

- Bill of material : dwg n° VA92300105b dd 02/09/05 rev 3.
- Fixed window 1000x825 (standard frame): dwg n° VA92300105 dd 06/09/05 rev 3.
- Main frame : dwg n° VE02213041 rev1.
- Ekstruded profile : dwg n° VE02213042 rev 1 dd 01/06/04.
- Fixed window 1800x1500mm (extended edition frame) : dwg n° VA92300107 dd 06/09/05.
- Test pressure drawing n° VA92300105X02 rev 1 dd 14/12/05 (Fixed window 1000x825).

2.2 - As per the Manufacturer's document referenced :

- Product Declaration CCJ "Clamp-on window" rev date 28/03/07.

3. TEST REPORTS :

- DNV Inspection report dd 01/07/05 (cert. n° 22140718).
- DNV Hydrostatic pressure test report dd 19/01/05 n° 22320032.
- Glass Pane Collapse and Wave Impact Impulse Test Reports translated by CCJ on 06/03/06 and approved by DNV.

4. APPLICATION / LIMITATION :

4.1 - Restricted application : a rectangular frame 1800x1500mm and all smaller combinations of sizes, and any other shape not exceeding this area. The main frame holding all toughened safety-glass panes from 6 to 19 mm in standard format, and 25 mm in extended edition frame.

4.2 - The main frame of window/side scuttle have only been reviewed with regard to structural requirements. Strength requirements of surrounding structure such as bulkheads and stiffeners have not been considered. The arrangement and location of any windows or side scuttles in respect of fire resistance are subject to approval in each case.

5. PRODUCTION SURVEY REQUIREMENTS :

The " *non opening window/side scuttle frame (type CCJ clamp-on window)* " are to be manufactured, examined and tested by " C.C.JENSEN " 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 " C.C.JENSEN " has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

" C.C.JENSEN " has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production sites :

*C.C.JENSEN
Loevholmer 13,
DK - 5700 SVENDBORG
DENMARK.*

6. MARKING OF PRODUCT :

The body (main frame) shall be marked with manufacturer's name or trade-mark, nominal size, material class.
The glass pane shall be marked in accordance with ISO 614.

7. OTHERS :

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 ***