

The Protection of Windows and Side Scuttles of Passenger Ships by Deadlights and Storm Covers.

Notice to Ship Owners, Masters and Operators, Ship Builders and Marine Surveyors.

Summary

This notice draws attention to the statutory requirements for fitting and use of hinged deadlights and permanently attached storm covers at windows and side scuttles. It also contains advice on the carriage and use of portable deadlights and storm covers and draws attention to proper maintenance of all types of external glazed openings.

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| <p>Application of Regulations:</p> <p>1 The advice in this notice is intended for all passenger ships having watertight compartmentation (subdivision). This notice therefore applies to subdivided passenger ships of Classes I, II, II(A), III, VI and VI(A) as defined in the Merchant Shipping (Passenger Ship Construction: Ships of Classes I, II and II(A)) Regulations 1998 which implement SOLAS Chapter II-1, and the Merchant Shipping (Passenger Ship Construction: Ships of Classes III to VI(A)) Regulations 1998. It also applies to subdivided passenger ships of Classes A, B, C or D as defined in the Merchant Shipping (Passenger Ships on Domestic Voyages) Regulations 2000, which implement EC Directive 1998/18 (as amended) on Safety Standards for Passenger Ships.</p> <p>2 Regulations governing the fitting and use of windows and side scuttles on passenger ships are contained in the above, as well as in the Merchant Shipping (Load Line) Regulations 1998</p> <p>3 These regulations are referred to below as the passenger ship, or the load line regulations, respectively</p> | <p>4</p> <p>5</p> <p>6</p> | <p>This notice, except where expressly stated, does not apply to high speed craft built and operated in accordance with the Merchant Shipping (High Speed Craft) Regulations 2003. These regulations implement the International Code of Safety for High Speed Craft, 2000 (HSC 2000), International Code of Safety for High Speed Craft, and Code of Safety for Dynamically Supported Craft.</p> <p>Amendment to the Load Line Regulations:</p> <p>Amendments to the 1988 Protocol to the International Convention on Load Lines 1966 will enter into force on 1st January 2005. These amendments will be implemented for United Kingdom ships by amendments to the load line regulations, and will apply to ships building after 1st January 2005. They will implement the expanded regulation on side scuttles, windows and skylights, the text of which is annexed to this guidance note.</p> <p>This new, expanded regulation reflects interpretations of the 1966 Convention which have already been widely used internationally and on United Kingdom</p> |
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ships for a number of years: therefore references in this guidance note to load line requirements are to the annexed text.

Provision of Deadlights and Storm Covers on Ships:

7 Windows and side scuttles when fitted in certain locations, are required by the load line and passenger ship regulations to be fitted with hinged or otherwise permanently attached deadlights or storm covers. It should be noted that deadlights are fitted internally, whilst storm covers (sometimes also referred to as shutters) are fitted externally (see footnote 1 to the attached Annex). However portable covers which are designed to be fitted after breakage of glazing, but which may be positioned on the outboard side of the opening, are also treated as internally fitted deadlights for the purpose of this notice. With respect to deadlights, the regulations require hinged weather tight or hinged watertight, depending on location. With respect to storm covers the regulations require permanent attachment and there are no provisions as to tightness.

8 Where hinged deadlights are required, and the load line regulations permit the installation of windows instead of side scuttles, the maximum size of window will usually be governed by the need to keep the weight of deadlight (which will normally be in a single piece) to that which can be safely manually operated.

9 Where under the load line regulations 'greater than minimum' freeboards are assigned, the Maritime and Coastguard Agency (MCA) may have waived the load line requirement for certain windows or side scuttles in the second tier above the freeboard deck to be fitted with hinged inside deadlights. A condition of this waiver in the future will be that the glazing material is strengthened and that the frame has comparably enhanced strength. Strengthening of glazing material should be by increasing the required thickness of the glass by at least 40% above that required by BS MA 25: 1973 or equivalent standard, or by providing two thicknesses of glazing, each of which is of sufficient strength to satisfy the above standard on its own.

10 With regard to the load line requirement for deadlights, referred to in the preceding paragraph, the attached Annex distinguishes spaces 'considered buoyant in the stability calculations'. MCA will interpret this to mean only those spaces whose volume has been included in the non-flooding volume: for preparation of righting arm data for the intact ship, or for demonstrating compliance with applicable damage survivability requirements. When evaluating transient heel angles due to modelled wind or wind and sea combinations, superstructures need not be 'considered buoyant' whose boundaries contain windows or side scuttles that are rolled below the related, but assumed still, waterlines.

11 In addition to hinged or permanently attached types, portable deadlights and storm covers will normally be carried, as well as spare glasses. The passenger ship regulations permit some portable deadlights to be substituted for required hinged types, according to location. Furthermore MCA has for many years issued guidance on the provision of supplementary portable deadlights or storm covers. With increasing size of cruise passenger ships, and emerging window technology, this MCA guidance has been reviewed as below.

12 Supplementary portable deadlights or storm covers should be carried for each size of all windows or side scuttles on the 2nd or 3rd tiers above 'datum' deck that are not fitted with permanently attached or hinged protection. These may also be necessary for windows or side scuttles on the 4th or higher tiers on ships of unusual form. The number of portable deadlights or covers for each size of opening should be carefully considered having regard to voyage duration and risk of breakage: however where there are on the 2nd and 3rd tiers, in aggregate, more than 50 windows or side scuttles of any one size the number of deadlights or shutters in that size generally should not be less than 10% of the total. Where the number of windows or side scuttles, as above, is less than 50 it is recommended that the number of deadlights or covers is 5 or 50%, whichever is less. This number should be carried regardless of whether windows and side

scuttles are strengthened as referred to in paragraph 9. Datum deck is the higher of freeboard or bulkhead decks.

- 13 Side scuttles on high speed craft defined in paragraph 4, may be fitted with hinged deadlights. For example side scuttles below the datum deck on vessels built to HSC 2000 standard. In addition a high speed craft Permit to Operate may specify hinged or sliding storm covers be provided at certain windows.

Provision of Spare Glasses:

- 14 The number of spare glasses recommended to be provided for all external windows and side scuttles is 4% with a minimum of 2, of the total number of glasses for each size. However in accordance with past practice, in existing ships of Class II(A) a minimum of 2 glasses for each size may continue to be carried, if provision of deadlights remains to the scale in the first revision of the relevant Instructions for the Guidance of Surveyors – Passenger Ship Construction, instead of that in paragraph 12 above.
- 15 A selection of spare seals and other parts such as screws and glazing strips should also be carried.

Design of Portable Deadlights:

- 16 As these are to be fitted not in anticipation of severe weather, but after damage to windows or side scuttles, they should be of steel or aluminium plate or equivalent material stiffened as necessary to achieve, as far as possible, the same strength as the intact glazed assemblies they are to cover. They should be designed to close, when fitted, the framed apertures without glazing. When considering the design and fixing arrangements of deadlights it should be noted that damage to or loss of glazing material could also damage the glass retaining components or adjacent frame. In some cases it may be preferable to carry deadlights which secure directly to attachments on shell plating or deckhouse side, or to a part of the frame unlikely to be damaged by displacement, with or without breakage, of the glazing material.

Operation and Maintenance:

- 17 The passenger ship regulations require the closure of certain deadlights before proceeding on a voyage. These are (hinged) deadlights of side scuttles below the margin line (or bulkhead deck), which are not accessible while the ship is at sea. In addition all openable side scuttles below the margin line are required to be closed before proceeding on a voyage. Other hinged or permanently attached deadlights and covers should be closed at the discretion of the master, which may be in anticipation of severe weather depending on forecast, ships course, speed and sea keeping properties.
- 18 Portable deadlights or storm covers should be carried as specified in paragraphs 11 and 12. These are usually provided for windows or scuttles on second and higher tiers above the datum deck, which are frequently larger than those in positions that require the fitting of permanently attached covers. Where fitted internally (i.e. portable deadlights), these need not be fitted in anticipation of severe weather since there will not be sufficient of these to cover simultaneously all windows or scuttles on any deck. Furthermore in occupied spaces (eg. cabins) portable deadlights can represent an additional hazard to occupants if they detach in the event of window breakage. Where fitted externally (i.e. storm covers) these may be fitted in anticipation of severe weather if it is expected that access to them could become dangerous as a result of the expected conditions: however this implies the carriage of a suitable number of covers to protect all such locations, notwithstanding paragraph 12 above.
- 19 If windows or side scuttles are de-glazed at any time, e.g. for running electrical cables through fixed windows during refits, care must be exercised to ensure that seals and glazing strip fixing screws of the correct type are refitted. It should also be ensured that the glass edges are undamaged, that replacement glasses are not undersize and that the glazing is accurately centred in the frame rebate, with reinstatement of chocks where the latter form part of the assembly.

Background:

20 This notice is issued in response to a Marine Accident Investigation Branch (MAIB) report into wave damage to windows during a voyage of a United Kingdom passenger ship. The report No 36/2002 may be obtained from the MAIB website at www.maib.dft.gov.uk.

Further Information

Further information on the contents of this Notice can be obtained from the address below.

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Department for
Transport

The MCA is an executive agency
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*Extract from Amendments to the 1988 Protocol to the
International Convention on Load Lines 1966.*

Regulation 23 - to enter into force 1st January 2005

Side scuttles, windows and skylights

- (1) Side scuttles and windows, together with their glasses, deadlights and storm covers¹, if fitted, shall be of an approved design and substantial construction. Non-metallic frames are not acceptable.
- (2) Side scuttles are defined as being round or oval openings with an area not exceeding 0.16 m². Round or oval openings having areas exceeding 0.16 m² shall be treated as windows.
- (3) Windows are defined as being rectangular openings generally, having a radius at each corner relative to the window size and round or oval openings with an area exceeding 0.16 m².
- (4) Side scuttles to the following spaces shall be fitted with hinged inside deadlights:
 - (a) spaces below freeboard deck;
 - (b) spaces within the first tier of enclosed superstructures and;
 - (c) first tier deckhouses on the freeboard deck protecting openings leading below or considered buoyant in stability calculations.

Deadlights shall be capable of being closed and secured watertight if fitted below the freeboard deck and weather tight if fitted above.

- (5) Side scuttles shall not be fitted in such a position that their sills are below a line drawn parallel to the freeboard deck at side and having its lowest point 2.5% of the breadth (B), or 500 mm, whichever is the greatest distance, above the Summer Load Line (or Timber Summer Load Line if assigned).
- (6) If the required damage stability calculations indicate that the side scuttles would become immersed at any intermediate stage of flooding or the final equilibrium waterline they shall be of the non-opening type.
- (7) Windows shall not be fitted in the following locations:
 - (a) below the freeboard deck;
 - (b) in the first tier end bulkheads or sides of enclosed superstructures; or
 - (c) in first tier deckhouses that are considered buoyant in the stability calculations.

¹ Deadlights are fitted to the inside of windows and side scuttles, while storm covers are fitted to the outside of windows, where accessible, and may be hinged or portable.

- (8) Side scuttles and windows at the side shell in the second tier shall be provided with hinged inside deadlights capable of being closed and secured weather tight if the superstructure protects direct access to an opening leading below or is considered buoyant in the stability calculations.
- (9) Side scuttles and windows in side bulkheads set inboard from the side shell in the second tier which protect direct access below to spaces listed in paragraph (4), shall be provided with either hinged inside deadlights or, where they are accessible, permanently attached external storm covers which are capable of being closed and secured weather tight.
- (10) Cabin bulkheads and doors in the second tier and above separating side scuttles and windows from a direct access leading below or the second tier considered buoyant in the stability calculations may be accepted in place of deadlights or storm covers fitted to the side scuttles and windows.
- (11) Deckhouses situated on a raised quarter deck or on the deck of a superstructure of less than standard height, may be regarded as being in the second tier as far as the requirements for deadlights are concerned, provided the height of the raised quarter deck or superstructure is equal to or greater than the standard quarter deck height.
- (12) Fixed or opening skylights shall have glass thickness appropriate to their size and position as required for side scuttles and windows. Skylight glasses in any position shall be protected from mechanical damage and where fitted in position 1 or 2, shall be provided with permanently attached deadlights or storm covers.