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## Safety of Personnel During Container Securing Operations and while Working at Corrugated Bulkheads in General Cargo Ships

Notice to Naval Architects, Containership Designers, Classification Societies, Owners, Masters, Seafarers and all other parties concerned with the safety of container securing operations and with working at corrugated bulkheads in general cargo ships.

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### *Summary*

This Marine Guidance Note draws attention to two Circulars issued by IMO's Maritime Safety Committee on the Safety of Personnel during Container Securing Operations (MSC/Circ.886) and on Preventing falls at Corrugated Bulkheads in General Cargo Ships (MSC/Circ.888). Copies of the Circulars are attached. Both advise that safety can be improved if shipowners and ship designers consider the implications for those involved in container securing and working at corrugated bulkheads during the design stage of the ship, rather than relying on operational measures after the ship is built. The Circulars make specific recommendations for safer design.

1. The International Maritime Organization's (IMO) Maritime Safety Committee (MSC) has expressed serious concern about the dangers to personnel working at the top of containers during container securing operations and has approved a Recommendation on Safety of Personnel During Container Securing Operations. This is published as IMO MSC/Circ.886, attached as Annex A to this MGN. The MSC has also issued MSC/Circ.888 on Preventing Falls at Corrugated Bulkheads in General Cargo Ships, attached as Annex B to this MGN. This Circular draws attention to the risks of serious and fatal injury to cargo handlers and to all personnel working adjacent to corrugated bulkheads. Both Circulars emphasise the need to take account of these safety issues during the design, construction and repair of ships.
2. The MCA shares the concern of the Maritime Safety Committee and strongly endorses the guidance contained in the IMO Circulars. As MSC/Circ. 886 points out, a safer environment for seafarers and dockworkers involved in the securing of containers can be achieved by shipowners and ship designers focusing on the safety of securing containers at the design stage of building a ship, rather than relying on operational methods for this purpose. Similarly there are steps, outlined in MSC/Circ.888, that can be taken to enhance the safety of personnel working near corrugated bulkheads.
3. To improve the safe working environment of those who work on the decks of container ships particular thought must be given to:
  - the space that is needed to apply lashing bars and to use of long lashing poles
  - the weight and awkwardness of lashing equipment and the need for the lashing equipment to be compatible with the twistlocks used on the vessel
  - the stowage of the equipment and the provision of appropriate stowage bins to ensure that equipment does not have to be left in the working area

- the need to provide protection from falling from outboard lashing posts and working platforms inboard
  - the siting of lashing platforms and the need to ensure that there is sufficient standing room for lashing, with protective handrails at least a metre high or equivalent arrangements;
  - the width of the lashing platforms, which should take account of whether one, two or three high lashings are required;
- the need for deck/lashing platform illumination for night work;
  - the need to ensure that any deck obstructions are clearly visible and painted if necessary in a high visibility colour to minimise the risk of trips and falls.
4. Guidance on the operational aspects of securing containers and working at corrugated bulkheads is given in the Code of Safe Working Practices for Merchant Seaman, published by the Stationery Office.

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MSC/Circ. 886  
21 December 1998**RECOMMENDATION ON SAFETY OF PERSONNEL DURING  
CONTAINER SECURING OPERATIONS**

- 1 The Maritime Safety-Committee, at its seventieth session (7 to 11 December 1998) expressed serious concern at the dangers to personnel working at the top of containers during container securing operations, which result from container securing arrangements being located in difficult and dangerous locations, and approved the Recommendation on safety of personnel during container securing operations, as set out in the annex.
- 2 Member Governments are invited to bring this Recommendation to the attention of port authorities, containership owners, designers and all other parties concerned and to consider other positive measures to address this problem in port and when approving cargo securing arrangements, as appropriate.

## ANNEX

**RECOMMENDATION ON SAFETY OF PERSONNEL  
DURING CONTAINER SECURING OPERATIONS**

- 1 It has been noted that a number of fatal accidents to crew and dockworkers have involved falls from the top of containers during container securing and unsecuring operations. Although fall protection and fall arrest systems and equipment are available for use whenever container top work is involved, they are cumbersome and reduce the speed of loading and unloading operations of a ship, and thus of limited use and effect.
- 2 The conventional means of securing containers in non-cellular deck spaces are heavy and difficult to handle, resulting in accidents and non-fatal physical injuries. Newly developed equipment such as semi-automatic and dual function twistlocks are only partially effective in eliminating danger. They depend on the stacking height of containers on deck not exceeding four and require a safe work place on the quayside for their application or removal.
- 3 A safer environment for personnel involved in the securing of containers can be achieved by shipowners and ship designers focusing on the safety of container securement at the initial stages of the building of a ship, rather than relying on operational methods for this purpose after the ship is built. Such successful current design ideas include:

**.1 Hatchless holds**

These containership designs usually have cell guides to the full height of stowage and do not normally require container top working.

**.2 Flexible boxship arrangements**

These designs are involved on deck cell guides which can be altered in length to accommodate the different lengths of container currently used in the industry, e.g. 20, 30 or 40 feet.

**.3 Deck cell guides**

This usually means either "hatchless holds" or a hatchless ship, but designs exist with cell guides on deck but also with hatch covers. Although deck cell guides have a good safety and securement record, they can create operational inconvenience when loading the varying lengths of container that are commonly in use.

**.4 Lashing frames**

These are mobile personnel carriers by which lashing personnel work on the twistlocks without having to climb upon the container tops. These are often used from container gantries but are operationally more convenient when independent of the shore gantries so that lashing/unlashing can continue without interfering with, and causing delay to, the loading/unloading operation.

**.5 Lashing platforms**

These are permanent or partly mobile platforms, whereby access to deck twistlocks etc., can be achieved without having to climb on the top of the container.

- 4 In addition to these alternative arrangements, new and equally effective concepts are likely to evolve if increased attention is given to the achievement of safe securing and unsecuring of containers at the ship design stage instead of relying upon operational methods for this purpose. If the process of securing is made safer for the personnel involved and more efficient, a reduction in the loss of containers overboard will provide financial and environmental benefits.
- 5 Containership owners and designers are therefore reminded of the dangers associated with container securing operations and urged to use and develop container securing systems which are safe by design, with the aim of eliminating the need for container top work, work in other equally hazardous locations, or the handling by crew or dock workers of heavy and unwieldy securing equipment.

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MSC/Circ. 888  
21 December 1998

**PREVENTING FALLS AT CORRUGATED BULKHEADS  
IN GENERAL CARGO SHIPS**

- 1 The Maritime Safety Committee, at its sixty-fifth session, approved MSC/Circ.695 drawing the attention of Member Governments to the risk of falls of cargo handlers whilst working on cargo adjacent to corrugated bulkheads in the holds of general cargo ships.
- 2 The Committee, at its seventieth session (7 to 11 December 1998), being further aware of these dangers, agreed that further measures should be taken into consideration for general cargo ships for the protection of cargo handlers and other persons working in holds adjacent to corrugated bulkheads. A number of possible methods are set out in the annex. The list is not exhaustive and is not intended to preclude the development of other methods in new or existing ships.
- 3 As a further reminder, attention is drawn to the risks of injury to cargo handlers and to all personnel whilst working adjacent to corrugated bulkheads where those persons may fall (up to 15 metres or more), through openings produced between stowed cargo used as a working or access platform and the rear of the corrugations.
- 4 Care should be exercised in the welding of plates or other fittings to corrugated bulkheads, to avoid initiation of structural problems.
- 5 The provision of appropriate facilities to protect those who have to work adjacent to corrugated bulkheads in the holds of such ships should be considered during the design, construction, repair or working of general cargo ships.
- 6 Member Governments are invited to bring this circular to the attention of shipowners, ship designers, port authorities and stevedores.

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## ANNEX

**PREVENTING FALLS AT CORRUGATED BULKHEADS  
IN GENERAL CARGO SHIPS**

Methods suggested to enhance the safety of personnel working in the vicinity of corrugated bulkheads as permanent fittings, principally in new general cargo ships, include:

- 1 short vertical plates or bars\* fitted horizontally across corrugations at intervals in the height of such bulkheads, to prevent persons falling into the openings produced by the corrugations. This method will not impede the removal of residues when spaces are used for the loading of dry bulk cargo; and
- 2 horizontal plates at intervals across corrugations to limit the potential distance of falls from cargo.

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\* In fitting the above plates or bars, care should be taken to avoid welding a single plate or bar to both flanges of a corrugation, thus subjecting it as a strut to forces imposed by the squeezing and stretching movements of the corrugation under load. This could buckle or break the plate or bar, and could also initiate structural problems (see paragraph 4 of the circular). To avoid this, plates or bars should be welded as separate free-ended cantilevers to each corrugation flange, as shown in the attached illustrative diagrams. A separation of 150 mm between each two separate cantilevers is suggested.

*Illustrative diagrams*

