



EAGLE OCEAN MARINE

CIRCULAR

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TO ALL INSUREDS AND BROKERS

Dear Colleagues:

STOWAGE OF HEAVY STEEL CARGOES

Occasions have arisen when insured vessels are loading heavy steel cargoes without taking:

- proper account of limitations in tank top strength, shear strengths and bending moments in the distribution of cargoes in cargo holds; and
- proper account of best practices for carrying heavy steel cargoes using the method of California Block Stowage (CBS).

Cargo Loading Manual and Loading Instrument

In compliance with Regulation 10(1) of the International Convention on Load Lines, vessels over 79 feet (24 meters) in length are provided with a cargo loading manual. The manual describes the loading conditions for which the vessel is designed that states, amongst other information, the permissible limits of still water bending moments and shear forces. Loading instruments (generally computer-based software tools) are provided as support tools to assist in complying with those requirements as set forth in the vessel's loading manual. Cargo loading manuals and loading instruments are generally approved by their classification society on behalf of the vessel's flag State. The cargo loading/stowage plan should be checked and confirmed using approved loading instruments.

Prior to loading heavy steel cargoes, the Master should pay particular attention to ensure that the cargo is as evenly distributed as possible within cargo holds, longitudinally, transversely and vertically, so that the stow complies with the permissible bending moment and shear stress limitations as set forth in the loading manual. The stowage plan should also consider critical factors such as Load Line seasonal zones, any relevant port restrictions, and shipboard limitations such as draft, cargo capacity, stability, measurements of metacentric height (GM), cargo loading rates and any other relevant cargo risk factors.

Tank top strength

Section 5.3.3 of the American Club's *Transport Guidance for Steel Cargoes* focuses upon the strength limitations for tank tops and hopper tank tops. For tank tops, the overall weight (load) of stowage of cargo is limited by the maximum permissible tank top load. The maximum permissible load per square meter of surface area is supplied by the shipbuilder and approved by the vessel's classification society. The details for each individual cargo hold are usually provided in the vessel's

trim and stability booklet, cargo loading manual and/or the cargo securing manual.

Unless otherwise stated, the referred to permissible load assumes a uniform weight distribution and doesn't apply to such cargoes as steel coil. It should be remembered that the weight of cargo should be sufficiently spread over the tank top by use of dunnage materials over the tank top area. If there is any doubt, the classification society should be immediately consulted.

It is also important to consider that the thickness of steel scantlings within a cargo hold tank top structure will diminish over time. The theoretical permissible tank top loads are set based upon steel thickness measurements when the vessel is built. Therefore, for older vessels it is prudent to allow a safety margin when considering maximum permissible loads for tank tops.

The Guidance provides further advice in Section 5.3.4 for loading heavy steel cargoes atop of hopper tanks.

California Block Stowage (CBS)

CBS is a method that involves loading semi-finished steel slabs into a free-standing stow. The slabs are loaded fore and aft with minimal dunnage under and between the slabs. The upper tiers of the stow are then bound using steel strapping and metal clips, rather than traditional wire ropes and turnbuckles. The slabs inside the stack essentially remain free-standing. They are held in place only by their own weight, and that of the slabs outside and above them, and by the strapping of only the top few tiers. Traditional methods of stowage and securing are preferred.

If Insureds find themselves under pressure to agree to the CBS method, they should not agree to such a method and should instead ensure that:

1. they contact EOM before agreeing on a method of stowage;
2. is to only be used for loading cargo in "boxed" shaped holds;
3. the stow is loaded out to the sides of the holds;
4. the slabs in each stack should be of uniform size;
5. the stow is used only between North and South Americas as originally intended and for steel slab cargoes only;
6. the cargo hold and the stowage is approved by an EOM approved surveyor, as per the EOM Circular, *Steel Pre-Load Surveys: An Update* as found in **English**, and **new** and **traditional** Mandarin; and
7. EOM is consulted in advance as to wordings or amendments to any draft bill of lading, charter party, letter of indemnity, or other relevant document to best protect the Insured's interests.

Insureds are encouraged to refer to the Club's website where they will find **Transport Guidance for Steel Cargoes**, associated animations and other relevant information in **English**, and **new** and **traditional** Mandarin. The Guidance provides a comprehensive overview of how to avoid claims

arising from the carriage of these cargoes from a variety of related perspectives and can be found at:

<http://www.american-club.com/page/steel-cargoes>.

EOM recommend that Insureds take note of this information and be guided accordingly.

Yours faithfully,



Joseph E.M. Hughes, Chairman & CEO
Eagle Ocean Agencies, Inc.

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