



# THE IMPORTANCE OF PROPER TRIMMING FOR DRY BULK CARGOES LOADED BY SPOUT

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**BRITANNIA P&I CLUB RECENTLY APPOINTED A SURVEYOR TO ASSIST A MASTER WITH THE LOADING OF A BULK ORE CARGO. THE LOADING WAS FAST, AND THE CARGO WAS POURED INTO THE HOLDS FROM A LOADING SPOUT.**

UPON REVIEWING IMAGES OF THE LOADED CARGO AFTER THE SHIP HAD DEPARTED, IT BECAME EVIDENT THAT THE CARGO WAS PILED HIGH IN THE CENTRE OF THE HOLD AND HAD NOT BEEN "TRIMMED" TO THE SIDES.

## REGULATORY REQUIREMENTS AND BEST PRACTICES

In the case study described the IMSBC code was the applicable reference. Section 5 of the code is devoted to trimming procedures and is mandatory. It specifies that all bulk cargoes should be trimmed 'reasonably level' in order to reduce the risks described above. For non-cohesive cargoes, trimming standards are determined by the calculated angle of repose.

Consideration should also be given to the charterparty, as this may stipulate the required method of trimming, especially for cargoes that require specific handling.

Section 5.1.3 of the IMSBC code is clear that "The master has the right to require that the cargo be trimmed level, where there is any concern regarding stability based upon the information available, taking into account the characteristics of the ship and the intended voyage."

Trimming is often performed at the end of discharge but when loading via a chute, spout, or conveyor it makes sense to avoid the cargo stream constantly pouring onto the same point in the holds. Best practice is for the loading arm to be initially positioned as close to the tank top as safely practicable, depositing a layer of cargo over the entire surface, before increasing the loading rate and raising the drop distance. Efforts should then be used to direct the loader to result in a more even cargo distribution. This reduces, or can even eliminate, the amount of trimming work needed to flatten the cargo surface at the end of loading.

## COMMUNICATION AND SUPERVISION

Maximising the equal distribution of the cargo will require good communication with the shore loader. Therefore, to anticipate this requirement, it is recommended to raise it as a point at the ship-shore meeting with the terminal representative, and clarify how communication will take place during the loading operations.

This example also highlights the importance of maintaining supervision of loading operations by ships staff, and not simply rely upon a cargo surveyor. It remains the ship master's responsibility to ensure that the cargo is safely prepared for transport prior to departure.

The process of trimming is important for many reasons:

1. **Ship stability:** At sea, the ship and cargo will be subject to longitudinal and lateral forces. If the cargo piles collapse to one side, this can affect overall stability of the vessel due to the shift of weight and could endanger it
2. **Minimising air in the cargo:** Effective trimming will minimise the volume of air entering the cargo. The greater the amount of air within the cargo, the more likely it will be to self-heat, if relevant, such as for various Group B cargoes
3. **Weight distribution:** To ensure an even weight distribution across the tank top with respect to tank top weight limitations. In practice this means spreading the cargo as widely as practicable to the boundary of the cargo space to prevent excessive loading on the tank top (or tween deck if applicable)
4. **Regulatory compliance:** Trimming may be required by regulation, such as the requirements within the International Maritime Solid Bulk Cargoes (IMSBC) code or the Grain code
5. **Efficiency in discharging:** A properly trimmed level cargo will generally make unloading operations more efficient and reduces the likelihood of uncontrolled shifting during discharging operations.