

標 題：

SOLAS XII 章の適用に関連しての
ばら積み貨物比重の測定について

NKテクニカル インフォメーション

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関係船主・造船所各位

拝啓、貴社ますます御清栄のこととお喜び申し上げます。

本年 7 月 1 日より発効しているばら積み貨物船の安全に関する SOLAS 条約改正についてはテクニカルインフォメーション No. 245 (平成 10 年 2 月 5 日発行) にて御紹介致しましたとおり、運送するばら積み貨物の比重によりその規則の適用が左右されます。SOLAS 条約の第 XII 章 10.2 規則では、次の全てに該当する場合、積載するばら積み貨物の比重が第三者機関によって検証されなければなりません。

- (1) 1999 年 7 月 1 日より前に建造されたばら積貨物船
- (2) L_f (乾舷用長さ) が 150m 以上で単船側構造のばら積貨物船
- (3) SOLAS 条約第 XII 章のうち比重 1780kg/m^3 以上のばら積貨物を積載する場合要求される規則に適合しない場合
- (4) SOLAS 条約第 XII/3 規則に規定される実施期日以降にばら積貨物を積載する場合
- (5) 積載前に荷送人により宣言されるばら積貨物の比重が、 1250kg/m^3 から 1780kg/m^3 までの範囲である場合

今般、この場合の比重の測定方法について本年 5 月に開かれた第 71 回海上安全委員会で詳細が定められましたので IMO の関連資料を御参考まで添付してお知らせ致します。

なお、当該 SOLAS XII/10 規則によれば、貨物比重は荷主が積み込み前に申告する必要があります。なお、本会ではこのような貨物比重の検証に関する業務は行っておりませんので、あしからずご了承願います。

添付 MSC/Circ. 908 (英文)

ClassNK

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MSC/Circ.908
4 June 1999

UNIFORM METHOD OF MEASUREMENT OF THE DENSITY OF BULK CARGOES

- 1 SOLAS regulation XII/10 (Solid bulk cargo density declaration), as adopted by the 1997 SOLAS Conference on Bulk Carrier Safety and interpreted by operative paragraph 4 of resolution MSC 79 (70), requires the shipper, prior to loading bulk cargo on a bulk carrier, to declare the density of the cargo which shall be verified by an accredited testing organization.
- 2 The Maritime Safety Committee, at its seventy-first session (19 to 28 May 1999), recognizing the need for a uniform method of density measurement of the bulk cargoes, adopted the performance specification for the measurement of the density of such cargoes set out at annex.
- 3 Member Governments are invited to bring this circular to the attention of all parties concerned.

ANNEX

**PERFORMANCE SPECIFICATION FOR THE MEASUREMENT
OF THE DENSITY OF BULK CARGOES*****1 Scope**

- 1.1 This specification may be used to determine the bulk density of bulk cargoes.
- 1.2 Bulk density is the weight of solids, air and water per unit volume. It includes the moisture content of the cargo and the voids whether filled with air or water.
- 1.3 The density should be expressed in kilograms per cubic metre (kg/m^3).

2 Apparatus

- 2.1 This specification provides for the use of a container of known volume and tare weight.
- 2.2 The container should be sufficiently rigid to prevent deformation or volume changes occurring during the test. Where the material contains lumps, or will not readily flow into corners, the container should be of cylindrical shape and/or of large size in comparison to the size of lumps. Its capacity must be large enough to contain a representative sample of the cargo for which the density is to be determined.
- 2.3 The internal surfaces of the container should be smooth with any attachments such as handles being fitted to the exterior.
- 2.4 Weighing should be done using a weighing instrument certificated by an accredited testing organization.

3 Procedure

- 3.1 A sample that is representative of the particle size, compaction and moisture of the material to be loaded on the ship should be selected.
- 3.2 The container should be filled with a sample of the material so that it is trimmed level with the top of the container. **The material should not be tamped.**
- 3.3 The weight of the filled container should be measured and the tare weight subtracted to obtain the weight of the sample.
- 3.4 The density of the sample should be calculated by dividing the weight of the bulk material to be loaded by the volume of the container.

4 Recording results

- 4.1 The density of the sample should be recorded using the recommended form given in the appendix and made available when requested.
- 4.2 The result of the density measurement should be signed by a representative of the accredited testing organization.

* Reference is made to paragraph 1.10 - "Representative test sample" and Appendix D - "Laboratory test procedures, associated apparatus and standards" of the Code of Safe Practice for Solid Bulk Cargoes (BC Code).

Appendix

RECORD OF DENSITY MEASUREMENT

The density of the cargo has been measured in accordance with the uniform method of density measurement of bulk cargoes described in the annex to MSC/Circ.908 which refers to SOLAS regulation XII/10.

Cargo: (name and relevant reference in the BC Code):

Shipper (name, address, telephone, etc.) :

Sample origin (stock pile, ship's hold, etc.) :

Date (sampling and density measurement) :

Gross weight (GW) (container plus sample) : kg

Tare weight (TW) (container) : kg

Net weight (NW) (sample) (NW=GW-TW): kg

Volume (V) (container) : m³

Calculated density (d) of the cargo (d= NW/V) : kg/m³

Measurement conducted by the accredited testing organization
(Signature, stamp)

Done on at
