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**GUIDELINES REGARDING THE VERIFIED GROSS MASS  
OF A CONTAINER CARRYING CARGO**

- 1 The Maritime Safety Committee, at its ninety-third session (14 to 23 May 2014), having considered the proposal by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers, at its eighteenth session (16 to 20 September 2013), approved the *Guidelines regarding the verified gross mass of a container carrying cargo*, as set out in the annex.
- 2 The Guidelines are intended to establish a common approach for the implementation and enforcement of the SOLAS requirements regarding the verification of the gross mass of packed containers.
- 3 Member Governments are invited to bring the annexed Guidelines to the attention of all parties concerned.

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## ANNEX

GUIDELINES REGARDING THE VERIFIED GROSS MASS  
OF A CONTAINER CARRYING CARGO**1 Introduction**

1.1 To ensure the safety of the ship, the safety of workers both aboard ships and ashore, the safety of cargo and overall safety at sea, the International Convention for the Safety of Life at Sea (SOLAS), as amended, requires in chapter VI, part A, regulation 2 that packed containers' gross mass are verified prior to stowage aboard ship. The shipper is responsible for the verification of the gross mass of a container carrying cargo (hereinafter "a packed container"). The shipper is also responsible for ensuring that the verified gross mass is communicated in the shipping documents sufficiently in advance to be used by the ship's master or his representative and the terminal representative in the preparation of the ship stowage plan. In the absence of the shipper providing the verified gross mass of the packed container, the container should not be loaded on to the ship unless the master or his representative and the terminal representative have obtained the verified gross mass through other means.

1.2 The purpose of these Guidelines is to establish a common approach for the implementation and enforcement of the SOLAS requirements regarding the verification of the gross mass of packed containers. The Guidelines provide recommendations on how to interpret and apply the provisions of the SOLAS requirements. They also identify issues that may arise from the application of these requirements and provide guidance for how such issues should be resolved. Adherence to these Guidelines will facilitate compliance with the SOLAS requirements by shippers of containerized shipments, and they will assist other parties in international containerized supply chains, including shipping companies and port terminal facilities and their employees, in understanding their respective roles in accomplishing the enhancement of the safe handling, stowage and transport of containers.

**2 Definitions**

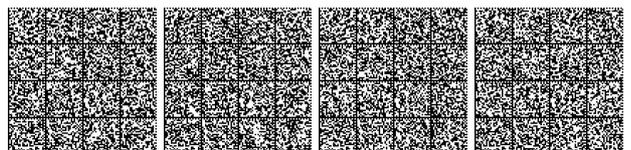
2.1 For the purpose of these Guidelines:

2.1.1 *Administration* means the Government of the State whose flag the ship is entitled to fly.

2.1.2 *Calibrated and certified equipment* means a scale, weighbridge, lifting equipment or any other device, capable of determining the actual gross mass of a packed container or of packages and cargo items, pallets, dunnage and other packing and securing material, that meets the accuracy standards and requirements of the State in which the equipment is being used.

2.1.3 *Cargo items* has the same general meaning as the term "cargo" in the International Convention for Safe Containers, 1972, as amended (hereinafter referred to as "the CSC"), and means any goods, wares, merchandise, liquids, gases, solids and articles of every kind whatsoever carried in containers pursuant to a contract of carriage. However, ship's equipment and ship's supplies<sup>1</sup>, including ship's spare parts and stores, carried in containers are not regarded as cargo.

<sup>1</sup> Refer to the *Revised recommendations on the safe transport of dangerous cargoes and related activities in port areas* (MSC.1/Circ.1216).



2.1.4 *Container* has the same meaning as the term "container" in the CSC and means an article of transport equipment:

- (a) of a permanent character and accordingly strong enough to be suitable for repeated use;
- (b) specially designed to facilitate the transport of goods, by one or more modes of transport, without intermediate reloading;
- (c) designed to be secured and/or readily handled, having corner fittings for these purposes; and
- (d) of a size such that the area enclosed by the four outer bottom corners is either:
  - (i) at least 14 m<sup>2</sup> (150 sq. ft.); or
  - (ii) at least 7 m<sup>2</sup> (75 sq. ft.) if it is fitted with top corner fittings.

2.1.5 *Contract of carriage* means a contract in which a shipping company, against the payment of freight, undertakes to carry goods from one place to another. The contract may take the form of, or be evidenced by a document such as sea waybill, a bill of lading, or multi-modal transport document.

2.1.6 *Gross mass* means the combined mass of a container's tare mass and the masses of all packages and cargo items, including pallets, dunnage and other packing material and securing materials packed into the container (see also "*Verified gross mass*").

2.1.7 *Package* means one or more cargo items that are tied together, packed, wrapped, boxed or parcelled for transportation. Examples of packages include, but are not limited to, parcels, boxes, packets and cartons.

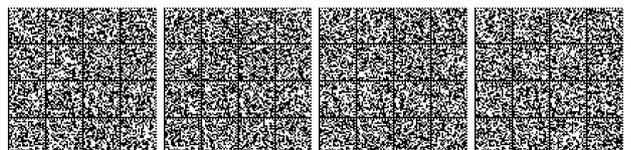
2.1.8 *Packed container* means a container, as previously defined, loaded ("stuffed" or "filled") with liquids, gases, solids, packages and cargo items, including pallets, dunnage, and other packing material and securing materials.

2.1.9 *Packing material* means any material used or for use with packages and cargo items to prevent damage, including, but not limited to, crates, packing blocks, drums, cases, boxes, barrels, and skids. Excluded from the definition is any material within individual sealed packages to protect the cargo item(s) inside the package.

2.1.10 *Securing material* means all dunnage, lashing and other equipment used to block, brace, and secure packed cargo items in a container.

2.1.11 *Ship* means any vessel to which SOLAS chapter VI applies. Excluded from this definition are roll-on/roll-off (ro-ro) ships engaged on short international voyages<sup>2</sup> where the containers are carried on a chassis or trailer and are loaded and unloaded by being driven on and off such a ship.

<sup>2</sup> SOLAS regulation III/2 defines "short international voyage" as an international voyage in the course of which a ship is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety, and which does not exceed 600 miles in length between the last port of call in the country in which the voyage begins and the final port of destination.



2.1.12 *Shipper* means a legal entity or person named on the bill of lading or sea waybill or equivalent multimodal transport document (e.g. "through" bill of lading) as shipper and/or who (or in whose name or on whose behalf) a contract of carriage has been concluded with a shipping company.

2.1.13 *Shipping document* means a document used by the shipper to communicate the verified gross mass of the packed container. This document can be part of the shipping instructions to the shipping company or a separate communication (e.g. a declaration including a weight certificate produced by a weigh station).

2.1.14 *Tare mass* means the mass of an empty container that does not contain any packages, cargo items, pallets, dunnage, or any other packing material or securing material.

2.1.15 *Terminal representative* means a person acting on behalf of a legal entity or person engaged in the business of providing wharfage, dock, stowage, warehouse, or other cargo handling services in connection with a ship.

2.1.16 *Verified gross mass* means the total gross mass of a packed container as obtained by one of the methods described in paragraph 5.1 of these Guidelines. (see also "*gross mass*").

### 3 Scope of applicability

3.1 The SOLAS requirements to verify the gross mass of a packed container apply to all containers to which the CSC applies, and which are to be stowed onto a ship determined by the Administration to be subject to SOLAS chapter VI.

3.2 For example (but not limited to), a packed container on a chassis or trailer to be driven on a ro-ro ship is subject to the SOLAS requirements, if the ship has been determined by the Administration to be subject to SOLAS chapter VI and is not engaged on short international voyages. However, cargo items tendered by a shipper to the master for packing into a container already on board the ship are not subject to these SOLAS requirements.

3.3 The term container includes tank-containers, flat-racks, bulk containers etc. Also included are containers carried on a chassis or a trailer except when such containers are driven on or off a ro-ro ship engaged in short international voyages (see definition of ship). Excluded from the definition is any type of vehicle<sup>3</sup>. Also excluded from the definition are "offshore containers" to which the CSC, according to the *Guidelines for the approval of offshore containers handled in open seas* (MSC/Circ.860) and the *Revised recommendations on harmonized interpretation and implementation of the International Convention for Safe Containers, 1972, as amended* (CSC.1/Circ.138/Rev.1), does not apply.

### 4 Main principles

4.1 The responsibility for obtaining and documenting the verified gross mass of a packed container lies with the shipper.

4.2 A container packed with packages and cargo items should not be loaded onto a ship to which the SOLAS regulations apply unless the master or his representative and the terminal representative have obtained, in advance of vessel loading, the verified actual gross mass of the container.

<sup>3</sup> Refer to the *Revised recommendations on harmonized interpretation and implementation of the International Convention for Safe Containers, 1972, as amended* (CSC.1/Circ.138/Rev.1).



## 5 Methods for obtaining the verified gross mass of a packed container

5.1 The SOLAS regulations prescribe two methods by which the shipper may obtain the verified gross mass of a packed container:

5.1.1 Method No.1: Upon the conclusion of packing and sealing a container, the shipper may weigh, or have arranged that a third party weighs, the packed container.

5.1.2 Method No.2: The shipper (*or, by arrangement of the shipper, a third party*), may weigh all packages and cargo items, including the mass of pallets, dunnage and other packing and securing material to be packed in the container, and add the tare mass of the container to the sum of the single masses using a certified method as described in paragraphs 5.1.2.3 and 5.1.2.3.1. Any third party that has performed some or all of the packing of the container should inform the shipper of the mass of the cargo items and packing and securing material that the party has packed into the container in order to facilitate the shipper's verification of the gross mass of the packed container under Method No.2. As required by SOLAS VI/2 and paragraph 5, the shipper should ensure that the verified gross mass of the container is provided sufficiently in advance of vessel loading. How such information is to be communicated between the shipper and any third party should be agreed between the commercial parties involved.

5.1.2.1 Individual, original sealed packages that have the accurate mass of the packages and cargo items (including any other material such as packing material and refrigerants inside the packages) clearly and permanently marked on their surfaces, do not need to be weighed again when they are packed into the container.

5.1.2.2 Certain types of cargo items (e.g. scrap metal, unbagged grain and other cargo in bulk) do not easily lend themselves to individual weighing of the items to be packed in the container. In such cases, usage of Method No.2 would be inappropriate and impractical, and Method No.1 should be used instead.

5.1.2.3 The method used for weighing the container's contents under Method No.2 is subject to certification and approval as determined by the competent authority of the State in which the packing and sealing of the container was completed.<sup>4</sup>

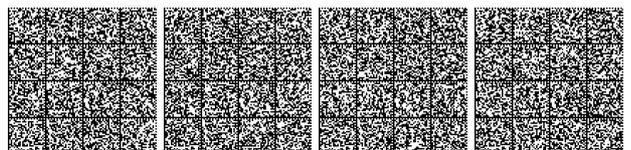
5.1.2.3.1 How the certification is to be done will be up to the State concerned, and could pertain to either the procedure for the weighing or to the party performing the weighing or both.

5.1.3 If a container is packed by multiple parties or contains cargo from multiple parties, the shipper as defined in paragraph 2.1 is responsible for obtaining and documenting the verified gross mass of the packed container. If the shipper chooses Method No.2 to obtain the verified gross mass, the shipper is then subject to all the conditions given in paragraphs 5.1.2, 5.1.2.1, 5.1.2.2, and 5.1.2.3.

## 6 Documentation

6.1 The SOLAS regulations require the shipper to verify the gross mass of the packed container using Method No.1 or Method No.2 and to communicate the verified gross mass in a shipping document. This document can be part of the shipping instructions to the shipping company or a separate communication (e.g. a declaration including a weight certificate produced by a weigh station utilizing calibrated and certified equipment on the route between the shipper's origin and the port terminal). In either case, the document should clearly highlight that the gross mass provided is the "verified gross mass" as defined in paragraph 2.1.

<sup>4</sup> Reference to the relevant MSC Circular regarding contact information for the competent authority.



6.2 Irrespective of its form, the document declaring the verified gross mass of the packed container should be signed by a person duly authorized by the shipper. The signature may be an electronic signature or may be replaced by the name in capitals of the person authorized to sign it.

6.3 It is a condition for loading onto a ship to which the SOLAS regulations apply that the verified gross mass of a packed container be provided, preferably by electronic means such as Electronic Data Interchange (EDI) or Electronic Data Processing (EDP), to the ship's master or his representative and to the terminal representative sufficiently in advance of ship loading to be used in the preparation and implementation of the ship stowage plan.

6.3.1 Because the contract of carriage is between the shipper and the shipping company, not between the shipper and the port terminal facility, the shipper may meet its obligation under the SOLAS regulations by submitting the verified gross mass to the shipping company. It is then the responsibility of the shipping company to provide information regarding the verified gross mass of the packed container to the terminal representative in advance of ship loading. Similarly, the shipper may also submit the verified gross mass to the port terminal facility representative upon delivery of the container to the port facility in advance of loading.

6.3.1.1 The master or his representative and the terminal representative should enter into arrangements to ensure the prompt sharing of verified container gross mass information provided by shippers. Existing communication systems may be used for the transmission and sharing of such verified container gross mass information.

6.3.1.2 At the time a packed container is delivered to a port terminal facility, the terminal representative should have been informed by the shipping company whether the shipper has provided the verified gross mass of the packed container and what that gross mass is.

6.3.2 There is no SOLAS prescribed time deadline for the shipper's submission of the verified gross mass other than such information is to be received in time to be used by the master and the terminal representative in the ship stowage plan. The finalization of the ship stowage plan will depend on ship type and size, local port loading procedures, trade lane and other operational factors. It is the responsibility of the shipping company with whom the shipper enters into a contract of carriage to inform the shipper, following prior discussions with the port terminal, of any specific time deadline for submitting the information.

## **7 Equipment**

7.1 The scale, weighbridge, lifting equipment or other devices used to verify the gross mass of the container, in accordance with either Method No.1 or Method No.2 discussed above, should meet the applicable accuracy standards and requirements of the State in which the equipment is being used.

## **8 Intermodal container movements and transshipments**

8.1 The verified gross mass of a packed container should be provided to the next party taking custody of the container.

8.1.1 If a packed container is transported by road, rail or a vessel to which the SOLAS regulations do not apply and delivered to a port terminal facility without its verified gross mass, it may not be loaded onto a ship to which the SOLAS regulations apply unless the master or his representative and the terminal representative have obtained the verified gross mass of the container on behalf of the shipper (see also paragraph 13.1).



8.1.2 If a packed container is delivered to a port terminal facility by a ship to which the SOLAS regulations apply for transshipment onto a ship to which the SOLAS regulations also apply, each container being delivered is required by the SOLAS regulations to have had a verified gross mass before loading onto the delivering ship. All packed containers discharged in the transshipment port should therefore already have a verified gross mass and further weighing in the transshipment port facility is not required. The delivering ship should inform the port terminal facility in the transshipment port of the verified gross mass of each delivered packed container. The master of the ship onto which the transhipped, packed containers are to be loaded and the port terminal facility in the transshipment port may rely on the information provided by the delivering vessel. Existing ship-port communication systems may be used for the provision of such information in agreement between the commercial parties involved.

## **9 Discrepancies in gross mass**

9.1 Any discrepancy between a packed container's gross mass declared prior to the verification of its gross mass and its verified gross mass should be resolved by use of the verified gross mass.

9.2 Any discrepancy between a verified gross mass of a packed container obtained prior to the container's delivery to the port terminal facility and a verified gross mass of that container obtained by that port facility's weighing of the container should be resolved by use of the latter verified gross mass obtained by the port terminal facility.

## **10 Containers exceeding their maximum gross mass**

10.1 SOLAS regulation VI/5 requires that a container not be packed to more than the maximum gross mass indicated on the Safety Approval Plate under the International Convention for Safe Containers (CSC), as amended. A container with a gross mass exceeding its maximum permitted gross mass may not be loaded onto a ship.

## **11 Containers on road vehicles**

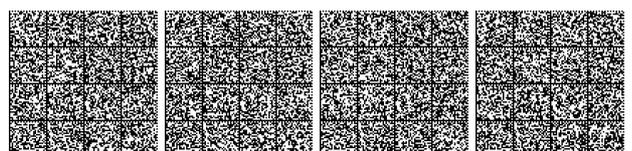
11.1 If the verified gross mass of a packed container is obtained by weighing the container while it is on a road vehicle, (e.g. chassis or trailer), the tare mass of the road vehicle (and, where applicable, the tractor) should be subtracted to obtain the verified gross mass of the packed container. The subtraction should reflect the tare mass of the road vehicle (and, where applicable, the tractor) as indicated in their registration documents as issued by the competent authority of the State where these assets are registered. The mass of any fuel in the tank of the tractor should also be subtracted.

11.2 If two packed containers on a road vehicle are to be weighed, their gross mass should be determined by weighing each container separately. Simply dividing the total gross mass of the two containers by two after subtracting the mass of the road vehicle and the tractor, where applicable, would not produce an accurate verified gross mass for each container, and should not be allowed.

## **12 Empty containers**

12.1 Shippers of empty containers and operators of empty containers are encouraged to have practices and arrangements in place to ensure that they are empty. The tare weight will visually appear on the container in accordance with the International Organization for Standardization (ISO) standard for container marking and identification<sup>5</sup>) and should be used.

<sup>5</sup> Refer to standard ISO 6346 – Freight containers – Coding, identification and marking.



**13 Contingencies for containers received without a verified gross mass**

13.1 Notwithstanding that the shipper is responsible for obtaining and documenting the verified gross mass of a packed container, situations may occur where a packed container is delivered to a port terminal facility without the shipper having provided the required verified gross mass of the container. Such a container should not be loaded onto the ship until its verified gross mass has been obtained. In order to allow the continued efficient onward movement of such containers, the master or his representative and the terminal representative may obtain the verified gross mass of the packed container on behalf of the shipper. This may be done by weighing the packed container in the terminal or elsewhere. The verified gross mass so obtained should be used in the preparation of the ship loading plan. Whether and how to do this should be agreed between the commercial parties, including the apportionment of the costs involved.

**14 Master's ultimate decision whether to stow a packed container**

14.1 Ultimately, and in conformance with the Code of Safe Practice for Cargo Stowage and Securing<sup>6</sup>, the ship's master should accept the cargo on board his ship only if he is satisfied that it can be safely transported. Nothing in the SOLAS regulations limit the principle that the master retains ultimate discretion in deciding whether to accept a packed container for loading onto his ship. Availability to both the terminal representative and to the master or his representative of the verified gross mass of a packed container sufficiently in advance to be used in the ship stowage plan is a prerequisite for the container to be loaded onto a ship to which the SOLAS regulations apply. It does, however, not constitute an entitlement for loading.

**15 Enforcement**

15.1 Like other SOLAS provisions, the enforcement of the SOLAS requirements regarding the verified gross mass of packed containers falls within the competence and is the responsibility of the SOLAS Contracting Governments. Contracting Governments acting as port States should verify compliance with these SOLAS requirements. Any incidence of non-compliance with the SOLAS requirements is enforceable according to national legislation.

15.2 The ultimate effectiveness and enforcement of the SOLAS container gross mass verification requirement is that a packed container, for which the verified gross mass has not been obtained sufficiently in advance to be used in the ship stowage plan; will be denied loading onto a ship to which the SOLAS regulations apply. Any costs associated with the non-loading, storage, demurrage or eventual return of the container to the tendering shipper of the container should be subject to contractual arrangements between the commercial parties.

**16 Effective date of the SOLAS requirements regarding verified gross mass of a container carrying cargo**

16.1 The SOLAS requirements regarding verified gross mass of a container carrying cargo (SOLAS regulation VI/2) are expected to enter into force in July 2016.

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<sup>6</sup> Refer to the *Code of Safe Practice for Cargo Stowage and Securing* (resolution A.714(17)) and subsequent amendments.

