



Technical Circular

No.: 018/2015

Date: 10th July 2015

To Whomsoever it may concern

Subject: Container weight verification.

Amendments adopted on 21 November 2014 to the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended vide Res. MSC 380(94) in respect of Chapter VI, regarding Carriage of cargoes and oil fuels, especially in respect of Regulation 2- Cargo information shall enter into force on 1 July 2016.

These amendments will, as from as of 1 July 2016, introduce mandatory container weight verification requirements. The regulation requires verification of the weight of all loaded containers before being placed on board ships.

The full text of the applicable SOLAS regulations contained in Res. MSC 380(94) along with the associated Implementing Guidelines regarding the verified gross mass of a container carrying cargo developed by the IMO Maritime Safety Committee (MSC) vide MSC.1/Circ.1475 is attached herewith for information.

World Shipping Council, has developed Guidelines for Improving Safety and Implementing the SOLAS Container Weight Verification requirements. This document provides an outline of what the implementation of the SOLAS amendments requires from various commercial parties and shall be great use by shippers, carriers and terminal operators in connection with the implementation of the regulations. A copy of the said guidelines is also attached herewith for the use of Ship owners and managers.

Enclosure:

- 1) MSC Resolution 380(94).
- 2) MSC.1/Circ.1475 - Guidelines regarding the verified gross mass of a container carrying cargo.
- 3) Guidelines for Improving Safety and Implementing the SOLAS Container Weight Verification Requirements issued by World Shipping Council.



. This Technical Circular and the material contained in it is provided only for the purpose of supplying current information to the reader and not as an advice to be relied upon by any person.
. While we have taken utmost care to be as factual as possible, readers/ users are advised to verify the exact text and content of the Regulation from the original source/ issuing Authority.

ANNEX 1

**RESOLUTION MSC.380(94)
(adopted on 21 November 2014)**

**AMENDMENTS TO THE INTERNATIONAL CONVENTION
FOR THE SAFETY OF LIFE AT SEA (SOLAS), 1974, AS AMENDED**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO article VIII(b)(vi)(2) of the International Convention for the Safety of Life at Sea (SOLAS), 1974 ("the Convention"), concerning the amendment procedure applicable to the annex to the Convention, other than to the provisions of chapter I,

HAVING CONSIDERED, at its ninety-fourth session, amendments to the Convention, proposed and circulated in accordance with article VIII(b)(i) thereof,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the Convention, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on 1 January 2016 unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments, the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified to the Secretary-General of the Organization their objections to the amendments;

3 INVITES SOLAS Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 July 2016 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention; and

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE
SAFETY OF LIFE AT SEA (SOLAS), 1974, AS AMENDED**

**CHAPTER II-2
CONSTRUCTION – PROTECTION, FIRE DETECTION AND FIRE EXTINCTION**

**Part C
Suppression of fire**

Regulation 10 – Fire fighting

1 The title of existing paragraph 5.2 is replaced as follows:

"5.2 Machinery spaces of category A containing internal combustion machinery"

**CHAPTER VI
CARRIAGE OF CARGOES AND OIL FUELS**

**Part A
General Provisions**

Regulation 2 – Cargo information

2 The following new paragraphs 4 to 6 are added after existing paragraph 3:

"4 In the case of cargo carried in a container^{*}, except for containers carried on a chassis or a trailer when such containers are driven on or off a ro-ro ship engaged in short international voyages as defined in regulation III/3, the gross mass according to paragraph 2.1 of this regulation shall be verified by the shipper, either by:

- .1 weighing the packed container using calibrated and certified equipment; or
- .2 weighing all packages and cargo items, including the mass of pallets, dunnage and other securing material to be packed in the container and adding the tare mass of the container to the sum of the single masses, using a certified method approved by the competent authority of the State in which packing of the container was completed.

5 The shipper of a container shall ensure the verified gross mass^{**} is stated in the shipping document. The shipping document shall be:

- .1 signed by a person duly authorized by the shipper; and
- .2 submitted to the master or his representative and to the terminal representative sufficiently in advance, as required by the master or his representative, to be used in the preparation of the ship stowage plan^{***}.

6 If the shipping document, with regard to a packed container, does not provide the verified gross mass and the master or his representative and the terminal representative have not obtained the verified gross mass of the packed container, it shall not be loaded on to the ship.

* The term "container" should be considered as having the same meaning as defined and applied in the International Convention for Safe Containers (CSC), 1972, as amended, taking into account 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).

** Refer to the *Guidelines regarding the verified gross mass of a container carrying cargo* (MSC.1/Circ.1475).

*** This document may be presented by means of EDP or EDI transmission techniques. The signature may be an electronic signature or may be replaced by the name, in capitals, of the person authorized to sign."

CHAPTER XI-1 SPECIAL MEASURES TO ENHANCE MARITIME SAFETY

3 The following new regulation 7 is added after existing regulation 6:

"Regulation 7 – Atmosphere testing instrument for enclosed spaces

Every ship to which chapter I applies shall carry an appropriate portable atmosphere testing instrument or instruments*. As a minimum, these shall be capable of measuring concentrations of oxygen, flammable gases or vapours, hydrogen sulphide and carbon monoxide prior to entry into enclosed spaces**. Instruments carried under other requirements may satisfy this regulation. Suitable means shall be provided for the calibration of all such instruments.

* Refer to the *Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS regulation XI-1/7* (MSC.1/Circ.1477).

** Refer to the *Revised recommendations for entering enclosed spaces aboard ships* (resolution A.1050(27))."

4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

MSC.1/Circ.1475
9 June 2014

**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.

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 supplies¹, including ship's spare parts and stores, carried in containers are not regarded as cargo.

¹ 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 m² (150 sq. ft.); or
 - (ii) at least 7 m² (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 voyages² where the containers are carried on a chassis or trailer and are loaded and unloaded by being driven on and off such a ship.

² 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 vehicle³. 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.

³ 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.⁴

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.

⁴ 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 identification⁵) and should be used.

⁵ 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 Securing⁶, 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.

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



WORLD SHIPPING COUNCIL
PARTNERS IN TRADE

Guidelines for Improving Safety and Implementing the SOLAS Container Weight Verification Requirements

July 1, 2015

Summary

In November 2014, the International Maritime Organization (IMO) adopted mandatory amendments to the International Convention for the Safety of Life at Sea (SOLAS) Chapter VI, Part A, Regulation 2 - Cargo information. The SOLAS convention is applicable global law. The SOLAS amendments become effective on 1 July 2016 for packed containers received for transportation (gate-in or off-rail). They place a requirement on the shipper of a packed container, regardless of who packed the container, to verify and provide the container's gross verified weight to the ocean carrier and port terminal representative prior to it being loaded onto a ship. A verified container weight is a condition for loading a packed container aboard a vessel for export. The vessel operator and the terminal operator are required to use verified container weights in vessel stowage plans and are prohibited from loading a packed container aboard a vessel for export if the container does not have a verified container weight.

This document provides an outline of what the implementation of the SOLAS amendments requires of the various commercial parties.

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1. Introduction

1.1 In order to address safety problems at sea and on shore arising from container shipments that have incorrect weight declarations, the International Maritime Organization (IMO) adopted amendments to the Safety of Life at Sea (SOLAS) Convention, Chapter VI Regulation 2 – Cargo information regarding a mandatory container gross weight verification, together with associated guidelines published as MSC.1/Circ. 1475 (hereinafter referred to as the IMO Guidelines).¹

1.2 The SOLAS amendments were adopted in November 2014 and will enter in to force on 1 July 2016. The intervening period should be considered to be the transition or planning period. All regulated parties need to be prepared to implement and abide by the container weight verification requirements by 1 July 2016. This period should also allow time for regulated parties to prepare for required process and documentation changes and to test information transmission enhancements in advance of the effective date.

1.3 The effect of these requirements on containerized supply chains is that the verification of the gross weight of a packed export container will be required before the container is loaded aboard a ship. To ensure compliance with the SOLAS amendments, participants within the supply chain (especially shippers, carriers, and terminal operators) will need to establish and implement processes to ensure that the verified container weights are provided to the necessary parties in a timely fashion and are used by the terminal operator and vessel operator in the vessel's container stowage plan.

1.4 These Guidelines have been drafted by the World Shipping Council, in consultation with its member companies, as advice on implementing the SOLAS amendments. These Guidelines identify elements both of the regulatory requirements and of a non-regulatory nature that companies with commercial roles and activities within the international containerized transport supply chain will need to consider.

2. Scope

2.1 Unless specified in paragraph 2.2, the SOLAS requirements to verify the gross weight of a packed export container apply to all packed containers to which the IMO's Convention for Safe Containers (CSC) applies and which are to be loaded onto any ship in international maritime traffic.

2.2 The provisions of SOLAS Chapter VI, Part A, Regulation 2 do not apply to:

¹ The text of both the SOLAS amendments and the IMO Guidelines Regarding the Verified Gross Mass of Container Carrying Cargo may be accessed via web links found in Section 10 below, page 10. The terms "gross mass" and "gross weight" are interchangeable.

- (i) A packed container on a chassis or trailer to be driven on a ro-ro ship which is engaged on short international voyages;²
- (ii) Cargo items tendered by a shipper to the master for packing into a container already on board the ship; or
- (iii) "Offshore containers" to which the CSC, according to the IMO Guidelines for the approval of offshore containers handled in open seas (MSC/Circ.860) and the IMO 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.

2.3 No provision or agreement in a contract of sale, a transportation contract, or a stevedoring contract may override or conflict with the obligation to abide by the SOLAS requirements.

3. Main Principles

3.1 The purpose of the SOLAS amendments is to obtain an accurate gross weight of packed containers that are moved through the supply chain prior to loading aboard the ship.

3.2 The responsibility for obtaining and documenting the verified gross weight of a packed container lies with the shipper. *SOLAS Chapter VI, Regulation 2; IMO Guidelines, paragraph 4.1.*

3.3 Verified container weights are to be used by the terminal operator and the vessel operator in ship stowage planning.

3.4 A container packed with packages and cargo items shall not be loaded onto a ship to which the SOLAS amendments apply unless the vessel master or his representative and the terminal representative have obtained, in advance of vessel loading, the verified gross weight of the container. *SOLAS Chapter VI, Regulation 2, paragraph 6; IMO Guidelines, paragraph 4.2.* 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. *IMO Guidelines, paragraph 14.1*

3.5 If a packed container is received at a port facility for export without a verified gross weight, it shall not be loaded on a vessel until a verified gross weight is obtained. The measures that may be taken to obtain such a verified weight for such a container are for the commercial parties to determine. Any costs incurred by the vessel operator or terminal

² 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.

operator for obtaining a verified gross weight if a shipper has failed to provide one in a timely manner and any recovery of those costs are also commercial matters for the parties to determine. *IMO Guidelines, paragraph 13.1.*

3.6 The gross weight of a packed inbound container being delivered by a SOLAS vessel to a port facility (i.e., an import or transhipped container) will be the verified container weight used by the vessel operator and port facility at the vessel's loading port. A port facility and a vessel operator do not need to re-weigh a packed inbound container that is to be transhipped if that container has been delivered by a SOLAS vessel with a verified weight from the previous leg of the voyage. *IMO Guidelines, paragraph 8.1.2.*

4. Methods for obtaining the verified gross mass of a packed container

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

4.1.1 Method No. 1:

- Upon the conclusion of packing and sealing a container and using calibrated and certified equipment, the shipper may weigh, or have arranged that a third party weigh, the packed container. *SOLAS Regulation, paragraph 4.1; IMO Guidelines, paragraph 5.1.1.* The scale, weighbridge, lifting equipment or other devices used to verify the gross mass of the container must meet the applicable accuracy standards and requirements of the State in which the equipment is being used. *IMO Guidelines, paragraph 7.1.*
- Method No. 1 is appropriate to use for any packed container and any kind of goods.

4.1.2 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 of the container's contents. *IMO Guidelines, paragraph 5.1.2.*
- The weighing equipment used to weigh the contents of the container must meet the applicable accuracy standards and requirements of the State in which the equipment is being used. *IMO Guidelines, paragraph 7.1.*
- The tare mass of the particular container is visible on the exterior of the container and should be used. *IMO Guidelines, paragraph 12.1.*
- Estimating the weight of a container's contents is not permitted.
- The party packing the container cannot use the weight somebody else has provided, except in one specific set of defined circumstances where the cargo has been

previously weighed and that weight is clearly and permanently marked on the surface of the goods.³

- Method No. 2 is “inappropriate and impractical” for “certain types of cargo items (e.g., scrap metal, unbagged grain and other cargo in bulk)” that “do not easily lend themselves to individual weighing of the items to be packed in the container.” *IMO Guidelines, paragraph 5.1.2.2.* Method No. 2 is also inappropriate for “flexitanks”. For such cargoes, Method No. 1 must be used.
- 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. *IMO Guidelines, paragraph 5.1.2.3.* Shippers are responsible for complying with any certification and approval requirements that may be established by the State in which the container packing is done, or, in a case where a container is packed in multiple places, any certification and approval requirements that may be established by the State where the last contents were packed into the container.

4.2 Regardless of whether Method No. 1 or Method No. 2 is used to obtain the verified weight of the container --

- The SOLAS amendments and the IMO Guidelines are clear that the shipper named on the ocean carrier’s bill of lading is the party responsible for providing the packed container’s verified gross mass. *IMO Guidelines, paragraph 5.1.3.* Thus, for example, if a freight forwarder/NVOCC is co-loading the cargo shipments of other freight forwarders in a container, the “master” forwarder named on the ocean carrier’s bill of lading is the party responsible for the accurate cargo weight verification of all the cargo and all packing or securing material from all the co-loading forwarders using the container.
- The carrier and terminal operator may rely on a shipper’s signed container weight verification to be accurate. The carrier and the terminal operator are not responsible

³ The exception is as follows: “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.” *IMO Guidelines, paragraph 5.1.2.1 (underlining added).* This does not permit estimating the cargo weight, but permits using accurate weights that have been previously derived from weighing the product and that are clearly and permanently marked on individual, original sealed packages. For example, a shipper of identical television sets whose individual cartons are marked by the manufacturer with the shipping weight could calculate the shipment’s weight by multiplying the number of television sets in the container by the weight of an individual set, and then adding that weight to the combined calculated weight of the packaging, pallets, packing and bracing material used and the container’s tare weight. This approach has four required elements. It only applies to: 1) original, sealed packages, 2) that have been previously weighed, 3) with the accurate mass clearly and permanently marked on their surfaces, and, 4) such weights being added to the calculated weight of all packing, securing and other material that may have been used in the packing of the container.

for verifying the shipper's weight verification. Nor do the SOLAS amendments or IMO Guidelines require a carrier or terminal operator to verify that a shipper providing a verified weight according to Method 2 has used a method which has been certified and approved by the competent authority of the jurisdiction in which the packing and sealing of the container was completed. However, for the shipper's weight verification to be compliant with the SOLAS requirements, it must be "signed", meaning a specific person representing the shipper must be named and identified as having verified the accuracy of the weight calculation on behalf of the shipper.⁴

- Weights obtained by weighing the entire packed container under Method 1 or by weighing the contents of the container and adding those weights to the container tare weight under Method 2 are to be as accurate as the scales or weighing devices used, which must meet the applicable accuracy standards and requirements of the State in which the equipment is being used. Some cargo products may incur normal, minor changes in weight from the time of packing until delivery (e.g., due to evaporation, humidity changes, ice melt from fresh food products packed in ice, etc.) and some containers' tare weight may change over time and vary somewhat from the tare weight painted on the container; however, these variations should not present safety concerns.
- The party or parties packing the container should follow the provisions of the IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU Code) in relation to load distribution and safe packing of the container. (See, page 11 for a link to the CTU Code and CTU Code Informative Materials.)

4.3 A shipper's participation or approval under a Customs authority's Authorized Economic Operator (AEO) or similar program does not modify or exempt the shipper from required compliance with the SOLAS requirements. Such status might be a relevant factor in a State's certification and approval requirements for Method No. 2 shippers. Shippers should be aware of any such applicable national requirements.

4.4 If a carrier or terminal operator has reason to believe that the verified weight of the container provided by the shipper is significantly in error, they may take such steps as may be appropriate in the interest of safety to determine what the accurate weight is. The terms of such arrangements and the recovery of the costs involved in any steps for obtaining an accurate weight are commercial matters for the parties to address.

⁴ "The shipping document shall be: .1 signed by a person duly authorized by the shipper; and .2 submitted to the master or his representative" *SOLAS Chapter VI, Regulation 2, paragraph 5*. "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)." *IMO Guidelines, paragraph 2.1.13*. "[T]he document should clearly highlight that the gross mass provided is the "verified gross mass" as defined in paragraph 2.1." *IMO Guidelines, paragraph 6.1*. "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." *IMO Guidelines, paragraph 6.2*.

5. Documentation

5.1 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 using 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". The verified weight should be expressed in kilograms or pounds, depending on which measure is used in that jurisdiction. Electronic methods of transmission such as Electronic Data Interchange (EDI) or Electronic Data Processing (EDP) may be used. *IMO Guidelines, paragraph 6.3.*

5.2 Irrespective of its form, the document declaring the verified gross mass of the packed container must be signed by a person duly authorised by the shipper. The signature may be an electronic signature or may be replaced by the name in capitals of the person authorised to sign it. *IMO Guidelines, paragraph 6.2.*

5.3 Any discrepancy between a packed container's gross mass provided to a carrier by a shipper prior to the container's weight verification and its verified gross mass should be resolved by use of the verified gross mass. *IMO Guidelines, paragraph 9.1.* If a port terminal addresses an uncertainty about the gross mass of a packed container by weighing the container, the weight obtained by the port facility should be used for vessel stowage planning. *IMO Guidelines, paragraph 9.2 and 13.1.*

5.4 The shipper's container weight verification shall be made available to the terminal operator and to the master and to appropriate government officials upon request.

6. Information flow: Shipper, carrier and terminal interfaces

6.1 The SOLAS amendments are clear in assigning shippers', carriers' and terminal operators' responsibilities. The shipper is responsible for providing an accurate "verified gross mass" for each packed container it tenders to the carrier or its terminal representative, regardless of who actually packs the container. The vessel operator and the terminal operator are responsible for using verified gross weights in vessel stow planning and must not load a packed container aboard a vessel for export without a verified gross weight. These are regulatory obligations.

6.2 In order to implement the SOLAS regulatory obligations and to ensure the efficient and smooth flow of commerce, the parties in the supply chain will need to make arrangements for the timely transmission and exchange of verified container weight information. These are commercial and operational requirements, not regulatory requirements.

6.3 SOLAS requires that the container weight verification information be submitted sufficiently in advance of vessel loading to be used in the preparation of the ship stowage

plan. *IMO Guidelines, paragraph 6.3.2.* It is essential that the container's verified gross weight be obtained by the vessel operator and the terminal operator before a packed export container is physically loaded on to a ship.

6.4 Carriers will provide shippers with "cut-off times" within which the carrier must receive the required container weight verification from the shipper for ship stowage planning. These cut-off times may vary by carrier, may vary depending on the operational procedures or requirements of different terminal operators, and may vary from port to port. Shippers should learn of such documentation cut-off times from the carrier with whom they are doing business.

6.5 Where container weight verification is performed outside a container terminal, carriers shall transmit shippers' container weight verifications to the terminal operator, per agreed formats and standards, in a timely manner so that the terminal operator has this information upon the arrival of the packed container at the terminal.

6.6 Terminal operators will need to transmit to the carrier, per agreed formats and standards, in a timely manner any shipper provided container weight verification that the shipper provides to the terminal upon delivery of the packed container to the terminal operator, as well as weight verifications that occur when a terminal operator weighs a packed container on behalf of the shipper. See, Section 6.7 below.

6.7 Terminal operators and carriers will need to jointly decide in advance how they intend to handle packed containers that are received by a terminal operator for export when: a) the carrier has not informed the terminal operator of the container's verified weight, or b) when the shipper has not provided the carrier or terminal operator with the packed container's verified container weight.

6.8 If a terminal operator makes arrangements for determining the verified gross mass of a packed container that is delivered to the port by a shipper without a verified gross mass, the cost for such service will have to be borne according to the terms of the commercial arrangements among the affected parties, with the recognition that the SOLAS amendments place the obligation on the shipper to provide the verified weight in the first instance. A shipper should recognize that, if it fails to provide a verified container weight as called for by the SOLAS amendments and such failure requires a terminal operator to use Method No. 1 to obtain a verified container weight, there will be a cost for such services that the affected parties will need to address.

6.9 With respect to vessel sharing arrangements (VSAs) where more than one ocean carrier is using the vessel to transport goods, the vessel operator is responsible for the vessel stowage and for the vessel's compliance with SOLAS requirements. Each VSA partner is responsible for timely transmission of verified container weights for all packed containers to be loaded to the terminal operator and to the vessel operator.

6.10 The final vessel stow plan should include a check mark or notation that allows the master to see that each packed container in the stow plan has a verified weight, and the stow plan shall include the verified weights for every packed container aboard.⁵

7. Containers exceeding their maximum gross mass

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 IMO's 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.

In addition to not packing a container beyond its maximum gross mass, the party packing a container should be aware of and abide by cargo weight distribution and cargo securing requirements for the particular type(-s) of cargo packed into the container. See, CTU Code referred to in Section 9 below.

8. Definitions

For the purpose of these Guidelines:

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.

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, including ship's spare parts and stores, carried in containers are not regarded as cargo.

Carrier: The party who, in a contract of carriage, undertakes to perform or to procure the performance of carriage by sea.

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;

⁵ There may be a limited period of time after July 1, 2016 when electronic messaging software (EDI) changes to implement this capability will be in transition.

- (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 m² (150 sq. ft.); or
 - (ii) at least 7 m² (75 sq. ft.) if it is fitted with top corner fittings.

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.

Gross weight or gross mass: means the combined weight of a container's tare weight and the weights 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*").

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.

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.

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.

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

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 where the containers are carried on a chassis or trailer and are loaded and unloaded by being driven on and off the ship.

Shipper: means a legal entity or person named on the bill of lading or sea waybill or equivalent multimodal transport document (e.g., a "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. The shipper may also be known as the sender.

Shipping document: means a document used by the shipper to communicate the verified gross weight 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).

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

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.

Verified gross mass: means the total gross weight of a packed container as obtained by one of the methods described in Section 4 of these Guidelines.

9. Supplemental reference and source material

- The full text of the SOLAS regulations and the IMO Guidelines Regarding the Verified Gross Mass of Container Carrying Cargo (MSC.1/Circ.1474, 9 June 2014) can be found at:
<http://www.worldshipping.org/industry-issues/safety/cargo-weight>
- The IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU Code) and the CTU Code Informative Materials can be found at:
<http://www.worldshipping.org/industry-issues/safety/containers>

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