

# DRY CARGO MANUAL

Sect: 17.0
Page: 1 of 6
Date: 7-Aug-25
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# **CONTENTS**

SECU	RING THE CARGO	2
	IMPORTANCE OF SECURING THE CARGO	
	CARGO SECURING MANUAL	
	. Fixed Cargo Securing Devices:	
	Portable Cargo Securing Devices	
	Record of Inspection and Maintenance for Cargo Securing Devices	



DRY CARGO MANUAL

Sect: 17.0
Page: 2 of 6
Date: 7-Aug-25
Rev: 10.1
Appr: DPA

# **SECURING THE CARGO**

Comply with specialized non-solid-bulk cargoes, observe IMO's "CODE OF SAFE PRACTICE FOR CARGO STOWAGE AND SECURING" and "CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES".

Attention is drawn to the following sections:

# 1. IMPORTANCE OF SECURING THE CARGO

The Chief Officer is to ensure that all unitised cargo is correctly secured prior to proceeding to sea. He is responsible for the maintenance of all cargo lashing equipment on board, as well as ensuring a sufficient lashing stock to cover all eventualities is maintained on board.

### 2. CARGO SECURING MANUAL

The Cargo Securing Manual is required on all types of ships engaged in the carriage of all cargoes other than solid and liquid bulk cargoes.

In accordance with regulations VI/5 and VII/5 of the SOLAS Convention, as amended, cargo units and cargo transport units shall be loaded, stowed and secured throughout the voyage in accordance with the Cargo Securing Manual (CSM) approved by the Administration.

The CSM specifies arrangements and cargo securing devices provided on board the ship for the correct application to and the securing of cargo units, containers, vehicles and other entities, based on transverse, longitudinal and vertical forces which may arise during adverse weather and sea conditions.

Master and all deck officers should be familiar with the contents of this manual, and its recommendations shall be used as the <u>minimum</u> lashings to be used in any circumstance. The Master and Person in Charge of cargo operations should be able to demonstrate that they are familiar with the approved CSM.

Masters and ship's crew are encouraged to review cargo securing procedures and arrangements as outlined in the ship's CSM and ensure they are securing cargo in accordance with the manual and following all applicable safety procedures.

Lashings and fittings used for securing should be used in a manner consistent with the approved CSM and as intended for the cargo being stowed.

Approval for each specific lashing pattern is not necessary as long as sufficient information regarding the securing devices (list and/or plan with appropriate documentation) is maintained properly under the Master's responsibility.



### DRY CARGO MANUAL

Sect: 17.0
Page: 3 of 6
Date: 7-Aug-25
Rev: 10.1
Appr: DPA

It is imperative to the safety of the ship and the protection of the cargo and personnel that the securing of the cargo is carried out properly and that only appropriate securing points or fittings should be used for cargo securing.

The securing base such as a hatch cover should be appropriately secured so as to provide a good foundation. Hatch cover cleats should be fitted to properly secure the hatch covers.

It is important that securing devices meet acceptable functional and strength criteria applicable to the ship and its cargo. It is also important that the Officers on board are aware of the magnitude and direction of the forces involved and the correct application and limitations of the cargo securing devices. The Crew and other persons employed for the securing of cargoes should be instructed in the correct application and use of the cargo securing devices on board the ship.

Information on the strength and instructions for the use and maintenance of each specific type of cargo securing device, where applicable, is provided in the manual. The cargo securing devices should be maintained in a satisfactory condition. Items worn or damaged to such an extent that their quality or strength is impaired should be replaced.

# File 27 A to be kept in conjunction with cargo securing manual which shall contain the following sections (separated by dividers)

- a. List of fixed cargo securing devices (Other than the one listed in the CSM) along with relevant certificates/ documents/sketches/ drawings of the devices
- b. List of portable cargo securing devices along with relevant certificates/ documents /sketches / drawings of the devices
- c. Record of inspection and maintenance of fixed cargo securing devices
- d. Record of inspection and maintenance of portable cargo securing devices
- e. MSC.1/Circ.1353/Rev.2<sup>1</sup> Revised guidelines for the preparation of the cargo securing manual
- f. OJT on cargo securing device

## 2.1. Fixed Cargo Securing Devices:

Fixed cargo securing devices provided in appendix of the CSM shall be used for securing cargo.

When vessel carries cargoes which are required to be secured by the fixed devices other than the one listed in the manual, then information of the devices supplied by the stevedoring company, owner and/or charterers shall be entered in the <u>List of fixed cargo securing devices</u> form and maintained in file 27 A.



DRY CARGO MANUAL

Sect: 17.0
Page: 4 of 6
Date: 7-Aug-25
Rev: 10.1
Appr: DPA

Vessel shall maintain a sketch of fixed cargo devices which are additionally fitted (Drawings provided in cargo securing manual to be photocopied and additional items fitted to be marked in the drawing).

If additional fixed devices are used for securing, they shall be removed upon completion of cargo operations. Also the master shall endeavor to obtain relevant certificates or documents of the devices prior installing these devices.

List and/or plan of the fixed cargo securing devices should be supplemented with appropriate documentation for each type of device as far as practicable. The appropriate documentation should include information as applicable regarding:

- a. name of manufacturer;
- b. type designation of item with simple sketch for ease of identification;
- c. material(s);
- d. identification marking;
- e. strength test result or ultimate tensile strength test result;
- f. result of non-destructive testing; and
- g. Maximum Securing Load (MSL);

Company recommends that all fixed securing devices like eye plate are marked yellow during drydock where safe access to these structures is possible.

### 2.2. Portable Cargo Securing Devices

Portable cargo securing devices provided in appendix of the cargo securing manual shall be used for securing cargo.

When the vessel carries cargoes which are required to be secured by the portable devices other than the one listed in the manual , then information of the devices supplied by the stevedoring company, owner and/or charterers shall be entered in List of portable cargo securing devices form and maintained in file 27 A.

Also the master shall endeavor to obtain relevant certificates or documents of the devices prior installing these devices.

List for the portable securing devices should be supplemented with appropriate documentation for each type of device, as far as practicable. The appropriate documentation should include information as applicable regarding:

- a. name of manufacturer:
- b. type designation of item with simple sketch for ease of identification;
- c. material(s), including minimum safe operational temperature;



#### DRY CARGO MANUAL

Sect: 17.0
Page: 5 of 6
Date: 7-Aug-25
Rev: 10.1
Appr: DPA

- d. identification marking;
- e. strength test result or ultimate tensile strength test result;
- f. result of non-destructive testing; and
- g. Maximum Securing Load (MSL);

The Master or Person in Charge of cargo operations should ensure that there are sufficient quantities of reserve cargo securing devices kept on board in accordance with approved CSM. The reserve lashings should be in good condition.

# 2.3. Record of Inspection and Maintenance for Cargo Securing Devices

Regular inspections and maintenance should be carried out under the responsibility of the master.

Cargo securing devices inspections as a minimum should include:

- routine visual examinations of components being utilized; and
- periodic examinations/re-testing as required by the Administration (where applicable).

Record of Inspection and Maintenance for fixed and portable Cargo Securing Devices shall be maintained in the **Record of inspection and maintenance form** and maintained in file 27 A or in Mespas<sup>2</sup> as applicable.

Records of inspection, test certificates and any repairs should be kept on board.

Master shall ensure that all cargo securing devices (lashings, fittings etc) are in satisfactory condition for their intended use and do not pose a hazard to the crew, ship or cargo.

Fixed and portable equipment must be visually inspected prior and after use to ensure that there are no defects and when appropriate all moving parts are greased and operating correctly.

After use and before going into storage, each device should be visually inspected to ensure that the device has not sustained damage and is in good condition.

When permanent deformation, break etc are found on securing devices, the securing devices should be removed from use and repaired or replaced as appropriate at the earliest convenience.

<sup>&</sup>lt;sup>2</sup> W 03 / 2024



### DRY CARGO MANUAL

Sect: 17.0
Page: 6 of 6
Date: 7-Aug-25
Rev: 10.1
Appr: DPA

All defective equipment should be marked with red paint to prevent inadvertent use and repaired at earliest opportunity or landed ashore at convenient port.

The Master should check and adjust if necessary, securing arrangement during the voyage.

In normal sea condition, periodical checking should be carried out as follows:

Securing arrangement to cargoes on deck and in hold should be checked. When following conditions are found, corrective action should be taken appropriately.

- Loose securing Tighten
- Touching ships structure Correct ( secure away from structure)
- Others Correct as appropriate

Where the ship will encounter unexpected heavy weather, following actions are to be taken in advance of the event.

Securing arrangement to cargoes on deck and in hold should be checked. When following conditions are found, corrective action should be taken appropriately.

- Loose securing Tighten
- Less securing devices Add more devices
- Inappropriate securing angle Correct
- Touching ships structure Correct ( secure away from structure)
- Others Correct as appropriate

Special care such as applying further lashing should be taken over the securing arrangement to heavy cargoes to prevent any cargo movement which may cause a large scale cargo movement and result in serious situation.

Ship-handling decisions taken by the master, especially in bad weather conditions, should take into account the type and stowage position of the cargo and the securing arrangements.

Reference: MSC.1/Circ.1353/Rev.2<sup>3</sup>