
**Ships and marine technology —
Cargo securing systems on ships —
Vocabulary**

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Ships and marine technology — Cargo securing systems on ships — Vocabulary

1 Scope

This document specifies general terms for cargo securing systems on ships, as well as specific terms for cargo securing on container ships and on ro-ro ships.

It is applicable to the design, manufacture, trade, teaching and other fields of cargo securing systems on ships.

NOTE ISO 3874 defines specific terms for handling and securing methods on series 1 freight containers.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

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3.1 General terms for cargo securing system

3.1.1

cargo securing device

securing device

fixed and portable devices used to secure and support *cargo units* (3.1.20)

3.1.2

fixed fitting

securing device (3.1.1) permanently installed in the vessel

3.1.3

portable fitting

loose fitting

securing device (3.1.1) not permanently installed in the vessel

3.1.4

maximum securing load

MSL

maximum allowable load capacity for a device used to secure cargo to a ship

3.1.5

proof load

PL

test load during testing of a *securing device* (3.1.1)

3.1.6
minimum breaking load
MBL

tested minimum breaking strength of a *securing device* (3.1.1)

3.1.7
cargo securing manual

document that specifies the arrangements to be used, and the cargo *securing fittings* (3.2.1) provided on board, to ensure safe stowage, stacking and *securing* (3.1.17) of the cargo

Note 1 to entry: It is a mandatory ship-specific document.

3.1.8
transverse acceleration

acceleration parallel to the ship's deck in transverse direction, due to the ship's motion

3.1.9
longitudinal acceleration

acceleration parallel to the ship's deck in longitudinal direction, due to the ship's motion

3.1.10
vertical acceleration

acceleration perpendicular to the ship's deck in vertical direction, due to the ship's motion

3.1.11
lashing point

structure used to bear the force of the lashing and to distribute it to the structure of the hull (or cargo), which can be e.g. a hole, a ring or a bar (standards.iteh.ai)

3.1.12
cargo safe access

area used by the operator for the safe operation of *cargo securing devices* (3.1.1)

3.1.13
cargo securing system

system combining several *securing devices* (3.1.1) and structures together to ensure cargo transportation safety through combined action

3.1.14
fixed fitting arrangement plan

layout plan of *fixed fittings* (3.1.2) on a ship

3.1.15
wind load

force by wind affecting *cargo units* (3.1.20) on open decks

3.1.16
sea load

force by sea affecting *cargo units* (3.1.20) on open decks

3.1.17
securing

process to secure cargo with *cargo securing devices* (3.1.1)

3.1.18
securing force

force required to prevent cargo from shifting, e.g. sliding or tipping on board, based on calculations

3.1.19
ship's cargo

cargo or *cargo unit* (3.1.20) loaded on ships or other floating units for sea transport

3.1.20**cargo unit**

loading equipment, or any part thereof, which belongs to the ship but is not fixed to the ship, such as vehicles, containers, flats, pallets, portable tanks, packaged units, or any other entity

Note 1 to entry: The IMO Assembly Resolution A.489(XII)^[2] defines cargo units and other entities in 1.

3.1.21**standardized cargo**

cargo for which the ship is provided with an approved securing system based upon *cargo units* (3.1.20) of specific types, such as e.g. containers, railway wagons and shipborne barges

3.1.22**semi-standardized cargo**

cargo for which the ship is provided with a securing system capable of accommodating a limited variety of *cargo units* (3.1.20), such as e.g. vehicles and trailers

3.1.23**non-standardized cargo**

cargo that requires individual stowage and securing arrangements

3.1.24**gravity centre of cargo unit**

point of action of the resultant force of gravity borne by different parts of a *cargo unit* (3.1.20)

3.1.25**lashing angle****securing angle**

angle between a lashing device and the horizontal plane or vertical plane

3.1.26**vertical lashing angle**

α

lashing angle (3.1.25) between a lashing device and the horizontal plane.

Note 1 to entry: See [Figure 1](#).

3.1.27**horizontal lashing angle**

β

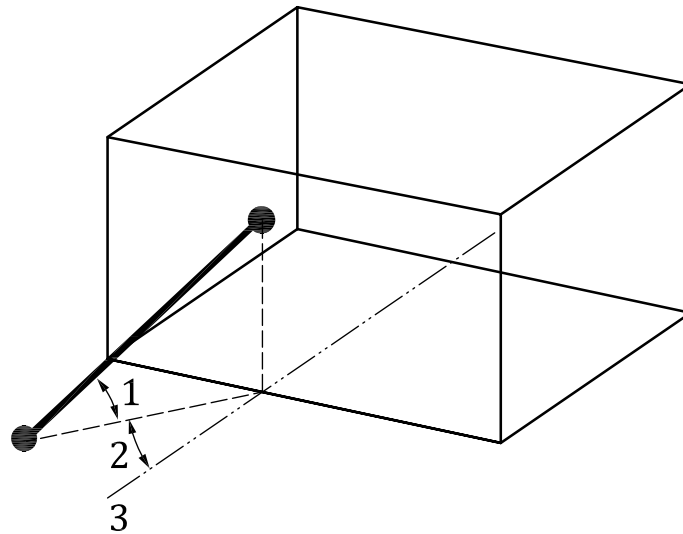
lashing angle (3.1.25) between a lashing device and the transverse direction on board the vessel

Note 1 to entry: See [Figure 1](#).

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Key

- 1 vertical lashing angle, α
- 2 horizontal lashing angle, β
- 3 axis parallel to the transverse direction of the vessel

Figure 1 — Lashing angles diagram
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3.1.28

lashing interference

conditions where securing equipment conflict with each other or with the vessel structure

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3.1.29

storage device

device used to store *portable fittings* ([3.1.3](#))

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EXAMPLE *Storage rack* ([3.1.30](#)), *storage bin* ([3.1.31](#)).

3.1.30

storage rack

rack used to store *portable fittings* ([3.1.3](#))

3.1.31

storage bin

bin used to store *portable fittings* ([3.1.3](#))

3.1.32

lashing

securing method providing pulling forces to prevent cargo from shifting, which can impact transportation safety

EXAMPLE Securing containers with *lashing rods* ([3.2.5](#)) and *turnbuckles* ([3.2.30](#)).

3.1.33

cargo securing method

securing method to prevent cargo from shifting by *lashing* ([3.1.32](#)), blocking or locking by respectively providing a pulling force, pushing force or both

3.1.34

tensioning device

device used to tighten lashings

3.2 Terms for container securing

3.2.1

container securing fitting

securing fitting

securing device (3.1.1) used between containers and between a container and the deck, hatch cover, or bilge, to prevent the container from longitudinal, transverse or vertical movements relative to the hull during transportation

3.2.2

container lashing fitting

lashing fitting

securing device (3.1.1) used to lash a container to a hatch cover or deck

3.2.3

container buttress fitting

buttress fitting

securing device (3.1.1) used to eliminate the clearance between a container and a longitudinal bulkhead, and to transfer any transverse forces to the longitudinal bulkhead

3.2.4

twistlock

portable fitting (3.1.3) used for *securing* (3.1.17) between containers or between the container and *fixed fittings* (3.1.2), bearing longitudinal, transverse and vertical forces, and provided with opening and closing devices

3.2.5

lashing rod

rod-shaped *portable fitting* (3.1.3) used to resist container distortion and to improve the stack weight of the container

3.2.6

bridge fitting

portable fitting (3.1.3) used for the transverse connection of roof corners on the top of adjacent containers

3.2.7

allowable torsion

safe racking load allowed by the container

3.2.8

allowable pressure

safe pressure allowed by the container

3.2.9

corner post load

maximum safe load bearable by the corner post of the container body

3.2.10

lashing bridge

bridge-type steel structure for accommodating lashings set on deck

3.2.11

stanchion

steel structure mainly used to support the weight of containers on deck

3.2.12

cell guide

steel structure used for the convenience of vertical container loading and unloading as well as for the transverse support of containers, that is set in holds or on deck

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3.2.13

raised socket

raised base welded to the deck, hatch cover, *stanchion* (3.2.11) or other structures to bear the weight of containers

3.2.14

flush socket

base welded in holds or on deck to bear the weight of containers, whose upper surface is on the same plane as the welding surface

3.2.15

sliding socket

raised and removable base that can move in one direction in order to adjust the distance of containers along the direction properly

3.2.16

doubling plate

baseplate welded in holds to fix containers with the assistance of *single stackers* (3.2.24) or other elements

3.2.17

dovetail foundation

foundation welded to the hatch cover or deck, used together with a *sliding socket* (3.2.15) and base *twistlock* (3.2.4) to move the base twistlock or sliding socket in a certain direction

3.2.18

weldable cone

fixed fitting (3.1.2) welded in holds to limit longitudinal and transverse movement of containers

3.2.19

manual twistlock

twistlock (3.2.4) that is manually opened or closed

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3.2.20

semi-automatic twistlock

twistlock (3.2.4) that is automatically closed by applying a mechanical device to drive the tip *cone* (3.2.23) and/or base cone, but that is manually opened

3.2.21

fully automatic twistlock

twistlock (3.2.4) used between containers and *fixed fittings* (3.1.2), or between different containers to prevent them from being separated because of overturning, that can slip off automatically when being lifted without any need for manual opening and closing

3.2.22

midlock

lock used with a semi-automatic lock and set in the hole of inner end corner fittings of two 20 ft containers when placed in a 40 ft container slot without any need for manual opening and closing

3.2.23

cone

part of a stacking fitting that fits into the top or bottom aperture of a corner fitting or a securing socket, and that restrains connected containers from horizontal sliding

3.2.24

single stacker

portable fitting (3.1.3) used between the bottom in holds and the container, or between two containers, to limit longitudinal and transverse movement of a single container