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

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Foreword

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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/

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

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)[7] 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)

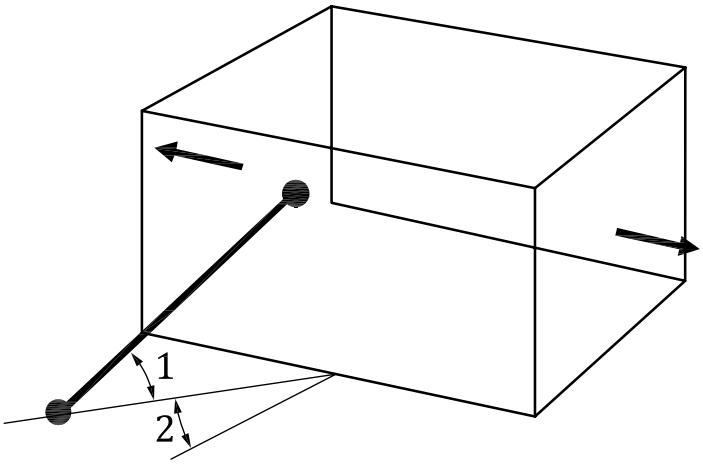
3.1.25
lashing angle
securing angle
angle between a lashing device and the horizontal plane or vertical plane

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.



Key

1 vertical lashing angle, α

2 horizontal lashing angle, β

Figure 1 — Lashing angles diagram

3.1.28
lashing interference
conditions where securing equipment conflict with each other or with the vessel structure

3.1.29
storage device
device used to store *portable fittings* (3.1.3)

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 (3.1.17) 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 (3.1.17) 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