

SC 161 Timber deck cargo in the context of damage stability requirements

(May 2000)
(Rev.1
Feb 2008)
(Rev.2
Apr 2021
Withdrawn)
(Rev.3
May 2022)

SOLAS Regulation II-1/5-1 reads:

1 *The master shall be supplied with such information to the satisfaction of the Administration as is necessary to enable him by rapid and simple processes to obtain accurate guidance as to the stability of the ship under varying conditions of service. A copy of the stability information shall be furnished to the Administration.*

2 *The information should include:*

- .1 curves or tables of minimum operational metacentric height (GM) and maximum permissible trim versus draught which assures compliance with the intact and damage stability requirements where applicable, alternatively corresponding curves or tables of the maximum allowable vertical centre of gravity (KG) and maximum permissible trim versus draught, or with the equivalents of either of these curves or tables;*
- .2 instructions concerning the operation of cross-flooding arrangements; and*
- .3 all other data and aids which might be necessary to maintain the required intact stability and stability after damage.*

3 *The intact and damage stability information required by regulation 5-1.2 shall be presented as consolidated data and encompass the full operating range of draught and trim. Applied trim values shall coincide in all stability information intended for use on board. Information not required for determination of stability and trim limits should be excluded from this information.*

Note:

1. Implementation date 1 January 2001
2. ~~This Unified Interpretation Rev.1 of this UI~~ is to be applied by all Members and Associate on ships contracted for construction on or after 1 January 2009. However, Members and Associate are not precluded from applying this UI before this date.
3. The “contracted for construction” date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of “contract for construction”, refer to IACS Procedural Requirement (PR)No. 29.
4. ~~This Unified Interpretation Rev.2 is to be uniformly implemented by IACS Societies on ships contracted for construction on or after 1 July 2022.~~ Rev.2 of this UI was withdrawn before coming into force on 1 July 2022.
5. Rev.3 of this UI is to be uniformly implemented by IACS Societies on ships contracted for construction on or after 1 January 2023.

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4 If the damage stability is calculated in accordance with regulation 6 to regulation 7-3 and, if applicable, with regulations 8 and 9.8, a stability limit curve is to be determined using linear interpolation between the minimum required GM assumed for each of the three draughts d_s , d_p and d_l . When additional subdivision indices are calculated for different trims, a single envelope curve based on the minimum values from these calculations shall be presented. When it is intended to develop curves of maximum permissible KG it shall be ensured that the resulting maximum KG curves correspond with a linear variation of GM.

5 As an alternative to a single envelope curve, the calculations for additional trims may be carried out with one common GM for all of the trims assumed at each subdivision draught. The lowest values of each partial index A_s , A_p and A_l across these trims shall then be used in the summation of the attained subdivision index A according to regulation 7.1. This will result in one GM limit curve based on the GM used at each draught. A trim limit diagram showing the assumed trim range shall be developed.

6 When curves or tables of minimum operational metacentric height (GM) or maximum allowable KG versus draught are not provided, the master shall ensure that the operating condition does not deviate from approved loading conditions, or verify by calculation that the stability requirements are satisfied for this loading condition.

Scope

The provisions given hereunder apply to ships that are subject to SOLAS, Chapter II-1, subdivision and damage stability calculations and engaged in carrying timber deck cargoes where the buoyancy of the timber deck cargo is taken into account in the damage stability calculations.

Definitions

The following definitions apply for the purposes of this interpretation:

timber is used as a collective expression used for all types of wooden material covered by CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES, 2011 (Resolution A.1048(27)), including both round and sawn wood but excluding wood pulp and similar cargo;

timber deck cargo means a cargo of timber carried on an uncovered part of a freeboard or superstructure deck.

timber load line means a special load line assigned to ships complying with certain conditions set out in the International Convention on Load Lines.

deepest timber subdivision draught is the waterline which corresponds to the timber summer draught to be assigned to the ship;

partial timber subdivision draught is the light service draught as defined in SOLAS Reg.II-1/2.11 plus 60% of the difference between the light service draught and the deepest timber subdivision draught.

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1. The ship shall be supplied with comprehensive stability information which takes into account timber deck cargo. Such information shall enable the master to rapidly and simply obtain accurate guidance as to the stability of the ship under varying conditions of service, and as required in SOLAS Regulation II-1/5-1 it shall include, among other damage stability related issues, a curve of minimum operating metacentric height (*GM*) versus draught or maximum allowable vertical centre of gravity (*KG*) versus draught which covers the requirements of SOLAS Regulation II-1/5-1.2.1.
2. To ensure the buoyancy of timber deck cargo can be justifiably credited in damage stability calculations, the integrity of the lashed timber deck cargo shall comply with the following:
 - .1 The timber deck cargo is to be stowed in accordance with the requirements of 2.9 of the CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES, 2011 (Resolution A.1048(27)).
 - .2 The timber deck cargo is to be secured by lashings and/or uprights.
 - .3 Lashings and uprights are to comply with the requirements of 2.10 of the CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES, 2011 (Resolution A.1048(27)).
 - ~~.4 Uprights are to
 - ~~.1 be made of steel or other suitable material of adequate strength, taking into account the breadth of the deck cargo;~~
 - ~~.2 be spaced at intervals not exceeding 3 m;~~
 - ~~.3 be fixed to the deck by angles, metal sockets or equally efficient means; and~~
 - ~~.4 if deemed necessary, be further secured by a metal bracket to a strengthened point, i.e. bulwark, hatch coaming.~~~~
3. The height and extent of the timber deck cargo shall be in accordance with 3.3.2 of Chapter 3, Part A of the International Code on Intact Stability, 2008 and shall be at least stowed to the standard height of one superstructure.
4. The permeability of the timber deck cargo is not to be less than 25% of the volume occupied by the cargo up to one standard superstructure.
5. Unless instructed otherwise by the Administration, the stability information for ships with timber deck cargoes shall be supplemented by additional curve(s) of limiting *GM* (or *KG*) covering the timber draught range.
6. The above described curve(s) applicable for conditions with timber deck cargo is/are to be developed as described in SOLAS Regulation II-1/5-1.4, and considering timber deck cargo at the deepest timber subdivision draught and at the partial timber subdivision draught only.
7. The limiting *GM* shall be varied linearly between the deepest timber subdivision draught, and between the partial timber subdivision draught and the light service draught respectively. Where timber freeboards are not assigned the deepest and partial draughts shall relate to the summer load line.

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8. When considering the vertical extent of damage, the upper deck may be regarded as a horizontal subdivision (in accordance with SOLAS Regulation II-1/7-2.6.1). Thus when calculating damage cases which are limited vertically to the upper deck with the corresponding v-factor, the timber deck cargo may be considered to remain buoyant with an assumed permeability of 0.25 at the deepest and partial draught. For damage extending above the upper deck the timber deck cargo buoyancy in way of the damage zone is to be ignored.

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