
SC161 Timber deck cargo in the context of damage stability requirements

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SOLAS Regulation II-1/5-1 reads:

- 1 The master shall be supplied with such information satisfactory to 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*) versus draught which assures compliance with the relevant intact and damage stability requirements, alternatively corresponding curves or tables of the maximum allowable vertical centre of gravity (*KG*) versus draught, or with the equivalents of either of these curves;
 - .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 stability information shall show the influence of various trims in cases where the operational trim range exceeds $\pm 0.5\%$ of L_S .

Note:

1. Implementation date 1 January 2001.
2. This Unified Interpretation 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.

SC161
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4 For ships which have to fulfil the stability requirements of part B-1, information referred to in paragraph 2 are determined from considerations related to the subdivision index, in the following manner: Minimum required GM (or maximum permissible vertical position of centre of gravity KG) for the three draughts d_s , d_p and d_l are equal to the GM (or KG values) of corresponding loading cases used for the calculation of survival factor s_i . For intermediate draughts, values to be used shall be obtained by linear interpolation applied to the GM value only between the deepest subdivision draught and the partial subdivision draught and between the partial load line and the light service draught respectively. Intact stability criteria will also be taken into account by retaining for each draft the maximum among minimum required GM values or the minimum of maximum permissible KG values for both criteria. If the subdivision index is calculated for different trims, several required GM curves will be established in the same way.

5 When curves or tables of minimum operational metacentric height (GM) versus draught are not appropriate, the master should ensure that the operating condition does not deviate from a studied loading condition, or verify by calculation that the stability criteria 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 means sawn wood or lumber, cants, logs, poles, pulpwood and all other types of timber in loose or packaged forms;

timber deck cargo means a cargo of timber carried on an uncovered part of a freeboard or superstructure deck. The term does not include wood pulp or similar cargo;

timber load line means a special load line assigned to ships complying with certain conditions related to their construction set out in the LOAD LINE CONVENTION 1966 as amended by the 1988 Protocol or, where relevant, to the LOAD LINE CONVENTION, 1966 and used when the cargo complies with the stowage and securing conditions of the CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES, 1991 (Resolution A.715(17));

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.

SC161 Interpretation

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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 provisions of Chapters 3 and 4 of the CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES, 1991 (Resolution A.715(17)).
3. The height and extent of the timber deck cargo shall be in accordance with Chapter 3.2 of the CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES, 1991, 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.
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 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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