

# SC161 Timber deck cargo in the context of damage stability requirements

(May 2000)  
(Rev.1  
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(Chapter II-1, Regulation 25-8.1)

SOLAS Regulation II-1/25-8.15-1 reads:

## Stability information

1 The master of the ship shall be supplied with such reliable information satisfactory to the Administration as is necessary to enable him by rapid and simple processes means 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 ~~shall~~ should include:

- .1 a curves or tables of minimum operational metacentric height (*GM*) versus draught which assures compliance with the relevant intact and damage stability requirements, and the requirements of regulations 25-1 to 25-6, alternatively a 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 +/- 0.5% of  $L_s$ .

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## Footnote:

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.

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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  $s_j$ . 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, Part B-4 subdivision and damage stability calculations and engaged in carrying timber deck cargoes- where ~~the buoyancy of the timber deck cargo can optionally be~~ is taken into account in the damage stability calculations, ~~subject to the provisions that have been set forth in this document.~~

~~They shall comply with the requirements of the CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES, 1991, and Ships that are provided with and make use of their timber load line shall also comply with the requirements of regulations 41 to 45 of the LOAD LINE CONVENTION, 1966.~~

### 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- ~~The term does not include wood pulp or similar cargo;~~

*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* ~~load line~~ is the waterline subdivision load line which corresponds to the timber summer draught to be assigned to the ship;

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

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~~1. The stowage of timber deck cargoes shall comply with the provisions of Chapter 3 of the CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES, 1991 (resolution A.715(17)).~~

~~12. 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, to obtain accurate guidance as to the stability of the ship under varying conditions of service, and as required in SOLAS Regulation II-1/5-1.25-8 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-1/25-8.1.45-1.2.1.~~

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, if considered buoyant in the context of the subdivision and damage stability calculations.~~

~~4. Account may be taken of the buoyancy of the timber deck cargo, assuming that such cargo has a permeability of 25% of the volume occupied by the cargo, however, the buoyancy of only one standard superstructure height of timber deck cargo may be considered. 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 may shall be supplemented by a second additional curve(s) of limiting GM (or KG) covering the timber draught range, the then permissible draught range as specified below. Thus when accepting two stability limiting curves one curve shall be applicable when carrying timber deck cargo and a second curve for any other loading condition.~~

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. The above described provision of two curves are to be developed as described in SOLAS Regulation II-1/25-8.3, if they have been determined from considerations related to the subdivision index, based on the following:

~~6.1. for any loading condition other than timber deck cargo the limiting GM with the draughts as described in SOLAS Regulation II-1/25-8.3, and~~

~~6.2. for timber deck cargo~~

7. The limiting GM shall be varied linearly between that the deepest timber subdivision load line draught, and between the partial timber subdivision draught and the light service draught respectively, and the respective timber partial load line. Where timber freeboards are not assigned the deepest and partial draughts shall relate to the summer load line.

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7. ~~For the purpose of the subdivision and damage stability calculations, the permeabilities of each space or part of space shall be as described in SOLAS Regulation II-1/25-7, however supplemented by the following for the undamaged timber deck cargo:~~

<b>Spaces</b>	<b>Permeability</b>
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Timber cargo on deck	0.25
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~~for both draughts.~~

8. When considering the vertical extent of damage, the upper deck may be regarded as a horizontal subdivision (in accordance with SOLAS Regulation II-1/25-6.37-2.6.1). 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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