

## APPENDIX 2

## TRIM AND STABILITY BOOKLET

### 1 Trim and stability booklet

#### 1.1 Information to be included in the trim and stability booklet

##### 1.1.1 General

A trim and stability booklet is a stability manual, to be approved by the Society, which is to contain sufficient information to enable the Captain to operate the yacht in compliance with the applicable requirements contained in the Rules.

The format of the stability booklet and the information included vary depending on the yacht type and operation.

##### 1.1.2 List of information

The following information is to be included in the trim and stability booklet:

- a general description of the yacht, including:
    - the yacht's name and the Society classification number
    - the yacht type and service notation
    - the class notations
    - the yard, the hull number and the year of delivery
    - the moulded dimensions
    - the draught corresponding to the summer load line (defined in Ch 1, Sec 2, [3.7])
    - the displacement corresponding to the above-mentioned draught
  - clear instructions on the use of the booklet
  - general arrangement and capacity plans indicating the assigned use of compartments and spaces (stores, accommodation, etc.)
  - a sketch indicating the position of the draught marks referred to the yacht's perpendiculars
  - hydrostatic curves or tables corresponding to the design trim, and, if significant trim angles are foreseen during the normal operation of the yacht, curves or tables corresponding to such range of trim are to be introduced. A clear reference relevant to the sea density, in  $t/m^3$ , is to be included as well as the draught measure (from keel or underkeel)
  - cross curves (or tables) of stability calculated on a free trimming basis, for the ranges of displacement and trim anticipated in normal operating conditions, with indication of the volumes which have been considered in the computation of these curves
  - tank sounding tables or curves showing capacities, centres of gravity, and free surface data for each tank
  - lightship data from the inclining experiment, as indicated in Ch 3, Sec 1, [2], including lightship displacement, centre of gravity co-ordinates, place and date of the inclining experiment, as well as the Society approval details specified in the inclining experiment report. It is suggested that a copy of the approved experiment report be included
- Where the above-mentioned information is derived from a sister ship, the reference to this sister ship is to be clearly indicated, and a copy of the approved inclining experiment report relevant to this sister ship is to be included
- standard loading conditions as indicated in [1.2] and examples for developing other acceptable loading conditions using the information contained in the booklet
  - intact stability results (total displacement and its centre of gravity co-ordinates, draughts at perpendiculars, GM, GM corrected for free surfaces effect, GZ values and curve, criteria as indicated in Ch 3, Sec 2, reporting a comparison between the actual and the required values) are to be available for each of the above-mentioned operating conditions. The method and assumptions to be followed in the stability curve calculation are specified in [1.3]
  - damage stability results (total displacement and its maximum permissible centre of gravity height, draughts at perpendiculars, GM, GM corrected for free surfaces effect, GZ values and curve, criteria as indicated in Ch 3, Sec 3, reporting a comparison between the actual and the required values) are to be available for each of the above-mentioned operating conditions. The method and assumptions to be followed in the stability curve calculation are specified in [1.3]
  - maximum KG or minimum GM curve or table which can be used to determine compliance with the applicable intact and damage stability criteria when applicable
  - information about openings (location, tightness, means of closure), pipes or other progressive flooding sources. the opening used for the calculation of the down flooding angle has to be clearly identified
  - information concerning the use of any special cross-flooding fittings with descriptions of damage conditions which may require cross-flooding, when applicable
  - any other necessary guidance for the safe operation of the yacht, in particular, limitations regarding maximum allowable wind pressure as calculated in Ch 3, Sec 2, [3]
  - a table of contents and index for each booklet.

## 1.2 Loading conditions

**1.2.1** The standard following loading conditions are to be included in the trim and stability booklet:

- yacht in the fully loaded departure condition with full stores and fuel and with full number of passengers with their luggage
- yacht in the fully loaded arrival condition, with full number of passengers and their luggage but with only 10% stores and fuel remaining.

## 1.3 Stability curve calculation

### 1.3.1 General

Hydrostatic and stability curves are normally prepared on a designed trim basis. However, where the operating trim or the form and arrangement of the yacht are such that change in trim has an appreciable effect on righting arms, such change in trim is to be taken into account.

### 1.3.2 Superstructures, deckhouses, etc. which may be taken into account

Enclosed superstructures complying with Ch 1, Sec 2 may be taken into account.

### 1.3.3 Angle of flooding

In cases where the yacht would sink due to flooding through any openings, the stability curve is to be cut short at the corresponding angle of flooding and the yacht is to be considered to have entirely lost its stability.

Small openings such as those for passing wires or chains, tackle and anchors, and also holes of scuppers, discharge and sanitary pipes are not to be considered as open if they submerge at an angle of inclination more than 30°. If they submerge at an angle of 30° or less, these openings are to be assumed open if the Society considers this to be a source of significant progressive flooding; therefore such openings are to be considered on a case by case basis.