



YDSA Certifying Authority
(Authorised by the Maritime and Coastguard Agency)

The Glass Works, Penns Road, Petersfield, Hampshire GU32 2EW
Tel: (01730) 710490 Fax: (01730) 710423

THE SAFETY OF SMALL COMMERCIAL MOTOR AND SAILING VESSELS – Codes of Practice

STABILITY APPLICATION. Motor vessels under 24 metres operating in Categories 2 to 6, carrying less than 1000kg cargo, less than 16 persons and not engaged in lifting or towing. (See separate application forms for RIBs and inflatables. Other motor vessels require an approved stability book).

Owner / Managing Agent

Name.....
Address.....
.....
Post Code.....
TelFax or email.....

Vessel Details

Name
Designer
Design Class
Builder
Launch YearLength.....metres
Beam.....metres
Draft of hull bodymetres

Open motorboats must be capable of staying afloat when swamped. Also satisfy both upright height of side requirements and a heel test when fully laden.

Decked vessels must satisfy freeboard to the deck edge requirements and a heel test when fully laden.

Decked vessels with a stepped deck must also have an average freeboard to the deck edge satisfying the minimum freeboard to deck edge requirements for a continuously decked vessel. Additionally vessels with a stepped deck should meet the requirements for emergency access hatches to seacocks. See Code 5.1.1.5

If over 15 m length a GM calculation is required.

Tests should be carried out with the full compliment of persons on board (75 kg each) and if cargo is to be carried in addition a further test with persons and the cargo in its stowed position. Note that weights may be used in lieu of engines, tanks etc and persons for test purposes.

Open Boats (see separate form for RIBs Inflatables and those fitted with buoyant collars)

Swamp test or calculation Code 11.4.4

Number of persons supported when fully laden in a fully swamped condition
Additional weight of cargo aboardkg
or
Calculations enclosed showing that when fully laden and swamped the number of persons (and cargo) the vessel is capable of supportingpages.

Swamp tests witnessed by.....Qualifications.....Date...../...../20....

All Vessels excluding RIBs, inflatables and those fitted with a buoyant collar
(circle which of the three following apply)

- Decked vessel with a continuous watertight weather deck Code 12.2.2.1.1
- Decked vessel with a stepped watertight weather deck Code 12.2.2.1.2
- Open boat Code 12.2.2.1.3

Details (Complete as applicable)

Required upright freeboard to deck edge at lowest point.mm
(Open boats. Height of side) See references above.

Upright freeboard to deck edge at lowest point achieved when fully ladenmm
(Open boats. Height of side)

Decked vessels fitted with hull side engine air intakes below the watertight weather deck. Height to the point where water would enter the vessel when upright and fully laden Code 5.5.4mm

Decked vessel with a stepped deck. Average freeboard to deck edge. Code 12.2.2.1.2mm

Decked vessel with a stepped deck. Emergency access to seacocks. Are access openings a minimum of 300 mm above the minimum required freeboard to deck edge or are remote closing devices fitted. Code 5.1.1.5 Yes/NA

Number of persons on board

Weight of cargo (if any) on board in addition to personskg

Heel Test. All vessels.

Number of persons (of mass 75kg) assembled along the side (helmsman at the helm)

Distance moved from the centreline

Minimum freeboard to deck edge when heeled Portmm Starboardmm
(Open boats to the top of side)

Length of pendulum (minimum length 1500 mm)mm

Maximum pendulum deflection Portmm Starboardmm

Maximum angle of heel with persons only Port° Starboard°

Maximum pendulum deflection with persons and cargo (if carried) Portmm Starboardmm

Maximum angle of heel with persons and cargo (if carried) Port° Starboard°

Tests witnessed by.....Qualifications.....Date...../...../20....



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Notes accompanying the Stability Application form for motor vessels under 24 metres operating in Categories 2 to 6, carrying less than 16 persons, carrying up to 1000kg cargo, not lifting, or towing.

Use of ISO 12217 It is now possible to use the ISO provided that the tests and calculations carried out for RCD approval are submitted and are verified by the Certifying Authority as applicable to the vessel in question, however the Owner's route to the information is through the builder who may in turn have difficulty extracting the calculations and information from his Notified Body and the alternative tests detailed in this Stability Application form may be the easiest and cheapest method of achieving a Stability Category.

In addition the vessel is to be inclined as set out in annex 12 of the Code.

The Certifying Authority will make a charge for verifying the information. Tests and calculations should be witnessed by the Nominated Surveyor or other qualified person acceptable to the Certifying Authority who will also make a charge for his attendance. In addition the Certifying Authority will make a charge for any necessary translation work should the information from the Notified Body be submitted in a foreign language.

Cargo.

Certificates will be issued for a vessel to carry a combination of persons and cargo to the total weight of persons on board carrying out the tests (at 75kg per person). For example a vessel tested with 6 persons would be certificated for 6 persons or a combination of persons and cargo totaling (6 x 75kg) 450kg. If she passes the various tests with additional cargo this will be added to the certificate thus with a larger vessel she could well be certified for, say, 15 persons plus 750kg cargo or a combination of up to 15 persons and cargo not exceeding 2125kg of which the cargo element must not exceed 1000kg. Owners should be aware of the consequences of overloading particularly with vessels used for diving.

GM Calculation for all vessels over 15 metres length. Categories 2 to 6
 (Code section 11.4.2 and 11.4.3)

Heeling moment. Total weight of persons for calculation 1.kg
 Distance off centerline for calculation 1.metres
 Heel Angle of heel with persons only for calculation 1.°
 Displacement Fully laden with all persons on board for calculation 1.kg

If cargo is carried Total weight of persons and stowed cargo for calculation 2.kg
 Computed distance off centerline for calc 2metres
 Heel Angle of heel with persons and cargo on board for calc 2°
 Displacement Fully laden with all persons and cargo for calculation 2.kg

Displacements **calculated/estimated**

Calculation $GM = \frac{\text{Heeling moment} \times 57.3}{\text{Displacement} \times \text{Angle of heel}}$

Persons only $GM = \frac{\text{kg} \times \text{metres} \times 57.3}{\text{kg} \times \text{degrees}} = \dots\dots\dots\text{metres}$
 (calculation 1)

Persons and cargo $GM = \frac{\text{kg} \times \text{metres} \times 57.3}{\text{kg} \times \text{degrees}} = \dots\dots\dots\text{metres}$
 (calculation 2)

Calculation 2 This test is applicable if the vessel is to carry any cargo in addition to the number of persons for which the vessel is to be certified.
 A further calculation will be required to arrive at the final heeling moment arm with the cargo stowed and allowance made for the additional displacement.

Minimum allowed GM with calculated displacement 0.35 metres
 with estimated displacement 0.5 metres

Calculated displacement from lines plan, service draughts and known added weights, or weighing the vessel
 Estimated displacement from the best estimated displacement using block coefficients, known displacements of similar vessels etc.

Tests witnessed byQualifications.....Date...../...../20.....