ATTACHMENT N2

Stability Calculation and Simplified Stability Test for yachts less than 24 metres in length

1. Stability Calculation

1. 1 The stability shall be calculated in accordance to EN ISO12217-1 for non-sailing yachts and EN ISO 12217-2 for sailing yachts with regards to the following design categories:

a) Category 'A' (Ocean Going) - Wind force exceeding beaufort 8 and significant wave height exceeding 4m;
b) Category 'B' (Offshore) - Wind force up to and including beaufort 8 and significant wave height up to and including 4m.
c) Category 'C' (Inshore) - wind force up to and including 6, significant wave height up to and including 2m

2. Simplified Stability Test

2.1 A yacht shall be tested in fully laden conditions with all fuel tanks and fresh water tanks being full and having onboard the total number of persons which the yacht is certified to carry or a 75kg weight replacing each of the above mentioned persons. By assembling all persons/weights along one side of the yacht, the angle of the heel and the change in waterline height are calculated.

2.2 The yachts will be judged to have an acceptable standard of stability if the test shows that:

a) The angle of heel does not exceed 7 degrees; and
b) In the case of a yacht with a watertight weather-deck extending from stem to stern, as described in article 15, the freeboard to deck is not less than 75mm at any point.
c) The angle of heel may exceed 7 degrees, but shall not exceed 10 degrees, if the freeboard in the heeled condition is in accordance with that required in article 61 and 62 in the upright condition;

2.3 It should be demonstrated by test or by calculation that an open boat, when fully swamped, is capable of supporting its full outfit of equipment, the total number of persons for which it is to be certificated and a mass equivalent to its engine and full tank of fuel.

2.4 The heeling moment applied during the test described above shall also be calculated. By using the below formula, the yacht shall attain a value of initial GM not less than 0.5m if using an

estimated displacement of the yacht, or 0.35m if the displacement of the yacht is known and can be verified by the classification of society or appointed surveyor.

$$GM = \frac{57.3 \times HM}{\theta \times \Delta}$$

Where:

HM = Heeling moment in kilogram-meters
θ = angle of heel in degrees obtained from the test as defined above.
Δ = the displacement of the yacht in kilograms, either estimated or measured and verified by the classification of society or appointed surveyor.