



IRC Empty Weight for Large Boats

By Flotation and Calculation

1. The following is generally applicable to boats of LOA > 24.08m or with weight > 25 tonnes. Exceptionally, and by prior agreement with the IRC Rating Authority, it may be acceptable for smaller and/or lighter boats. The information defined by Appendix 1 shall be supplied.
2. When supplying flotation data for the purpose of calculating IRC Empty Weight, a full inventory of the weight of ALL water (fresh, grey and black), fuel, and consumable stores aboard shall be supplied. In the absence of sufficient detail, the IRC Rating Authority may deduct 6% from the calculated IRC Empty Weight. See also 4. below.
3. The IRC Rating Authority or an IRC Rule Authority may require that the condition of a boat be officially inspected and/or the freeboards officially measured before issue of an IRC certificate.
4. The boat shall be in either:
 - i) IRC Empty Weight condition.
 - ii) Light Ship condition defined as:

The boat equipped to race including sails, equipment, galley and other stores and spares normally carried aboard while racing, and safety equipment for an Offshore Special Regulations Category 4 race. The weight of all fresh, grey and black water, and fuel shall be declared and will be deducted.
 - iii) By prior agreement with the IRC Rating Authority, any other condition. In this case, a rigorous analysis of the weight and position of all equipment aboard that would require removal to achieve IRC Empty Weight Condition shall be supplied. The IRC Rating Authority reserves the right to refuse to accept this analysis or to require further information.

The Flotation Condition shall be declared.

5. Freeboard Aft shall be measured as y , the vertical distance above the waterplane of the aftmost point of the hull on the centreline (in the case of a counter stern projected to the aft end of LOA). Exceptionally, and only with the prior agreement of the Rating Authority, Freeboard Aft may be measured in another location. For issue of an endorsed certificate, this point shall be permanently marked (by eg a screw) on the boat.
6. Freeboard Forward shall be measured:
 - i) in the case of a boat with h greater than 0, as h , the vertical distance from the waterplane to the lowest point on the stem at a tangent of 45° to the horizontal.
 - ii) in the case of a boat with h equal to 0, as the vertical distance from the waterplane to a defined point on the stem. For issue of an endorsed certificate, this point shall be permanently marked (by eg a screw) on the boat.

Exceptionally, and only with the prior agreement of the Rating Authority, Freeboard Forward may be measured in another location. For issue of an endorsed certificate, this point shall be permanently marked (by eg a screw) on the boat.

7. The naval architect will calculate the weight of the boat in the stated condition and advise the IRC Rating Authority together with a statement of the condition of the boat. If any correction is made to measured freeboards to account for the specific gravity of the water, these corrections shall be declared.



8. A boat may alternatively request that the weight calculation be carried out by the IRC Rating Authority in which case a hull offset file shall be supplied in a format acceptable to the IRC Rating Authority. A fee will be payable.
9. For a boat in Light Ship condition, the IRC Rating Authority will calculate IRC Empty Weight as 96% of the calculated weight.



Appendix 1: IRC Empty Weight for Large Boats By Flotation and Calculation

Boat Details			
Name:	...	Sail Number:	...
Design:	...	IRC Certificate No.:	...
Flotation Condition			
Empty	<input type="checkbox"/>	Light Ship	<input type="checkbox"/>
		Other	<input type="checkbox"/>
If 'Other', then only by prior agreement with the IRC Rating Authority. Full details shall be supplied.			
Water, Fuel, Consumable Stores			
Fresh water (litres)	...	Grey water (litres)	...
Fuel (litres)	...	Consumable stores (kg)	...
		Black water (litres)	...
Freeboards			
Measured by (name)	...	Water Specific Gravity	...
Freeboard Aft, y (m)	...	Freeboard Forward, h, (m)	...
OR	vertical distance to Freeboard Aft Point (m)	...	
	vertical distance to Freeboard Forward Point (m)	...	
(If not y and h, Freeboard Points shall be PERMANENTLY marked (by eg a screw) for issue of an IRC Endorsed certificate)			
Declaration By Official Measurer/Inspector (if applicable)			
Name	...		
Freeboards measured (Yes/No)	...	Flotation Condition inspected (Yes/No)	...
I confirm that I measured and/or inspected the above boat and that to the best of my knowledge the above information is correct. If any errors or omissions are found, I will promptly advise the IRC Rating Authority.			
Signed	...	Date	...
Calculated Data			
Freeboard Aft corrected for SG (m)	...	Freeboard Forward corrected for SG (m)	...
Calculated displacement in measured condition (kg)			...
Total weight of water, fuel and consumable stores (kg)			...
Net weight in Flotation Condition (kg)			...
Declaration By Naval Architect (if applicable)			
Name	...	Company	...
I confirm that I carried out the above calculations and that to the best of my knowledge the information supplied is correct. If any errors or omissions are found, I will promptly advise IRC Rating Authority.			
Signed	...	Date	...
Declaration By Owner or Representative of the Boat			
Name	...		
I request the IRC Rating Authority to calculate the weight of the boat (Yes/No) ...			
I confirm that the boat and her equipment will remain unaltered. If changes are made that might affect the calculated weight, or if any errors or omissions are found, I will promptly advise the IRC Rating Authority.			
Signed	...	Date	...