

Tonnage Measurement

Origins of Tonnage



The present concept of tonnage measurement dates back at least to the early middle ages. Tonnage duties were assessed on tuns (casks or barrels) of wine. Each tun held approximately 252 gallons of wine, weighing 2240 pounds, from which we get the “long ton” measure of weight.

By the late 1700’s, systems were in place in Europe to assign tonnages to reflect vessel carrying capacity in “tons” of roughly 100 cubic feet each (a measure of volume related to the size of a standardized cask or barrel).

Using tonnage for tax purposes is addressed in the United States Constitution, and was the subject of the 3rd and 5th Acts of the First Congress.

CHAPTER III.

An ACT imposing DUTIES on TONNAGE.

Section 1. **B**E it enacted by the SENATE and HOUSE of REPRESENTATIVES of the United States of America in Congress assembled, That the following duties shall be, and are hereby imposed on all ships or vessels entered in the United States, that is to say:

CHAPTER V.

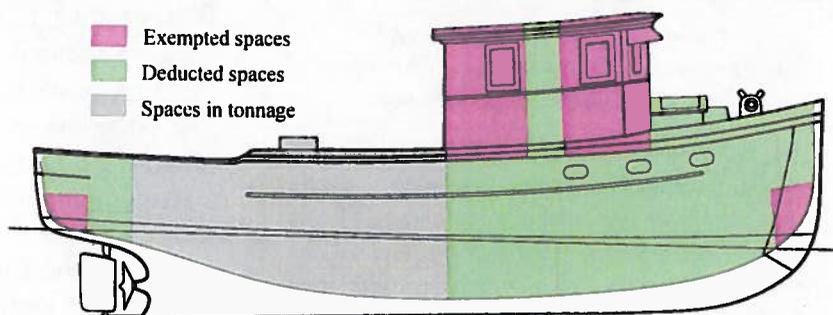
An ACT to regulate the COLLECTION of the DUTIES imposed by Law on the TONNAGE of SHIPS or VESSELS, and on GOODS, WARES and MERCHANDIZES imported into the United States.

What is net tonnage?

Net tonnage is a volumetric measure of a vessel’s useful capacity, for which a number of different measurement systems are in use worldwide. U.S. law requires tonnage measurement for any vessel for which the application of a U.S. law depends on the vessel’s tonnage. Owners of U.S. vessels less than 79 feet in length may choose measurement under one of two older U.S. Formal Measurement Systems (the Standard or Dual Regulatory Measurement Systems), or the U.S. Simplified Regulatory Measurement System. The U.S. tonnage measurement program is administered by the Coast Guard Marine Safety Center ([MSC](#)).

How do the measurement systems differ?

Formal (Standard or Dual) measurement involves the calculation of net tonnage using a complex series of measurements, exemptions and deductions, and is performed by an authorized measurement organization for a substantive fee paid by the vessel owner. Simplified measurement involves the calculation of net tonnage using a simplified formula, with owner-provided principal dimensions and other characteristics as the inputs. While taken as a group, the resulting net tonnages are comparable between formally and simplified measured vessels, the tonnage differences may vary significantly for individual vessels.



How is net tonnage certified?

This depends on how the vessel is measured. For formally measured vessels, the measurement organization certifies the net tonnage through issuance of a tonnage certificate. For simplified measured vessels, no comparable document is issued (excepting certain novel craft, for which the Coast Guard will issue a tonnage certificate). Instead, a completed Application for Simplified Measurement (form [CG-5397](#)) or, for documented vessels, a Builder’s Certification (form [CG-1261](#)) serves as evidence of the measurement of the vessel, from which the net tonnage may be calculated by interested parties.

Tonnage Measurement (continued)

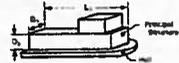
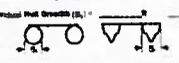
How do I choose a measurement system?

This depends on the circumstances specific to your vessel. In general, owners of most vessels less than 79 feet in overall length opt for the Simplified System, as this system often yields tonnages meeting their objectives while avoiding the cost of Formal measurement. Please be aware that under U.S. law, if a vessel is not formally measured, the Simplified System applies by default, regardless of whether an Application for Simplified Measurement (form [CG-5397](#)) is completed.

Can I calculate the net tonnage?

This depends on the measurement system used. While in all cases, the method for calculating tonnage is detailed in the tonnage regulations, Formal System rules are complex, and measurement is best left to individuals experienced in using these rules (e.g., authorized measurement organizations). Conversely, Simplified System rules are more straightforward, and the formulas for calculating tonnage have been programmed into the electronic Adobe .pdf version of the Simplified Application form. An owner can ascertain net tonnage by entering vessel data into this form, with the tonnage appearing in the form's upper left hand corner.

*Application for Simplified Measurement
(form CG-5397)*

<p>Vessel Type: Monohull Gross Tonnage: 97 Net Tonnage: 77</p>	DEPARTMENT OF HOMELAND SECURITY U.S. Coast Guard APPLICATION FOR SIMPLIFIED MEASUREMENT
OMB No. 1625-0122	
I. APPLICABILITY	
4. U.S. flag vessels are eligible to be measured under the Simplified system 46 CFR 67.03-2(a) if it is either: (1) less than 79 feet in overall length, or (2) less than 200 gross registered tons, or (3) a pleasure vessel. Some vessels that are 79 feet or more in overall length may also qualify for measurement under the Simplified system 46 CFR 67.03-2(b)(3). This includes vessels that engage in pleasure voyages, as well as recreational vessels that engage in voyages outside the Great Lakes and have not had class after December 31, 1923. Refer to 46 CFR 67.03-1 for complete measurement eligibility rules.	
II. VESSEL DATA	
1. VESSEL NAME: JOHNNY K 2. HULL ID No.: KYZ123450899 3. HULL MATERIAL: <input type="checkbox"/> Wood <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Fiberglass Reinforced Plastic (e.g. fiberglass) <input type="checkbox"/> Aluminum <input type="checkbox"/> Concrete <input type="checkbox"/> Other 4. PROPULSION MACHINERY: <input checked="" type="checkbox"/> Located inside hull (e.g. inboard engine or stern drive) <input type="checkbox"/> Located outside hull (e.g. outboard motor) <input type="checkbox"/> Non-self-propelled (not fitted with any propulsion machinery) 5. SHAPE OF HULL(S): (See attached vessels. Show the hull's level above/below the center line) <input checked="" type="checkbox"/> Powerboat, ship or structure <input type="checkbox"/> Sailboat (distinct hull for no keel) <input type="checkbox"/> Row or surge <input type="checkbox"/> Sailboat integral hull (hull is fitted to hull) 6. OVERALL DIMENSIONS: Overall Length (L) = 65.0 m 10 ft Overall Breadth (B) = 18.0 m 2 ft Overall Depth (D) = 12.0 m 1 ft	7. ADDITIONAL DIMENSIONS FOR LARGE DECK STRUCTURES: Structure Length (L _s) = _____ m _____ ft Structure Breadth (B _s) = _____ m _____ ft Structure Depth (D _s) = _____ m _____ ft  8. ADDITIONAL DIMENSION FOR TWIN HULL VESSELS: (Applies only if there is no buoyant volume in the structure that connects the hulls together) Inter-hull Breadth (B _i) = _____ m _____ ft  9. ADDITIONAL DIMENSIONS FOR TRI-HULL VESSELS: (Applies only if there is no buoyant volume in the structure that connects the hulls together) Center Hull Length (L _c) = _____ m _____ ft Center Hull Breadth (B _c) = _____ m _____ ft Center Hull Depth (D _c) = _____ m _____ ft Outer Hull Length (L _o) = _____ m _____ ft Outer Hull Breadth (B _o) = _____ m _____ ft Outer Hull Depth (D _o) = _____ m _____ ft 
III. STATEMENT OF REPRESENTATION	
I understand that, under the provisions of 46 CFR 67.03-2, a person making a true statement in representation in this application may be fined up to \$20,000 and that the owner and I take no claim for the penalty. I certify that the information provided by me above is correct. Owner's printed name: Bruce Robertson Owner's signature: _____ Date: 1/8/2015 CG-5397 (01/15) Page 1 of 2	

**United States Coast Guard
Maritime Information eXchange
Port State Information eXchange**

The Port State Information eXchange (PSIX) system, updated weekly, contains vessel-specific information, including tonnage, on U.S. flag vessels, foreign vessels operating in U.S. waters, and Coast Guard contacts with those vessels. For undocumented vessels, tonnage information may appear, but is not certified as to its accuracy. (<https://cgmix.uscg.mil/psix/>)

Where can I find evidence of prior measurement?

For documented vessels, the assigned tonnages appear on the COD, regardless of the measurement system used, and can also be found in the Coast Guard's publically available PSIX vessel information system. For other vessels, there is no corresponding federal document or data system that provides such evidence of tonnage. The Coast Guard recommends that a copy of the tonnage certificate (if formally measured) or a completed Simplified Application (if simplified measured) be carried onboard any undocumented commercial vessel less than 79 feet in overall length for presentation to law enforcement personnel.



For further information

Refer to the U.S. Documentation and Tonnage Regulations (46 CFR 67 and 46 CFR 69, respectively), and the websites of the following governmental organizations: [NVDC](#), [MSC](#), [CBP](#), and [MARAD](#). In addition, the MSC maintains useful links to related documents and web pages on its website: <http://www.uscg.mil/hq/msc/tonnage/links.asp>.

This publication is intended to provide information to assist industry, mariners, the general public, and the Coast Guard, as well as other federal and state regulators, in understanding statutory and regulatory requirements related to certain aspects of vessel documentation and tonnage. It is not intended as, nor should it be construed to represent, a revision of or substitute for applicable statutes or regulations or established interpretations of either.