



TECHNICAL CIRCULAR No. 580 of 08th September 2019

To	All Surveyors/Auditors
Applicable to flag	All Flags
Title	PRE 1969" Tonnage admeasurement
Reference	ITC 69

Procedure for a "PRE 1969" Tonnage admeasurement:

Required Drawing	Primary Purpose
General arrangement incl. plan and profile view	General layout
Detailed accommodation plans	Measurement of exempted and deducted spaces
Capacity plan	Verify ballast tank calculations
Engine room arrangement drawings	Measurement of engine room and non-propelling spaces
Lines plan	Measurement of hull volume
Construction profile	Determine framing system
Midship section plan and structural sections	Define side and bottom framing transverse sections
Forepeak structural framing	Define forward framing
(Aft Peak) structural framing	Define aft framing
Shell expansion	Verify framing information

If a 1969 tonnage has been calculated, the underdeck of a "Pre-1969" tonnage can be determined by preparing a framing table (i.e., definition of the side and bottom framing throughout the hull) and utilizing the "Undeck" routine. This will result in an underdeck tonnage compatible with all Pre-1969 systems (i.e., within the framing boundaries), particularly with regard to proper number and location of tonnage stations within the hull.

If an International (1969) tonnage has not been calculated, the process is different. In order to calculate a "Pre- 1969" underdeck tonnage, from scratch: A) ascertain the tonnage length

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(between the stem and stern frames); B) divide the length into the proper number of stations (as defined by regulations); and C) measure the areas at each point of division (i.e., tonnage section) within the framing system. After determining each area, calculate the overall underdeck volume. If this volume is calculated in cubic meters, divide by 2.83 to determine tons, or if volume is shown in cubic feet, divide by 100 to arrive at tons (in Pre-1969 systems one ton equals 100 cubic feet).

If this Pre-1969 underdeck is to be used for U.S. Regulatory Tonnage, now determine the tonnage of water ballast spaces, utilizing the above process, in order to exempt the tonnage of the ballast spaces from the total underdeck. Other Pre-1969 regulations have their own ballast treatments and will be applied accordingly. Once the underdeck has been calculated, the spaces on/above the upper deck require to be admeasured.

Each level of superstructure/deck house is measured separately using the length and breadth to the inner face of the frames and the steel to steel height. After the total tonnage for the house is calculated, measure each individual space within the structure which can be exempted from the gross. Each Pre-1969 regulation has its own listing of permissible exemptions. Upon completion of all tiers (levels) of superstructure, add the sum of the houses to the under deck and to determine the Pre-1969 gross tonnage.

c. Before proceeding with calculation of Pre-1969 net tonnage, it should be noted that the admeasurer has to be aware of each Regulation's requirements and peculiarities regarding exemptions. Of particular importance is the U.S. Pre-1969 tonnage regulations. The admeasurer must be aware of not only what is exemptible but also "Qualifiers" placed on these items. For example, a space fitted with "Tonnage Openings" can be exempted as an "Open Space".

However, the admeasurer must know the following regarding tonnage openings:

- i) A single tonnage opening must be at least 4 feet wide by 5 feet high, located on centerline.
- ii) Two tonnage openings must be at least 3 feet wide by 4 feet high, located one port side - one starboard.
- iii) Openings must be located in end bulkheads of the structure (side openings have different requirements).
- iv) They can only be "closed" by means of a plate lying against the bulkhead, held in place by hook bolts (no closer than 12 ins. apart).
- v) They can only be weather-tight (i.e., no gasketing).
- vi) If a coaming is fitted, it cannot exceed 24 inches.

This is but one example of the required knowledge Admeasure must possess.

d. After the "Pre-1969" gross tonnage has been determined (Items C-1 and C-2), the Pre-1969 net tonnage must be calculated.

A Pre-1969 net tonnage is the result of subtracting spaces (i.e., deductions) from gross to arrive at net. All spaces eligible for deduction (i.e., crew spaces, certain navigation spaces, propelling power spaces, and water ballast spaces - depending on regulation) must be individually measured. Once measured, these spaces are summarized by category and subtracted from gross.

e. As was the case with items Exemptible from gross tonnage, spaces to be deducted have their own requirements for deductibility. Some of these requirements are:

- i) All deductible spaces must be properly certified (i.e., marked) in accordance with National Regulations.

With regard to propelling power space deduction, it is not the actual tonnage of the engine room/propelling space which is deducted but rather a tonnage derived as follows:

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- Determination of engine room's total tonnage.
- Measurement of all spaces not absolutely required to operate the engine but located within engine room (i.e., ballast pumps, workshops, stores, spare parts, etc.). These spaces, called non-propelling items, are then subtracted from the total engine room tonnage to arrive at "Actual Engine Room tonnage".
- The next step is to ascertain what percentage the "Actual Engine Room" is of the gross tonnage. This percentage will determine the propelling power deduction. If the Actual E.R. is 13% of gross or less, deduction is Actual E.R. x 32/13. If the percentage is between 13.1% to 20%, the deduction is 32% of gross tonnage. Finally, if the Actual E.R. is greater than 20%, the deduction is either actual E.R. x 1.75 or 32% of gross, whichever the owner elects.

REFERENCES:

- ITC 69 Measurements

- ATTACHMENTS: No

Kindest Regards,
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