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Shipbuilding and marine structures — Numbering of equipment and structural elements in ships

*Construction navale et structures maritimes — Numérotation des matériels et éléments de
structure des navires*

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Reference number
ISO 5572:1987 (E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5572 was prepared by Technical Committee ISO/TC 8, *Shipbuilding and marine structures*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Shipbuilding and marine structures — Numbering of equipment and structural elements in ships

1 Scope and field of application

This International Standard specifies the conventions to be used in numbering reference stations, waterlines, structural frames, transverse bulkheads, decks, compartments (holds, 'tween-decks, tanks), hatchways, masts and cargo-handling equipment where reference numbers are required for use in computer programs.

It applies in particular to conventional mono-hull merchant ships, and may require adaptation for other configurations and for warships.

The existence of this International Standard does not release the designers of computer programs from the obligation to provide flexibility to accommodate other conventions which may be required in particular circumstances but the conventions specified may be used as default options.

2 Reference stations

Design stations used as reference stations in the length of the ship shall be numbered according to a decimal system based on either 10 or 100 primary intervals between the perpendiculars, the after perpendicular being designated station 0.0 and the forward perpendicular either station 10.0 or station 100.0. The remaining primary stations shall be expressed as decimal numbers having zero as the fractional part (e.g. 5.0 or 50.0). Where intermediate stations are required they should be identified by decimal fractions (e.g. 9.75 or 97.5). The scale may be extended beyond the perpendiculars, stations aft of the after perpendicular being given negative decimal numbers.

This system of numbering is intended primarily as a means of labelling stations for reference purposes, but it is preferable that the numbers correspond to the actual positions of the stations according to a linear scale.

3 Waterlines

Waterlines shall be identified by their heights in metres above the baseline; they may be spaced as required. Where hull form data is presented in non-dimensional form, waterline heights shall be normalized as decimal fractions of the designed load waterline height.

4 Structural frames

Structural frames shall be identified by integer numbers. The first frame forward of the after perpendicular, or the frame at the after perpendicular if coincident, shall be designated frame 0 (zero) and the remaining frames shall be numbered in sequence, frames forward of frame 0 being given positive integer numbers and frames after frame 0 negative integer numbers.

Transverse bulkheads, web frames and part frames which do not extend around the whole section shall be included in the sequence of frame numbers. Bulkheads shall also be numbered in the bulkhead sequence given in clause 5.

5 Transverse bulkheads

Transverse bulkheads shall be identified by integer numbers. The bulkheads shall be numbered in sequence starting with the aftermost bulkhead which shall be designated bulkhead 1.

6 Decks

The main deck shall be designated deck 1 and the lower decks shall be numbered in sequence, deck 2, deck 3, etc. In ships with a double bottom, the inner bottom or tank top shall be included and will terminate the sequence. Decks which do not extend over the whole length of the ship shall be included in the sequence when the total length of the deck is equal to or greater than 50 % of the length between perpendiculars. Portions of decks which are not continuous shall be treated as parts of the same deck where the change in deck height at the break does not exceed 30 % of the 'tween-deck height to the next deck above. Decks with a combined length of less than 50 % of the length between perpendiculars need not be included in the sequence and may be separately identified in an *ad hoc* system dependent on the design configuration of the ship.

Superstructure decks shall be identified by a sequence of integer numbers, prefixed by an alphabetic character. The character for a superstructure deck in general shall be the letter S; this may be replaced by the letters P, B or F to indicate poop, bridge or forecastle decks respectively. The first superstructure deck above the main deck shall be designated S1 and the higher decks S2, S3, etc. in sequence. See the figure for examples.

7 Compartments (holds, 'tween-decks, tanks)

Compartments shall be identified by a code containing a maximum of eight characters comprised of four fields as follows :

xx x xxx(xx)

These four fields provide the following information respectively :

- Field 1 : An integer in the range 1 to 99 representing the sequence number of the compartment as defined in 7.1 to 7.3 for holds, 'tween-decks and tanks respectively.
- Field 2 : A single alphabetic character indicating a centreline, port side or starboard side compartment, e.g. C, P or S.

NOTE — Field 2 may be empty where there is only one compartment of the particular kind (hold, 'tween-decks or tank) within the section and this compartment is on the centreline.

- Field 3 : Alphanumeric characters or spaces constituting a further identifier, e.g.

UPR indicating upper,
LWR indicating lower,
IBD indicating inboard,
OBD indicating outboard,
FWD indicating forward,
AFT indicating aft,
NO1, NO2, NO3, etc.

NOTE — Field 3 may be empty where fields 1 and 2 provide unambiguous identification.

- Field 4 : Two alphabetical characters indicating function or service, e.g.

RF indicating refrigerated,
FW indicating fresh water,
OF indicating oil fuel,
DT indicating deep tank.

NOTE — Field 4 is optional.

In printed output on drawings and in formatted running text, fields shall not be space filled and empty fields shall be omitted. The field separator shall be a space, except for field 4 which is to be printed between parentheses.

Examples :

HOLD 2(DT)
TANK 15 P(FW)
TWDK 4 LWR(RF)
TANK 10 S3

No requirements, other than length of field and type, are defined for the alphabetic and alphanumeric strings to be used in fields 3 and 4. It is recommended that they should be meaningful abbreviations in relation to national language and the requirements of the design configuration and service of the ship in question. See the figure for examples.

7.1 Holds

Holds shall be numbered in sequence starting at the foremost hold which shall be designated hold 1.

Where holds are sub-divided longitudinally, each compartment shall be referenced by the same number in field 1 and distinguished by unique identifiers in field 3. Where there is a centreline compartment, this shall be taken as determining the sequence number in field 1.

No requirement is laid down for the identifiers to be used in field 3 to distinguish multiple wing compartments because of the variations in configuration possible but it is recommended that if a numerical notation is used, then the sequence should increase from inboard to outboard and from forward to aft.

7.2 'Tween-decks

For cargo 'tween-deck spaces, the number in field 1 shall be the same as that for the corresponding hold.

7.3 Tanks

The method of numbering tanks shall be the same as for holds, but a separate sequence shall be used. Where the fore-and-aft extent of an outboard tank does not coincide with that of a centre tank, the number of the foremost centreline tank with which it overlaps shall determine the number to be used in field 1.

All tanks shall be numbered within a single sequence, tanks serving different purposes being distinguished by the entry in field 4. Compartments designed as deep tanks to carry either dry cargo or liquid cargo or water ballast shall be treated as holds.

8 Hatchways

The 4-field format specified for compartments shall also be used for hatchways. For cargo hatchways, the number in field 1 shall be the same as that of the corresponding hold.

9 Masts

The 4-field format specified for compartments shall also be used for masts. Masts shall be numbered from forward. For masts at the centreline, fields 2 and 3 will be empty.

10 Cargo-handling equipment

The 4-field format specified for compartments shall be used for cargo derricks, winches and deck cranes.

10.1 Derricks

For derricks, the number in field 1 should be the same as that for the mast on which the derrick is rigged.

10.2 Winches

For winches, the number in field 1 should be the same as that for the mast with which the winch is associated.

10.3 Deck cranes

Cranes shall be numbered from forward, the foremost crane, or cranes, being numbered 1 in field 1.

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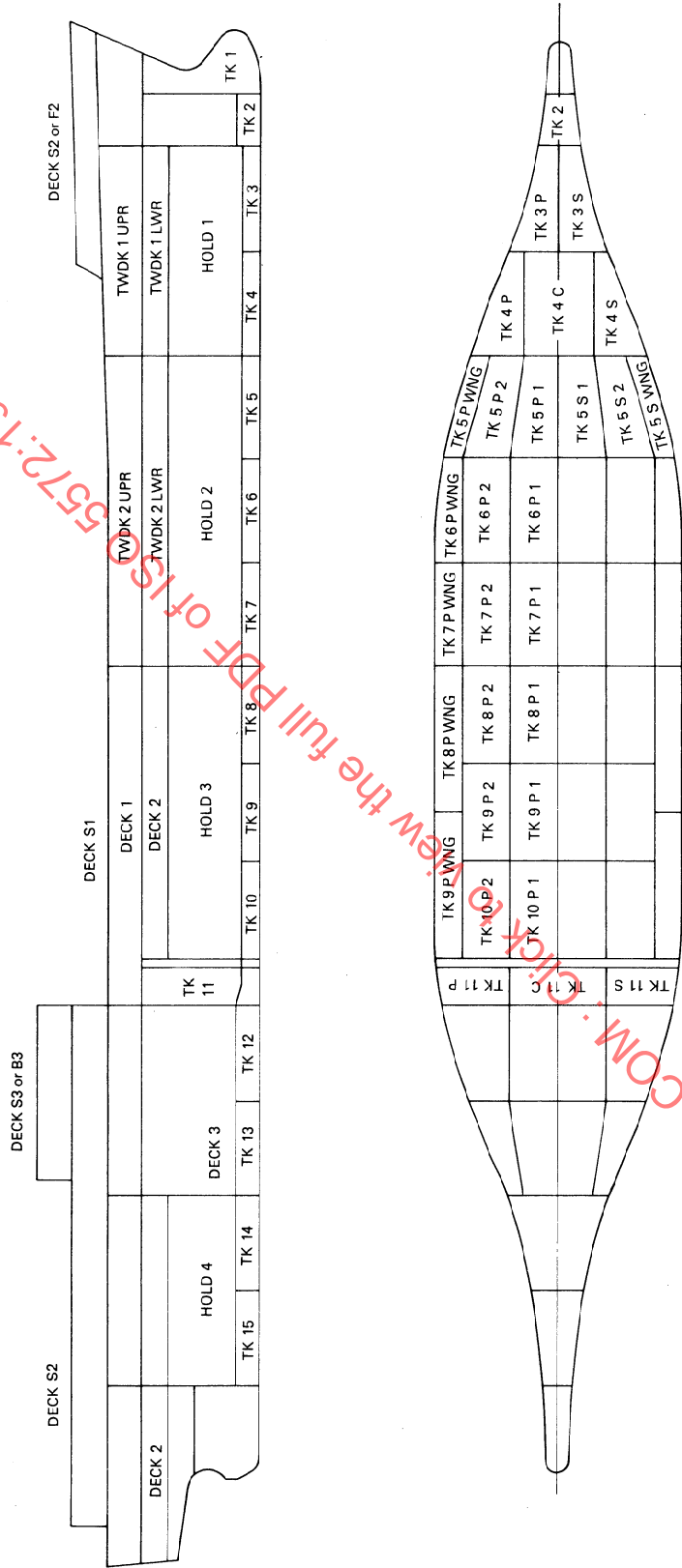


Figure — Examples of numbering of decks and compartments