INTERNATIONAL STANDARD

ISO 8666

Second edition
2016-07-01

Small craft — Principal data

Petits navires — Données principales

Reference number
ISO 8666:2016(E)

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 188, *Small craft*.

This second edition cancels and replaces the first edition (ISO 8666:2002), which has been technically revised with the following main changes:

— definitions 2.7 to 2.13 have been added;

— list of symbols in Table 1 has been extended;

— 4.3.5 and 4.3.6 have been added;

— 4.5.2, 4.5.3 and 4.5.4 have been added, and "projected sail area" has been deleted;

— 6.4 to 6.8 have been added;

— 7.1 has been modified and 7.3 added;

— clause on owner's manual has been deleted.

Small craft — Principal data

1 Scope

This International Standard establishes definitions of main dimensions and related data and of mass specifications and loading conditions. It applies to small craft having a length of the hull (L_H) of up to 24 m.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE For units, see Clause 3.

2.1
waterline
WL
intersection line of the water's surface with the craft's hull when the *craft* (2.13) is afloat

2.2
maximum load waterline
reference waterline
WL_{ref}
waterline (2.1) of the *craft* (2.13) when upright in the maximum *loaded displacement* (2.5.1)

2.3
sheerline
intersection between deck and hull, for rounded deck edges the natural intersection, or, where no deck is fitted or the hull extends above the deck (bulwark), the upper edge of the craft's hull

Note 1 to entry: The upper position of the sheerline depends on the inclination between the hull/deck intersection and the actual deck.

2.4
transom beam
B_T
maximum width of the hull at the transom at or below the *sheerline* (2.3), excluding extensions, handles and fittings

Note 1 to entry: Where spray rails act as chines or part of the planing surface, they are included in the transom beam measurement.

Note 2 to entry: For *craft* (2.13) with a rounded or pointed stern or with a transom beam of less than half the maximum beam of the craft, the transom beam, B_T, is the widest beam at or below the sheerline at the aft quarter length of the hull.

2.5
displacement
mass of water displaced by the *craft* (2.13), including all appendages

2.5.1
loaded displacement
m_{LDC}
mass of water displaced by the *craft* (2.13), including all appendages, when in the fully loaded ready-for-use condition

Note 1 to entry: Fully loaded ready-for use condition is described in 6.3.

2.5.2
displacement volume
V_D
volume of water displaced by the *craft* (2.13) that corresponds to the *displacement* (2.5)

Note 1 to entry: Where the density of water used to calculate the volume of displacement is not salt water at a density of 1 025 kg/m^3, the density of water used to calculate the volume of displacement is specified.

2.6
tank capacity
net usable volume of the tank(s) for the *craft* (2.13) in *design trim* (2.11) at rest at the *maximum load waterline* (2.2)

2.7
wing mast
spar characterized by its cross-section which shows a smooth transition at the aft end into the sail, thus, contributing to its driving force

2.8
non-sailing boat
craft (2.13) for which the primary means of propulsion is other than by wind power, having *reference sail area* (2.10) (A_S) < 0,07 (m_{LDC})$^{2/3}$

2.9
sailing boat
craft (2.13) for which the primary means of propulsion is by wind power, having *reference sail area* (2.10) (A_S) ≥ 0,07 (m_{LDC})$^{2/3}$

2.10
reference sail area
A_S
actual profile area of sails set abaft a mast, plus the maximum profile areas of all masts, plus reference triangle area(s) forward of each mast

2.11
design trim
longitudinal attitude of the *craft* (2.13) when upright, with crew, fluids, stores, and equipment in the position(s) and load condition(s) designated by the designer or builder

2.12
underway
not at anchor, or made fast to the shore, or aground

2.13
craft
small craft
recreational boat, and other watercraft using similar equipment, of up to 24 m length of hull (L_H)

3 Symbols, designations and units

Unless specifically otherwise defined, the symbols, designations and units used in this International Standard are given in Table 1.

Table 1 — Symbols, designations and units

Symbol	Designation	Unit	Clause
A_{IV}	Windage area	m^2	4.5.4
A_S	Reference sail area	m^2	4.5.2
A'_S	Standard sail area	m^2	4.5.3

Table 1 *(continued)*

Symbol	Designation	Unit	Clause
B_{CB}	Beam between hull centers	m	4.3.6
B_H	Beam of hull	m	4.3.3
B_{max}	Maximum beam	m	4.3.2
B_{WL}	Beam, waterline	m	4.3.4
B_{WLmax}	Maximum beam, waterline	m	4.3.5
B_T	Transom beam	m	2.4
D_{max}	Maximum depth	m	4.4.1
$D_{LWL/2}$	Midship depth	m	4.4.2
F	Freeboard	m	4.4.3
F_A	Freeboard, aft	m	4.4.3.2
F_F	Freeboard, forward	m	4.4.3.4
F_M	Freeboard, amidships	m	4.4.3.3
H_a	Draught, air	m	4.4.5
L_H	Length of the hull	m	4.2.3
L_{max}	Maximum length	m	4.2.2
L_{WL}	Waterline length	m	4.2.4
m_G	Gross shipping mass	kg	5.2
m_{LDC}	Loaded displacement	kg	2.5.1
m_{LC}	Light craft mass	kg	5.3
m_N	Net shipping mass	kg	5.1
m_P	Performance test mass	kg	5.4
m_T	Mass of craft when towed on trailer	kg	5.5
m_{ML}	Maximum load	kg	5.6
T	Draught	m	4.4.4
T_C	Draught, canoe body	m	4.4.4.4
T_{max}	Draught, maximum	m	4.4.4.2
T_{min}	Draught, minimum	m	4.4.4.3
V_D	Displacement volume	m^3	2.5.2
V	Volume of the craft	m^3	4.5.5
V_H	Volume of the hull	m^3	4.5.5.2
V_S	Volume of the superstructure	m^3	4.5.5.3
WL	Waterline		2.1
WL_{ref}	Maximum load waterline		2.2
β	Deadrise angle	degrees	4.5.1

4 Measurements

4.1 General

Measurements shall be established with the craft at rest at the maximum load waterline/reference waterline, WL_{ref}, unless otherwise stated.

4.2 Longitudinal

4.2.1 General

The lengths of a craft shall be measured parallel to the maximum load waterline/reference waterline and craft centreline as the distance between two vertical planes, perpendicular to the centreplane of the craft.

4.2.2 Maximum length, L_{max}

The maximum length (L_{max}) shall be measured in accordance with 4.2.1, one plane tangent through the foremost part and the other through the aftermost part of the craft.

This length includes all structural and integral parts of the craft, such as stems or sterns, bulwarks, and hull/deck joints.

This length includes parts which are normally fixed, such as fixed spars, bowsprits, pulpits at either end of the craft, stemhead fittings, rudders, outboard motor brackets, outdrives, waterjets, and any propulsion units extending beyond the transom, diving and boarding platforms, rubbing strakes, and permanent fenders.

Outdrives, waterjets, other propulsion units, and all movable parts shall be measured in their normal operating condition to their maximum lengthwise extension when the craft is underway.

This length excludes the following:

— outboard motors;

— any other type of equipment that can be detached without the use of tools.

See Figure 1 for monohull measurements and Figure 2 for multihull measurements.

4.2.3 Length of the hull, L_H

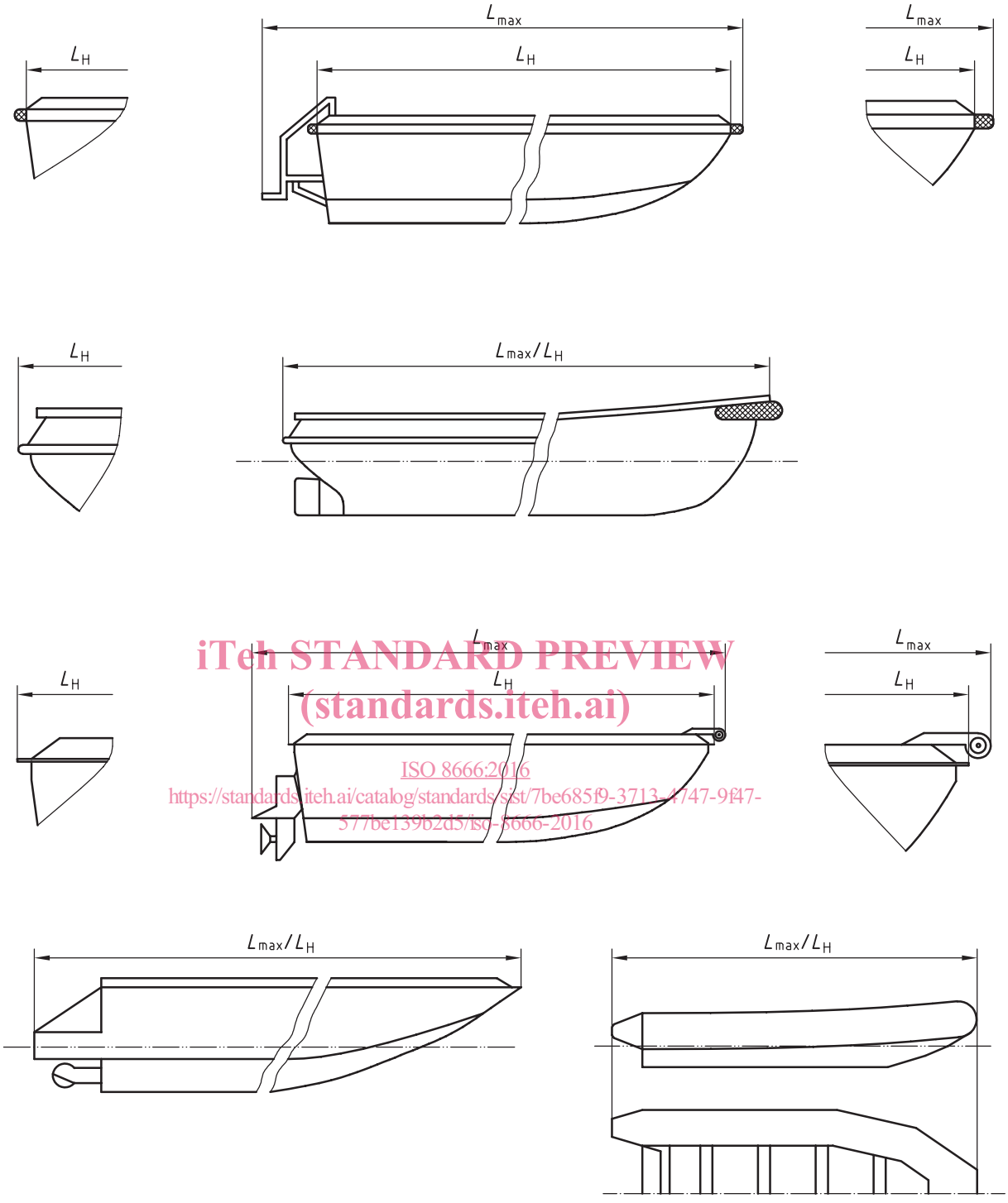
The length of the hull (L_H) shall be measured in accordance with 4.2.1, one plane passing through the foremost part of the craft and the other through the aftermost part of the craft.

This length includes all structural and integral parts of the craft, such as stems or sterns, bulwarks, and hull/deck joints.

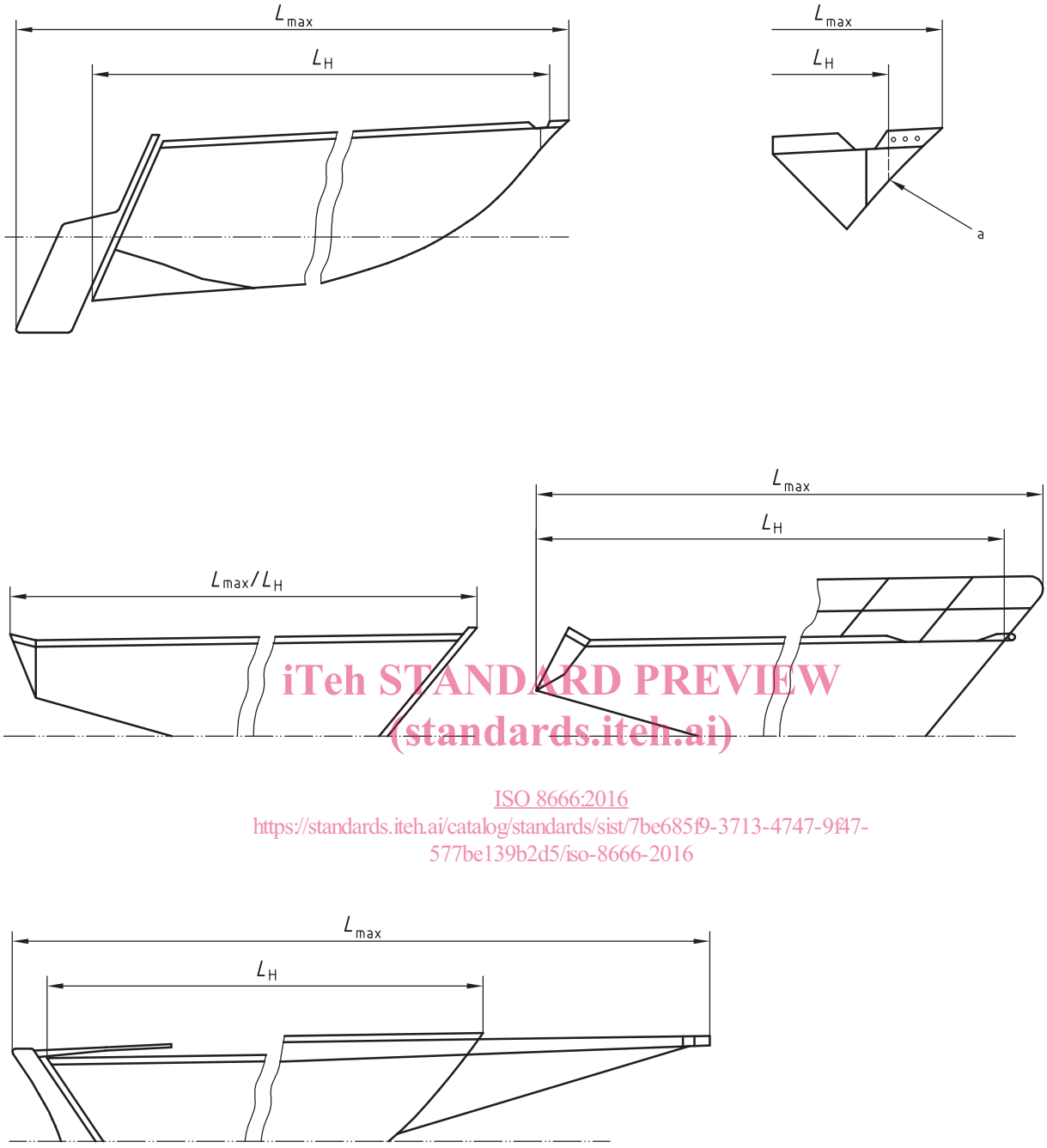
This length excludes removable parts that can be detached in a non-destructive manner and without affecting the structural integrity of the craft, e.g. spars, bowsprits, pulpits at either end of the craft, stemhead fittings, rudders, outdrives, outboard motors and their mounting brackets and plates, diving platforms, boarding platforms, rubbing strakes, and fenders if they do not act as hydrostatic support when the watercraft is at rest or underway.

With multihull craft, the length of each hull shall be measured individually. The length of the hull, L_H, shall be taken as the longest of the individual measurements.

See Figure 1 for monohull measurements and Figure 2 for multihull measurements.



a) Determination of L_{max} and L_H for monohull non-sailing boats



b) Determination of L_{max} and L_H for monohull sailing boats

Key

a Hull ends here.

Figure 1 — Determination of L_{max} and L_H for monohull craft