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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 19314.5-2019

**Small craft -- Hull construction and scantlings -- Part 5: Design
pressures for monohulls, design stresses, scantlings
determination**

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Standardization Administration**

Table of Contents

Foreword

1 Scope

2 Normative references

Foreword

GB/T 19314 "Small boat hull structure and component size" is divided into 9 parts.

--- Part 1. Materials. thermosetting resins, glass fiber reinforced plastics, reference laminates;

--- Part 2. Materials. core materials for embedded structures, embedded materials;

--- Part 3. Materials. steel, aluminum alloy, wood, other materials;

--- Part 4. Workshop and manufacturing;

--- Part 5. Determination of design pressure, design stress and component size of single vessel;

--- Part 6. Structural arrangements and details;

--- Part 7. Determination of the dimensions of multi-hull ship components;

--- Part 8. Rudder;

--- Part 9. Sailboat possession.

This part is the fifth part of GB/T 19314.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the translation method equivalent to ISO 12215-5:2008 "Small boat structure and component dimensions - Part 5. Monohull

Determination of gauge pressure, design stress, and component dimensions.

This section incorporates amendments to ISO 12215-5:2008/Amd1:2004, and the provisions of these amendments have been adopted in

The vertical double line (||) of the outer margin is marked.

The documents of our country that have a consistent correspondence with the international documents that are normatively quoted in the main body of this part are as follows.

--- GB/T 19314.3-2019 dinghy structure and component dimensions - Part 3. Materials.

steel, aluminium alloy, timber, other

Materials (ISO 12215-3:2002, IDT)

GB/T 19314.6-2019 hull structure and component dimensions - Part 6. Structural arrangements and details (ISO 12215-

6:2008, IDT)

Aerospace and hull structures and components - Part 9. Sailboat attachments (ISO 12215-9.

2012, IDT)

---GB/T 19919-2005 Small boat windows, side scuttles, hatch covers, storm covers and door strength and tightness requirements (ISO 12216.

2002, IDT)

---GB/T 20895-2007 (all parts) Assessment and classification of dinghy stability and buoyancy (ISO 12217:2002, IDT)

The documents of our country that have a consistent correspondence with the normatively cited international documents in the appendix of this section are as follows.

Determination of tensile properties of plastics -- Part 1 . General (ISO 527-1:1993, IDT)

Plastics -- Determination of tensile properties of plastics -- Part 2 . Test conditions for moulding and extruded plastics

(ISO 527-2:1993, IDT)

---GB/T 8813-2008 Determination of compression properties of rigid foams (ISO 844:2004, IDT)

---GB/T 6343-2009 Determination of apparent density of foams and rubber (ISO 845:2006, IDT)

---GB/T 9341-2008 Determination of bending properties of plastics (ISO 178:2001, IDT)

---GB/T 10007-2008 Test method for shear strength of rigid foams (ISO 1922:2001, IDT)

This section also made the following editorial changes.

--- Change the unit of AS in Table 1 from "m" to "m²".

This part is proposed and managed by the National Small Boat Standardization Technical Committee (SAC/TC241).

This section drafted by. China Shipbuilding Corporation, the 708th Institute.

1 Scope

This part of GB/T 19314 is applicable to boats with a hull length (LH) of 2.5m~24m according to GB/T 19916-2005.

Design pressure and stress, as well as small monomers made from fiber reinforced plastic, steel, aluminum alloy, glued wood or other suitable boat construction materials

The dimensions of the boat's components (including internal components). This section only applies to dinghy in good condition.

This section only applies to boats with full displacement and maximum speed not exceeding 50 kn.

When assessing the stability, freeboard and buoyancy of a dinghy according to ISO 12217, the assessment shall include all assumptions that the hull is watertight or weathertight.

In part, this is necessary for the safety of the hull and crew.

In order to obtain the full component size, this part needs to be combined with ISO 12215-6, ISO 12215-7, ISO 12215-8 and

ISO 12215-9.

The dimensions of windows, side scuttles, storm covers, hatch covers and doors are determined according to ISO 12216. The structure supporting these components satisfies this part of the

Claim.

Note 1. This part of the component size is mainly used in recreational boats (including recreational rental boats, excluding rowing).

Note 2. This section assumes that the component dimensions are only determined by the local load.

Note 3. This part considers that the component dimensions meet the minimum strength requirements of the motor boat and sail boat in safe and reliable operation and normal environment.

The pressure and stress units are typically Pa, kPa or MPa. In order to make the user better understand this part, the pressure unit uses thousands of cattle per square meter.

(kPas) ($1 \text{ kN/m}^2 = 1 \text{ kPa}$), stress or modulus of elasticity in Newtons per square millimeter (MPa) ($1 \text{ N/mm}^2 = 1 \text{ MPa}$).

2 Normative references

The following documents are indispensable for the application of this document. For dated

references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 19916-2005 Main data of small boats (ISO 8666.2002, IDT)

ISO 12215-3 hull structures and component dimensions - Part 3. Materials. steel, aluminium, wood, or other materials (Small

craft-Hull construction and scantlings-Part 3. Materials. Steel, aluminium alloys, wood, other materials)

ISO 12215-6. hull structure and component dimensions - Part 6. Structural arrangements and details (Small craft-Hull

construction and scantlings-Part 6. Structural arrangements and details)

Specification for hull structure and component dimensions - Part 7. Determination of dimensions of multi-hulls (Small craft-Hull

construction and scantlings-Part 7. Scantling determination of multi-hulls)

ISO 12215-9 hull structure and component dimensions - Part 9. Sailcraft-Hull construction and scantlings-Part 9. Sailing boats-Appendages and rig attachment)

ISO 12216 small boat windows, portholes, hatch covers, storm covers and door strength and tightness requirements (Small craft-Windows,

Portlights, hatches, deadlights and doors-Strength and watertightness requirements)

ISO 12217 (all parts) Assessment and classification of dinghy stability and buoyancy (Small craft-Stability and buoyancy as-

essment and categorization)