



財團法人驗船中心
CR CLASSIFICATION SOCIETY

**RULES FOR THE CONSTRUCTION AND
CLASSIFICATION OF HIGH-SPEED CRAFT 2022**

AMENDMENT

July 2023



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The following Parts have been amended and the effective dates are:	
Part	Effective date
I	1 July, 2023
II	1 July, 2023
III	1 July, 2023

The Rules for the Construction and Classification of High-Speed Craft 2022 and this Amendment are to be consolidated and published as July 2023 Edition.

AMENDMENT TO "THE RULES FOR THE CONSTRUCTION AND CLASSIFICATION OF
HIGH-SPEED CRAFT 2022"

PART I CLASSIFICATION AND SURVEY

List of major changes in Part I from 2022 edition

1.6.2(f)(iii) Revised

Table I 1-6 Revised

Rules for the Construction and Classification of High-Speed Craft 2022 have been partly amended as follows:

Chapter 1 Classification of High-Speed Craft

Paragraph 1.6.2(f)(iii) has been amended as follows:

1.6 Surveys of Craft

1.6.2 Classification initial survey during construction

(f) Hull Survey for New Construction

(iii) Newbuilding survey planning

Prior to commencement of surveys for any newbuilding project, a kick-off meeting shall be carried out. A record of the meeting is to be made. The records are to take note of specific published Administration requirements and interpretations of statutory requirements. The shipyard shall be requested to advise of any changes to the activities agreed at the kick-off meeting and these are to be documented. Shipbuilding quality standards for the hull structure during new construction are to be reviewed and agreed during the kick-off meeting. Structural fabrication is to be carried out in accordance with IACS Recommendation 47, "Shipbuilding and Repair Quality Standard", or a recognized fabrication standard which has been accepted by the Society prior to the commencement of fabrication/construction. The work is to be carried out in accordance with the Rules and under survey of the Society. In the event of series craft production* consideration may be given to waiving the requirement for a kick-off meeting for the second and subsequent craft **provided that no changes to the specific activities agreed in the kick off meeting for the first ship are introduced. If any changes are introduced, these are to be agreed in a new dedicated meeting and documented in a record of such meeting.**

***Series Ship Production: craft in the series subsequent to the first one (prototype), i.e. sister ships built in the same shipyard.**

Table I 1-6 has been amended as follows:

**Table I 1-6
List of Service Restriction Notation**

Notation	Description	Reference
Coastal Service	Service along a coast, the geographical limits of which will be indicated in the Register, and for a distance out to sea generally not exceeding 30 nautical miles, unless some other distance is specified for 'Coastal Service' by the Administration with which the ship is registered, or by the Administration of the coast off which it is operating, as applicable. The operation/service limitations, such as significant wave height, or maximum voyage, etc., may be indicated in the bracket affixed after this notation.	
Greater Coastal Service	Service along a coast in restricted area within 200 nautical miles from the safe harbor or place of refuge, the geographical limits of which will be indicated in the Register, and for a distance out to sea generally farther than the area of Coastal Service in domestic voyage or for the geographical limits of the intended service accepted to the Society. The operation/service limitations, such as significant wave height, or maximum voyage, etc., may be indicated in the bracket affixed after this notation.	
Protected Waters Service	Service in sheltered water adjacent to sand banks, reefs, breakwaters or other coastal features, and in sheltered waters between islands.	
Specified Operating Area Service	Service within one or more geographical area(s) which will be indicated in the Register.	
Specified Route Service	Service between two or more ports or other geographical features which will be indicated in the Register.	

AMENDMENT TO "THE RULES FOR THE CONSTRUCTION AND CLASSIFICATION OF
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PART II MATERIALS AND WELDING

List of major changes in Part II from 2022 edition

2.7.7 Deleted

2.8.1~2.8.2 Revised

Rules for the Construction and Classification of High-Speed Craft 2022 have been partly amended as follows:

Chapter 2 Aluminium Alloy Welding in Hull Construction during Construction

Paragraph 2.7.7 has been deleted as follows:

2.7 Approval of Welding Procedures

2.7.1 Scope of Application

This section gives general requirements for the qualification tests of the welding procedures intended to be used for the aluminium alloys for hull construction and marine structures specified in Part XI Chapter 11 of the Rules for Steel Ships. This section specifically excludes the welding procedure intended for LNG containment.

.....

~~2.7.7 The Surveyor's Acceptance~~

~~The Surveyor may, at his discretion, accept a welding consumable, welding procedure, or both, in a shipyard or fabricator's plant where it is established to his satisfaction that they have been adequately used for similar work under similar conditions.~~

Paragraph 2.8.1~2.8.2 have been amended as follows:

2.8 Welder Qualifications

2.8.1 General

The Surveyor is to be satisfied that the welders and operators are proficient in the type of work which they are called upon to perform, either through requiring any or all of the tests outlined in the following paragraphs or through due consideration of the system of employment, training, apprenticeship, plant testing, inspection, etc., ~~employed.~~

2.8.2 Welder's Qualification Tests

The welder's qualification tests are to be in accordance with Part XII Chapter 3 of the Rules for Steel Ships. ~~Qualification of welders for a particular alloy may be acceptable for qualification of the welder for other aluminium alloys.~~ Separate qualification tests are to be made for the gas metal arc and gas tungsten arc processes.

AMENDMENT TO "THE RULES FOR THE CONSTRUCTION AND CLASSIFICATION OF
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PART III HULL CONSTRUCTION AND EQUIPMENT

List of major changes in Part III from 2022 edition

5.1.3(a)(iii)	Revised
5.1.3(a)(iv)	New
Fig. III 5-2	New

Rules for the Construction and Classification of High-Speed Craft 2022 have been partly amended as follows:

Chapter 5 Equipment

Paragraph 5.1.3(a)(iii)&(iv) have been amended as follows:

5.1 Equipment

5.1.3 Equipment number

(a) General

- (i) The equipment is in general to be in accordance with the requirements given in Table III 5-1, and may be reduced as per Table III 5-2 in accordance with the ship's Service Restriction Notation.
- (ii) When two bow anchors are fitted, the mass of each anchor, the diameter and the length of each chain cable are to comply with the requirements given in Table III 5-1.
- (iii) The equipment number EN **for monohull craft** is to be calculated as follows:

$$EN = \Delta^{\frac{2}{3}} + 2 \cdot \left[a \cdot B + \sum_i (b_i \cdot h_i \cdot \sin \theta_i) \right] + 0.1A$$

where

- | | | | |
|------------|---|---|----------------|
| Δ | = | the maximum displacement | t |
| H | = | effective height from the summer load waterline to the top of the uppermost deckhouse, to be measured as follows: | m |
| | | $H = a + \sum h_i \sin \theta_i$ | |
| a | = | the distance from summer load water line amidships to the upper deck at side | m |
| b_i | = | breadth in m of each tier of superstructure and deckhouses having an actual breadth of 0.25B | |
| h_i | = | the height on the centerline of each tier of deck houses having an actual breadth greater than B/4 0.25B , where B is the breadth as defined in 1.1.4 of this Part | m |
| θ_i | = | the angle of inclination aft of each front bulkhead as shown on Fig. III 5-1 | |
| A | = | the area in profile view of the hull superstructures and deck houses above the summer load waterline which is within the rule length of the craft defined in 1.1.2 of this Part and with a breadth greater than B/4 0.25B . | m ² |

In the measurement of $\sum h_i$ and A, sheer and trim are to be ignored.

If a deck house broader than ~~B/4~~**0.25B** is placed on top of another deck house equal to or less than ~~B/4~~**0.25B** in breadth, only the widest is to be considered and the narrowest may be ignored.

Windscreens or bulwarks and hatch coamings more than 1.5 m in height above the deck at side are to be regarded as parts of superstructures and houses when determining H and A.

In the calculation of A, when a bulwark is more than 1.5 m in height, the crosshatched area of Fig. III 5-1 is to be considered.

For catamarans, the cross-sectional area of the tunnel above the waterline may be deducted from BH in the formula.

- (iv) **The equipment number EN for multi-hull craft is to be calculated as follows:**

$$EN = K_m \Delta^{\frac{2}{3}} + 2 \cdot \left[a \cdot B + \sum_i (b_i \cdot h_i \cdot \sin \theta_i) - S_t \right] + 0.1A$$

where

for craft with N identical hulls: $K_m = N^{\frac{1}{3}}$

i.e.:

for catamarans: $K_m = 1.26$

for trimarans: $K_m = 1.44$

for quadrimarans: $K_m = 1.59$

for craft with one mid hull and $2 \cdot n$ non-identical lateral hulls ($N = 2 \cdot n + 1$):

(N odd)

$$K_m = \frac{(B_0 \cdot T_0)^{\frac{2}{3}} + 2 \cdot \sum_{i=1}^n (B_i \cdot T_i)^{\frac{2}{3}}}{(B_0 \cdot T_0 + 2 \sum_{i=1}^n B_i \cdot T_i)^{\frac{2}{3}}}$$

for craft with non-identical hulls, but of an even number ($N = 2 \cdot n$):

(N even)

$$K_m = 2^{\frac{1}{3}} \cdot \frac{\sum_{i=1}^n (B_i \cdot T_i)^{\frac{2}{3}}}{(\sum_{i=1}^n B_i \cdot T_i)^{\frac{2}{3}}}$$

- S_t = transverse area, amidships, of the tunnel(s) existing between the hulls and the waterline m²
- B_0, T_0 = breadth and draught of the mid hull (if any), measured amidship (see Fig. III 5-2) m
- B_i, T_i = breadth and draught of the lateral hulls, measured amidship (see Fig. III 5-2) m
- N = total number of craft hulls
- n = number of lateral hulls on one side of the longitudinal symmetry plane of the craft
- Δ = total displacement of the craft t
- Other symbols are defined in 5.1.3(a)(iii)

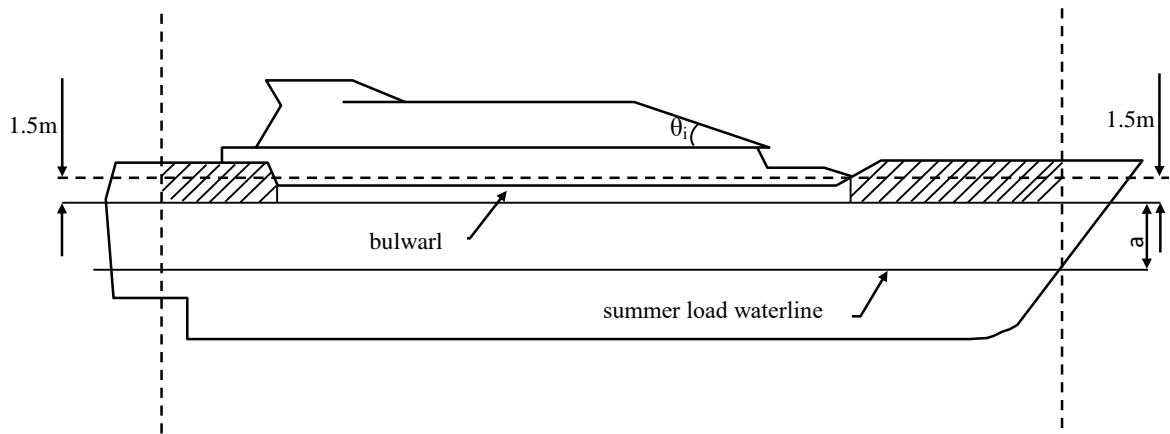
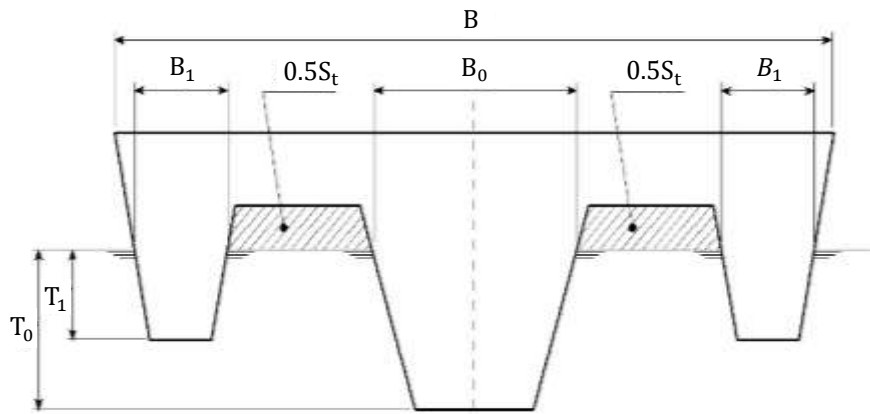


Fig. III 5-1

Fig. III 5-2 has been added as follows:



In the example $N = 3$ and $n = 1$. In cases where N is even: $B_0 = T_0 = 0$

Fig. III 5-2
Multihull with Tunnel Area



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