

*Mini20*

# Class Rule

20

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## **Introduction**

This class rule is based on the Mini 40 class rule and aims to create a framework for smaller multihull yachts that can be sailed with rigs and sails from the RG65 class. The limitation of width and length, as a "box rule," is chosen so that a certain constructive creativity remains. This class rule is intended to provide the growing 3D printing community with a simple RC sailing-framework for comparable and competitive yachts within the usual build plate sizes of common printers.

### **1. General Information**

- 1.1 The Mini 20 yachts are multihull yachts. The class rule is an "open class rule," meaning that everything not specifically prohibited is allowed. Individual rules restrict or limit this where necessary.
- 1.2 The Mini 20 is a multihull development class that allows the construction of a yacht based on an RG65 sail rig.
- 1.3 All owners are responsible for complying with the class regulations.
- 1.4 Length measurements are given in millimeters and area measurements in square centimeters.

### **2. Hull and Floats**

- 2.1 Catamarans, proas, and trimarans are allowed, potentially with foils.
- 2.2 The front 6 mm of hulls and floats must be equipped with a bow bumper made of elastic material.
- 2.3 Dimensions:
  - The maximum overall length is 72 cm.
  - The maximum overall width is 72 cm.
- 2.4 The overall length is measured along the yacht's central axis, and the width is measured at a 90-degree angle to it.
- 2.5 The overall length and width, measured in the design flotation position, include all appendages, including rudders or, if applicable, foils.

### **3. Appendages and Ballast**

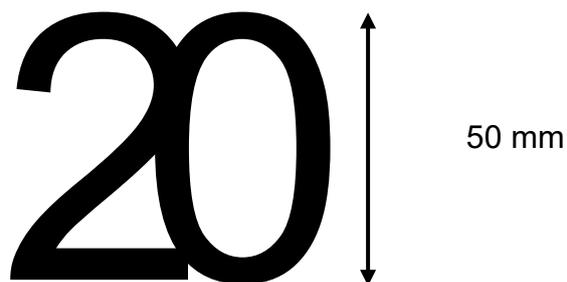
- 3.1 Movable ballast must not protrude beyond the overall length and width at any time.
- 3.2 Ballast may have a maximum density of 11.3 kg/dm<sup>3</sup>.
- 3.3 Water ballast is allowed.
- 3.4 Changes to the ballast are permitted at any time, even during the regatta.

#### **4. Rig**

- 4.1 The number of alternatively used rigs is unrestricted.
- 4.2 Mast areas are integrated into the maximum sail area if the mast diameter exceeds 10 mm.
- 4.3 Swing rigs and wing masts are allowed.
- 4.4 The maximum diameter of booms and spars is 10 mm.
- 4.5 No part of the rig may extend beyond the overall length when the sails are positioned along the central axis.

#### **5. Sails**

- 5.1 The maximum sail area of a single sail set is 2250 cm<sup>2</sup>.
- 5.2 A sail set consists of a maximum of one foresail and one mainsail.
- 5.3 The number of alternatively used sail sets is unrestricted. Only the largest sail set or the largest sail is measured if the rig carries only one sail.
- 5.4 The material and construction of the sails are unrestricted.
- 5.5 Sail areas, whether made of rigid or flexible material, must be calculable using the intended measurement.
- 5.6 Sail markings (sail numbers and nationality markings) should be chosen according to the specifications of the RG65 class regulations.
- 5.7 The class symbol is a 2 overlapped by a 0. The dimensions are as per the following drawing. The letter thickness is 5 mm.



## 6. Sail Area Measurement

6.1 The total sail area consists of the mainsail area (SG), the jib area (SF), and the mast area (SM).

$$S = SG + SF + SM$$

6.2 The mainsail area is calculated as follows:

$$SG = L \times (M0 + 4 \times M1 + 2 \times M2 + 4 \times M3) / 12 + 2 \times (M0 \times E) / 3$$

Where L is the smaller measurement of LC and LD.

M0 is the length of the foot.

M1, M2, and M3 are the lengths between the quarter measurement points found by appropriately dividing the leech or the luff.

6.3 The jib area is calculated as follows:

$$SF = L \times (J0 + 4 \times J1 + 2 \times J2 + 4 \times J3) / 12 + 2 \times (J0 \times D) / 3$$

Where L is the smaller measurement of LA and LB.

J0 is the length of the foot.

J1, J2, and J3 are the lengths between the quarter measurement points found by appropriately dividing the leech or the luff.

6.4 The mast area is calculated as follows, if the maximum diameter exceeds 10 mm:

$$SM = H \times E$$

Where H is the length of the mast, and E is the average mast width from 5 measurements distributed over the mast length.

Drawing for sail measurement:

