

# CHALLENGER OF RECORD & DEFENDER

## AMERICA'S CUP 36

### AC75 Interpretation 026

of

### AC75 Class Rule Version 1.5 issued <sup>22nd</sup> August 2019

#### Rule References:

- 11.7 Any surface that can support the crew must be at least 0.100 m above **MWP**.
- 11.19 The minimum areal density of any part of the **hull shell** shall be 2 kg/m<sup>2</sup>. (Note that this Rule does not imply any stiffness, strength or robustness targets; it exists only to ensure that a **hull shell** is a solid structure and not, for example, a film-covered space frame structure.)
- 28.7 Crew shall not enter the watertight volume of the **hull**.
- 28.8 Crew shall remain entirely aft of a plane 9.0 m forward of **TRP** except briefly to cross the boat, handle sails during a drop or a hoist, or resolve unforeseen issues.
- 28.9 Any crew that go forward of a plane 11.0 m forward of **TRP** may only do so as permitted by Rule 28.8, and must be tethered to the **hull** by a harness and safety line that complies with ISO 12401, the safety line being no longer than 2 m.
- 28.10 No part of the crew, except the upper body (i.e. above the waist) of a crew member that is helming, shall be in a sustained position outside an extrusion of the **perimeter line** perpendicular to **MWP**.
- 35.52 **Hull shell**
- The monolithic or sandwich panel construction that forms the structure of the **hull surface**, excluding internal structure and local reinforcements such as bulkheads, ring frames, longitudinal beams, stringers or taping details.

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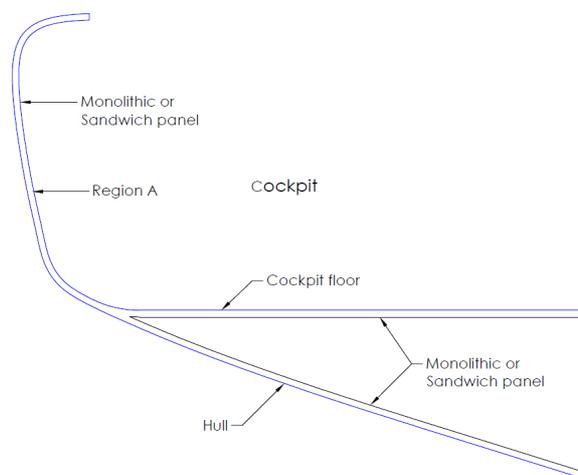
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### Questions:

- I. Regarding surfaces that can support the crew:
  - a) Does rule 11.7 apply to parts of the **hull** described in rules 28.7 – 28.10 where crew are not permitted to be in a sustained position whilst racing, for example, inside the **hull** on the inner skin of the **hull** bottom, forward of 9.0 m, or on the outboard topsides of a **yacht** such that some part of the crew would be outside an extrusion of the **perimeter line** perpendicular to **MWP**?
  - b) Does rule 11.7 apply to areas of the **hull** where the crew could not physically be during racing, such as **hull surface** that is covered by a hardware component attached to the **yacht** and unable to be moved during racing, or a part of the **hull surface** that exists in an area too small for a crew member to be present in?
  - c) If the answer to question I(b) is 'No', how will the **Measurement Committee** determine what areas a crew member could physically be during racing?
  - d) Does rule 11.7, found under rule section 11 "**Hull**", apply only to **hulls**, or to all parts of a **yacht** such as **foils, sails** and hardware?
  - e) Does rule 11.7 apply to areas of the **hull surface** below 0.100 m above **MWP** that could only support the crew at an extreme heel or trim angle?
  - f) If the answer to question I(e) is no, how will the **Measurement Committee** determine the heel and trim angles where rule 11.7 applies, and whether an area of **hull** can support the crew at a given heel or trim angle?
2. The sketch below shows a partial cross-section of a **hull**, in which two hull panels forming a cockpit floor and **hull lower surface** join at the edge of the cockpit. A single panel, labelled 'Region A', forms both the edge of the cockpit on one side and the **hull** topsides on the other.

The blue line represents part of the **hull surface** included in the **hull IGES**.

With reference to Rule 11.19, is it sufficient for the panel labelled 'Region A' to be 2 kg/m<sup>2</sup>, even though it is forming both sides of a **hull surface**?



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### Interpretation:

Not applicable.

### Answers:

1.

- a. Rule 11.7 applies to any part of the **yacht** where crew is permitted while racing, even if it is impractical or unlikely for crew to be in that area due to characteristics of individual designs or the way individual **yachts** are raced.
  - Rule 28.7 describes places that cannot legally be accessed by the crew during racing, so are not subject to rule 11.7.
  - Rule 28.8 references places that can legally be accessed while racing, so is subject to rule 11.7.
  - Rule 28.9 references places that can legally be accessed while racing, so is subject to rule 11.7.
  - Rule 28.10 says that crew (in general) shall not be outside the **perimeter line**. No part of the **hull** will be outside the **perimeter line**, so the application of rule 11.7 is irrelevant. However, for parts of the **hull** where the crew can legally be supported (e.g. the topsides inside the **perimeter line**), rule 11.7 shall apply.
- b. Any surface which can legally support the crew during racing is subject to rule 11.7 at all times while racing, including when that surface is deflected whilst supporting the crew. Specifically, if any hardware has a surface that can support the crew, that surface must conform to this rule, but not the surface underneath the hardware that cannot be accessed by the crew during racing.

If, to the satisfaction of the **Measurement Committee**, it is impossible to physically be in a position during racing, that surface does not have to be subject to rule 11.7.
- c. See answer to b.
- d. While rule 11.7 is in the section of the rule titled "**Hull**", titles of sections of the rule are for organizational purposes only. Individual rules within a section may have application to components other than those forming part of the component generally described by the title of that section, unless the context or wording clearly indicates otherwise. Rule 11.7 applies to all parts of the **yacht** that could or might be expected to support the weight of the crew in the normal course of racing.
- e. Rules 28.8, 28.9 and 28.10 refer to a coordinate system which remains stationary with the yacht while sailing.

Yes, it applies at all angles of heel and trim to any position that a crew member could sustain whilst racing without infringing other rules. In the event of a capsize, a crew member on the topsides or the hull bottom would not be considered to be in a sustained position.
- f. Not applicable.

2. Yes.

The hull shell forms the structure of the hull surface, but there is no restriction on a single part of the hull shell simultaneously forming the structure of two parts of the hull surface.

Apart, rule 11.19 explicitly states that the **hull shell** areal density requirement exists only to ensure that the **hull shell** is a solid structure. Where both sides of a single monolithic or sandwich panel form part of an exterior surface of the **hull**, the requirements of 11.19 are met if that panel has an areal density of no less than 2 kg/m<sup>2</sup>, provided the **Measurement Committee** determines that it is in fact a solid structure.

END