

# CHALLENGER OF RECORD & DEFENDER

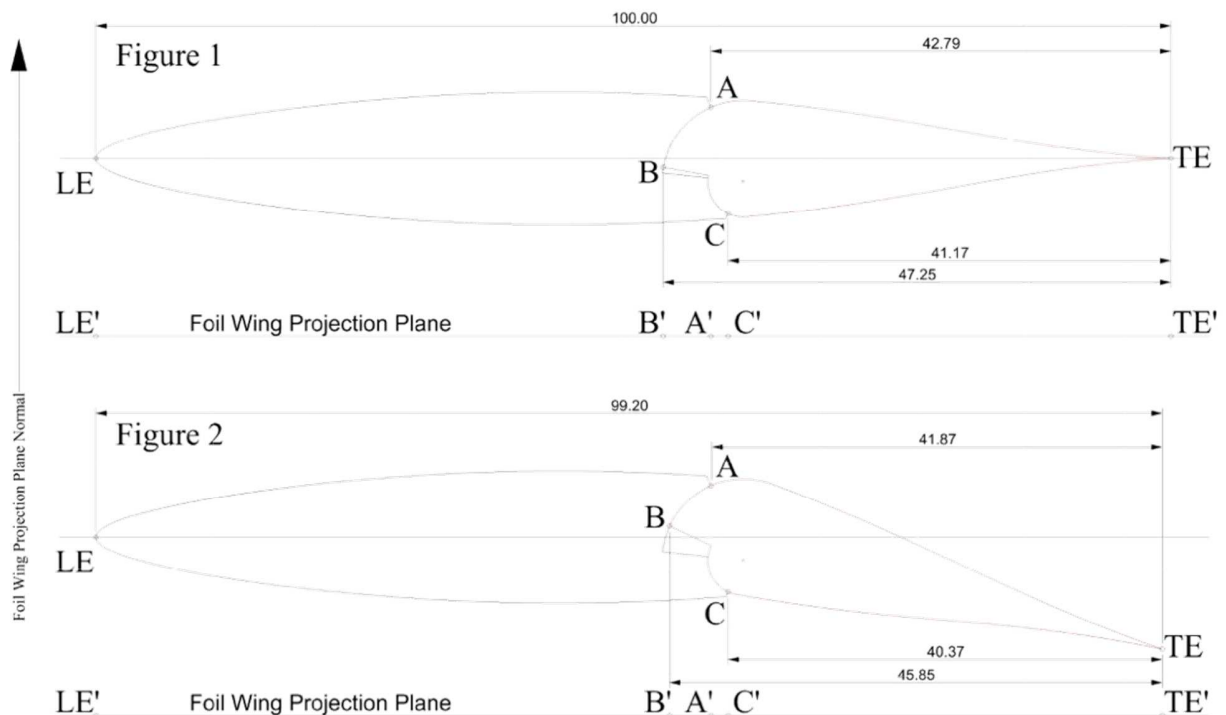
## AMERICA'S CUP 36

### Interpretation 028 of AC75 Class Rule Version 1.5 issued 22<sup>nd</sup> August 2019

#### Rules References:

- 15.7 At any cross-section and all rotation angles, when **projected** on to the **foil wing** projection plane, the length of a **foil flap** must not be greater than 50% of the chord length. Hinges or other parts of a component which occur at occasional cross-sections for connection purposes can be excluded from the **projected** lengths.
- 35.90 **Projected**  
The **projected** shape of a part is the shape of a shadow cast by that part on the specified plane from a parallel light source acting normal to that plane.
- 35.36 **Foil wing**  
Part of a **foil** that, in conjunction with a maximum of two **foil flaps**, produces most of the **foil's** lifting force.
- 35.35 **Foil flap**  
A component attached to a **foil wing** that rotates and twists to control the **foil's** lift.

#### Questions:



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Given Figure 1 and Figure 2, which represent the same cross-section of a **foil wing** and **foil flap** with two different **foil flap** rotation angles, please answer the following questions:

In relation to Class Rule 15.7, is the “length of the **foil flap**” measured:

1. In Figure 1:
  - a) from A' to TE'?
  - b) from B' to TE'?
  - c) from C' to TE'?
  - d) in any other manner? (if so which?)
  - e) What is the length of the **foil flap**?
2. In Figure 2:
  - a) from A' to TE'?
  - b) from B' to TE'?
  - c) from C' to TE'?
  - d) in any other manner? (if so which?)
  - e) What is the length of the **foil flap**?
3. In Figure 1, what is the measurement of the “chord length” as referred by Rule 15.7?
4. In Figure 2, what is the measurement of the “chord length” as referred by Rule 15.7?

### Interpretation:

Rule 15.7 imposes a maximum ratio between the length of a **foil flap** and the chord length (of the combination of **foil wing** and **foil flap**) when projected on to the **foil wing** projection plane. The term “Chord length” is defined in rule 15.3.

The length of a **foil flap** is not defined in the Rules. The Oxford English Dictionary defines the term “length” as:

***I.a.** The linear magnitude of any thing as measured from end to end; the greatest of the three dimensions of a body or figure; longitudinal extent.*

Rule 15.7 specifies that this rule must be applied at any cross-section (defined in 15.3) and when projected on to the **foil wing** projection plane.

Thus, the length measure(s) shall be taken along the line defined by the intersection of the two planes defined in 15.3 (a) (plane perpendicular to the **rondure**) and 15.3 (b) (the **foil wing** projection plane).

### Answers:

1.
  - a. No.
  - b. Yes.
  - c. No.
  - d. Not applicable.
  - e. 47.25.
2.
  - a. No.
  - b. Yes.
  - c. No.
  - d. Not applicable.

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e. 45.85.

3. Rule 15.7 refers to the chord length of the cross section (as defined in rule 15.3) and the cross section is the combination of **foil wing** and **foil flap**. Thus, the "chord length" in Fig. 1 is 100.00.
4. In Figure 2 the "chord length" is 99.20.

END.