



## AC34 Multihull Class Rule Concept Document

### PREAMBLE

The objective of this multihull rule is to create a class of boat capable of racing in wind speeds from 5 to 30 knots.

### CONCEPT

- Boat is to be a catamaran with good light-wind performance.
- Target boat speed for TWS below 10kn to be 1.2x TWS upwind; 1.6x TWS downwind.
- Hull-flying TWS (measured at 10m) to be 5kn upwind, 6kn downwind.
- Final dimensions for mast height, beam and displacement shall be the result of the Rule Author's research targeting the correct Hull-flying TWS and desired wind range.
- NOTE: dimensions with "\*" means dimension is available for review and modification by Rule Authors.
- Tight overall control on parameters so that length, beam, mast height are the same.
- Freedom with appendages and sail plan, but quantity of components controlled by Protocol.
- Boats shall be able to disassemble. The intent is to break down within 1 day and assemble within 2 days.
- All components must fit within defined volumes to allow for ease of freighting.

### PLATFORM

- Length: maximum overall length = 22m
- Beam: Maximum overall = 15.5m; Minimum overall = 15.4m\*.
- Beam of float centreline at amidships to be greater than 14m\*. The intent is to avoid boats oriented only to light winds by being narrower.
- Weight of platform in racing trim without mast, sails, people, fuel, media equipment shall be greater than 4000kg\* and less than 4200kg\*.
- Racing weight without fuel and media equipment shall be greater than 7200kg\* and less than 7400kg\* (to be finalised as per Concept Paragraph).
- Racing weight shall not vary more than 100kg\* during a series.
- No limitations on hollows or appendage attachment zones. This does not override maximum beam limit.
- Hull construction shall have limits to "advanced boat building technology level."
- Hull materials shall have a fibre limit based on common material selection criteria (rather than a hard limit) and high-grade boat building carbon-fibre only.
- All platform components, except appendages & mast, must fit within a box 22\* x 3\* x 2m\*.



- Details of the joints so that the platform can be disassembled are free.

## FLOATS

- 1m\* length of float stern to be replaceable overnight. Consideration to keeping steering out of this area.
- Outside skin on outboard sides shall be above a minimum weight.
- Crash bulkhead 2m\* aft of float bow.
- Aft crossbeam or equivalent structure to be no closer to the float stern than 1.5m forward.
- Each float shall be symmetrical about its own centreline.

## APPENDAGES

- During racing, appendages must remain within the platform dimensions (intent is that if the boat is at 0 heel, then it always fits within a box 22m\* x 15.5m\* x 44m\* above WL, and 22m\* x 15.5m\* x 4.4m\* below WL).
- Maximum racing draft 4.4\*m, measured upright, rig tension slack.
- Maximum moveable appendages shall be 4\* (intent is one rudder and one bilgeboard without trim tab per float so that symmetrical rudder rotates about single, near-vertical axis; bilgeboard may be asymmetrical, curved, canted, yawed and raised).

## WING RIG

- Concept allows a wing with multiple rotating elements on a single pivot on the platform.
- Profile area limit: Wing must fit within defined volumes - 2 of A and 4 of B (E.g.: 2 longitudinal parts of front element with multiple smaller flap elements).
- Volume A 22\*m x 3\*m x 1.5\*m; Volume B 11\*m x 4\*m x 2\*m (example only).
- Maximum mast height 44\*m above water; minimum height 43.8\*m.
- Boom or wing can extend up to 1m aft of the transom.
- CG and Weight defined for Rig (order of 900kg).
- Fibre limit defined for rig.
- Construction limitations for all wings.

## RIG

- Sprit length 26.5m\* from transom.
- Headsails must be tacked on centreline.
- Construction limitations for all rigs.

## SAILS

- Max area of genoa will be fixed number determined by Rule Authors



- Girth formula to ascertain area.
- Upwind headsail tack 22m\* from transom
- Downwind headsail tack 26.5m\* from transom.
- Downwind sails unlimited. Downwind sails must be sheeted onto the platform.
- No limit on batten count.
- Battens not to cheat sail area or sheeting rules.
- Headsail tacks must be on centreline.

## GENERAL

- Crew will number 11 at average 95kg (plus 1 non-participating guest).
- Engine: Consideration is given to powered system for daggerboard raising/lowering and rig canting. Must be a green solution (battery/hydrogen/etc) and noise limited.
- No super exotic materials (boron, beryllium, etc).
- Propulsion limited to effect of water and wind on sails, hull and mast.
- Thickened sails are allowed.
- Lifting point shall be defined as part of the boat.
- No water ballast or skin friction systems.
- Minimum netting specifications and extents for safety.
- Ballast to achieve minimum weight must be fixed and have a maximum density limit.

## MEDIA

- Media rules will be subject to change by the Technical Director (not unanimous).
- These changes will be considered regarding impact on the teams and significance to the media group.
- Changes will not occur during a Regatta.
- Media spaces to be defined during writing of class rule.

## INTERPRETATIONS

- Public Interpretations accepted quick turnaround like AC32.
- Technical committee may request diagrams and further information to accurately define the intended usage and purpose. This usage forms part of the interpretation and other usage or purpose outside of the original interpretation will need re-interpretation.
- No Private Interpretations.
- Drawing review available – encouraged by jeopardy if found illegal later.