

# Schools Marine Challenge *Formula Sun* Rules and Regulations

The following Rules and Regulations are for the Schools Marine *Formula Sun* Challenge. The Rules and Regulations are designed to enable the participants to compete on a level playing field, encouraging technical innovation, without being too restrictive. The organisers will be happy to give their interpretation of any aspect of the rules should the need arise, which is better done during the build phase rather than on Race Day.

## Age

The school competition is open to all pupils up to the end of year 11, with a strict upper age limit. No sixth form student teams to participate, however skills and knowledge gained by involving older pupils as mentors is to be encouraged.

If there is sufficient demand a post 16 class will be available which only accrues points from racing, and a one off technical mark given on Race Day

## Solar Craft

Schools engineer the most efficient way of propelling a boat using only the energy from the sun. Any configuration of power plant may be used. Development of more efficient propulsion systems will enhance performance.

## Manufactured Kits

No bought in kits are allowed. This would be in direct conflict with the spirit and aims of the competition. Stock components may be used, but not bought in pre assembled craft

## Hull Design

No restrictions in design and material choice. This class of boat lends itself to many hull forms and materials, the most popular being vacuum forming over a Styrofoam plug which can be made by hand or using CAD and CAM.

## Motor

Craft may only be powered by the motor(s) supplied by the organisers. No restrictions on the number of motors being used per boat.

## Solar Panels

No restriction on number but they must be carried on the boat.

## Stored Energy

In the event of low light conditions the boats will run under the 'capacitor' class rules. Under these rules the boat must still carry its solar panels but may also have the authorised capacitor connected in any configuration competitors desire. If applied these rules will be in force for the whole series of races taking place at a given venue.

The only authorised capacitor is an Electrolytic 10F 2.5v

Capacitors can be charged in our light pool where schools will be given a 10 minute slot prior to their race. The charging units will be provided by the organisers and will be made up from 3 x 800 mA 95mm X 65mm solar cells (as supplied in your kits) wired in series.

## Hull

No restrictions

There are no restrictions on format or construction, from mono to multi hulls of any type.

## Drive Train

No restrictions

## Control

Free running

## Dimensions

Inclusive of all features, but not stern drives etc

All in mm	Maximum
Length	300
Beam	120mm
Height	No restrictions

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## Race Day

The overall winner will be the team gaining most points from a combination of race results (10 points max) and scrutineering (50 points max). There are a total of 60 points on offer. In the event of a tie the team with the most race points will win.

**Craft Identification** Numbers will be allocated by the organisers and must be easily identifiable throughout races.

Scrutineers will ensure that boat construction is designed for racing rather than hindering other competitors' craft.

### Solar Craft

Free running over a distance of 10m

Three rounds with either the same or different craft competing, craft may not be swapped within a round.

The winner will be the boat completing the course in the least amount of time

Points will be awarded as follows:

Position	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>
Points	10	8	6	5	4	3	2	1