

UVic Hybrid - Aerodynamic Elements: Sidepods

The previous iteration of the vehicle (2022) only consisted of the nose cone, where the CFD results concluded marginal downforce. The aerodynamic package for this iteration will include Sidepods, Floor guard and Rear wing, to improve the vehicles downforce.

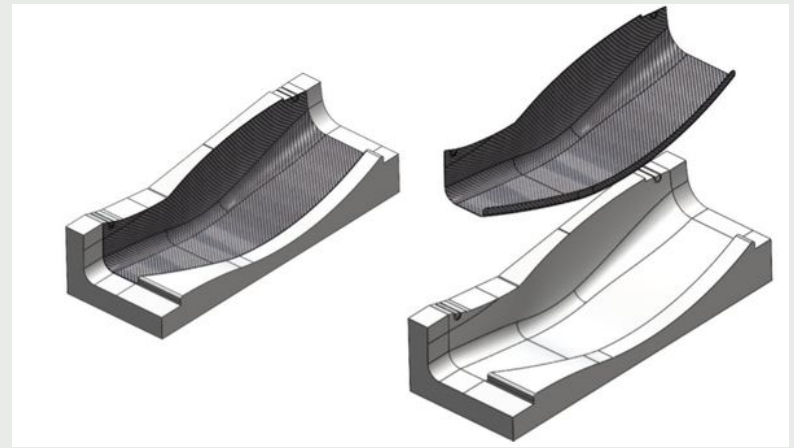
The same implementation was executed to develop and manufacture the side pods and floor guards. However, the layup sequence depend on the desirable surface finish.

The Sidepod's have three main functions:

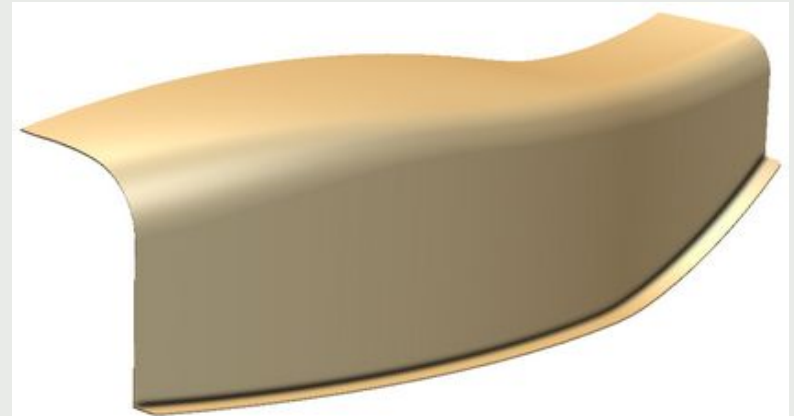
1. Increase the inlet air velocity towards the inlet of the accumulator to reduce battery cell temperature
2. Weather repellent
3. Real estate for sponsors

Sidepods:

- Objective: Reduce drag, and increase airflow to cool accumulator
- Material: 6 layers - 10 oz (Style 7500) Fiberglass wet layup
- Mould: Negative layer geometry:
 - Purpose: To ensure smooth outer surface finish, minimizing aerodynamic drag and supporting accumulator shielding.



[8] [Sidepod Negative mould geometry](#)



[8] [Sidepod](#)

UVic Hybrid - Additional parts:

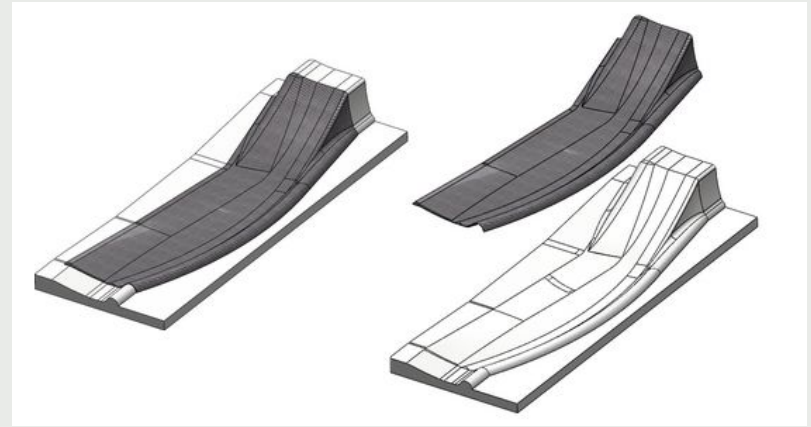
Floor Guards

The Floor Guards have two functions:

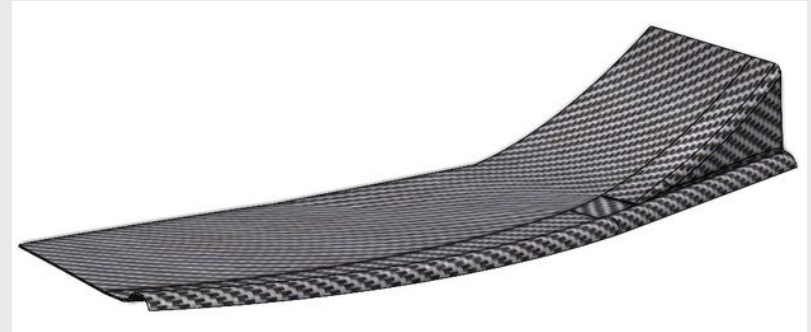
1. To create downforce through venturi tunnel channels. These tunnels create a high velocity region in the middle by gradually narrowing the cross section towards the middle part.
2. Provide a seal for the sidepods

Floor Guards:

- Objective: generates downforce and seals sidepods
- Material: 6 layers - 10 oz (Style 7500) Fiberglass wet layup
- Mould: Positive layer geometry:
 - Selected over negative due to the desired outcome for the underside surface. Positive layer will ensure the first layer will have a smooth surface finish, imperative for proper functionality of the venturi tunnels.



[8] [Floor Guards Negative Mould Geometry](#)



[8] [Floor Guards](#)

UVic Hybrid - Summary: Side Pod | Floor Guard | Seat

The final products of all fiberglass components can be seen below. The process for the side pods and floor guards were not adequately photographed due to time sensitivity, leading up to competition. The completed assembly, consisting of both side pods and floor guards has been photographed below.



[10] Floor guard



[9] Seat



[11] Side pod + Floor guard