

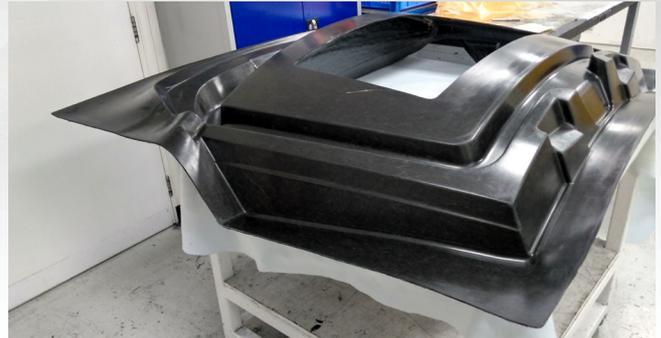
SUSTAINABILITY AWARD

Winner: Prodrive Composites

A unique process of combining reclaimed carbon fibres (RCF) with a liquid resin to create cost effective lightweight automotive body panels.

Prodrive Composites has developed a unique process of combining reclaimed carbon fibres (RCF) with a liquid resin to create cost effective lightweight automotive body panels. We have manufactured affordable body panels from recycled carbon fibre (RCF) for a niche vehicle application. The aim of the 6-month project was to prove out the concept of producing large exterior body panels in RCF Composite (Tailgate Assembly Roof, A-Pillars and Body sides) for an electric hearse, looking for cost reductions and increased production rates.

These panels are now being produced using a low-cost infusion process, which has additional benefits from an environmental and sustainable perspective. We also took the opportunity to explore the whole lifecycle of the manufacture of a composite panel. We took the bold decision to produce the mould tools using reclaimed carbon fibres. The materials for these mould tools was supplied from an overseas material supplier. We were the first UK business to trial this material and produce working mould tools. The pre-preg recycled carbon tooling material was hand laminated onto a traditional tooling board pattern. This approach enables both the mould tools to be recycled at the end of their life and the components to be recycled at the end of the vehicle life, or the end of the panel life if crash damaged. Non-conforming parts can either be re-worked or recycled. This is a significant step forward in reducing the amount of waste material, in dry, un-cured prepreg or cured state eliminating the need for waste material and end of life parts to be disposed of into land fill or incinerated.



This process not only simplifies the recycling route but has the potential to give a composite materials three or more useful lifetimes. End-Of Life Considerations are key for the automotive sector and this has also been considered as both the components & mould tools produced in this process can be recycled for a further use. This is the Circular Process for sustainable composites manufacturing.

Website: www.prodrive.com

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