

# Power Solution for Composite Manufacture

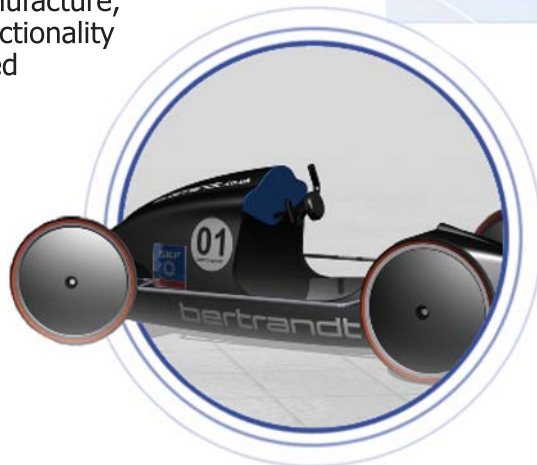
[www.delcam.com](http://www.delcam.com)



Delcam's Power Solution offers a unique combination of CAD/CAM tools for industries that manufacture parts made from composite materials. At all stages, from initial design right through to component manufacture, Delcam's software provides comprehensive and dedicated functionality leading to reduced lead times, greater efficiency, and improved product quality.

## CAD Models

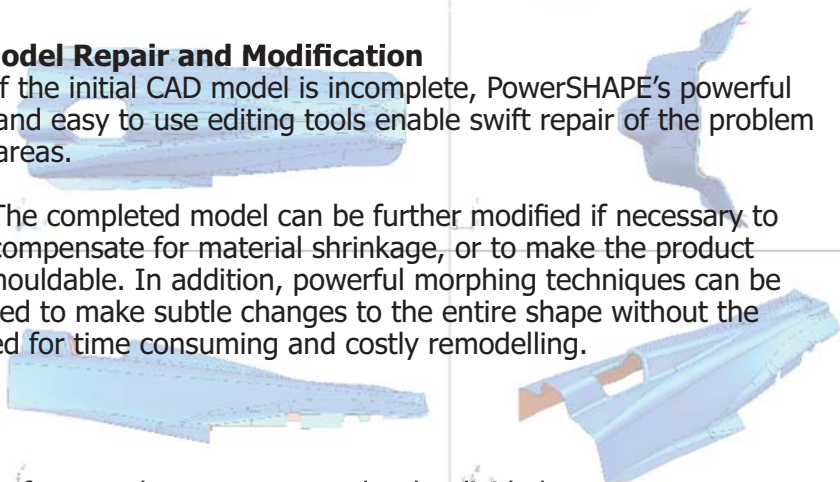
A complete CAD model of the part is essential for all subsequent operations. Delcam's PowerSHAPE provides a comprehensive set of surface and solid design tools, allowing even the most complex of shapes to be defined with ease. If a CAD model of the part already exists, Delcam's state of the art file import solution, PS-Exchange guarantees seamless data transfer.



## Model Repair and Modification

If the initial CAD model is incomplete, PowerSHAPE's powerful and easy to use editing tools enable swift repair of the problem areas.

The completed model can be further modified if necessary to compensate for material shrinkage, or to make the product mouldable. In addition, powerful morphing techniques can be used to make subtle changes to the entire shape without the need for time consuming and costly remodelling.



## Split Surfaces

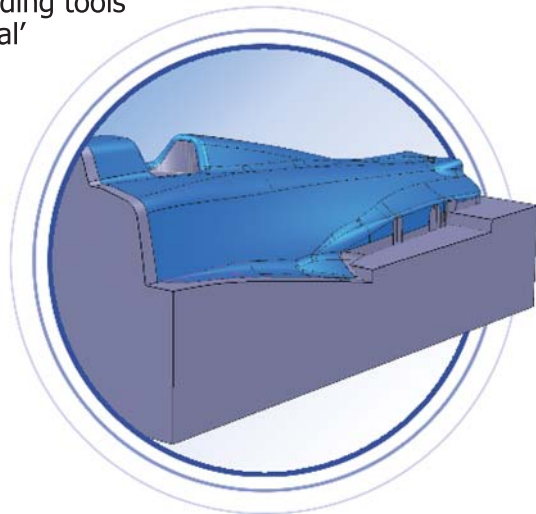
To complete the tooling necessary for manufacture, the part may need to be divided into separate mould pieces. PowerSHAPE provides industry-leading tools for creating parting curves and surfaces, using the part's 'natural' split-lines.

## Tool Manufacture

From the completed CAD models of the tooling, PowerMILL creates the detailed NC machining toolpaths necessary to exactly replicate the shape in the finished tooling material. Toolpaths can be created accurately and efficiently for even the most complex shaped components, using strategies covering anything from simple 2 1/2D right up to full 5-axis simultaneous machining.

## Lay-up patterns

A key element in composite manufacture is knowing what shape the initial sheet of material should be cut to. PowerSHAPE has a unique 'Unwrapping Wizard' that guides the user step by step through the process of 'flattening' a complex 3D shape. The unwrapped pieces can then be modified to allow for edge overlaps, joints etc. before being nested together to create the optimum cutting pattern.



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