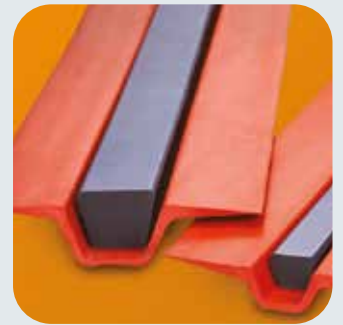


Elastomeric Mandrels for Composite Fabrication

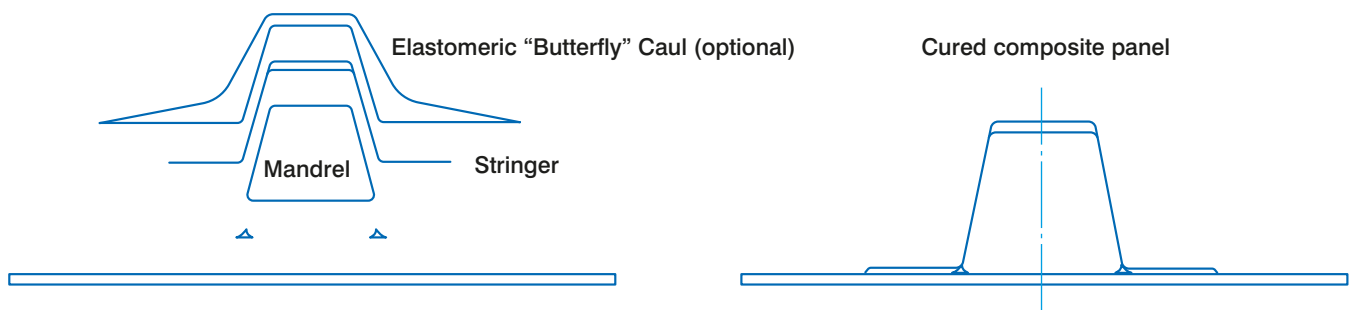
Applications - advanced lightweight composite structures

Our elastomeric mandrels are used to form stiffened composite skin structures and are part of our elastomeric composite fabrication tooling product line. Rubbercraft elastomeric mandrels are widely used on both commercial and military aircraft for the construction of CFRP structures like Nacelles, Empennages, Plenums and Stringers.

- Nose cone, tail and rudder structures
- Wing, aileron, flaperon and flaps
- Horizontal stabilisers
- Fancowl doors
- Engine nacelles



Rubbercraft's products are fabricated from specifically formulated compounds tailored to exact requirements and are chosen by global composite manufacturers for whom performance and reliability are key.





Elastomeric Mandrels for Composite Fabrication

Advantages – durable and flexible for optimum performance

When a durable yet flexible performance is required, Rubbercraft mandrels can deliver.

Designed to be stiff enough to maintain their cross section under autoclave pressure or AFP layup - but flexible enough to conform to skin contours and curvature – and accommodate ply drops.

Rubbercraft mandrels can operate in almost any manufacturing process including Autoclave, OOA and Resin Infusion.

Rubbercraft mandrels maintain their cross-section while the composite is consolidated under assistance from an external pressure source, typically vacuum, applied to the composite lay-up. The controlled and predictable expansion of the elastomeric mandrel can assist de-bulking and together with an elastic change of cross-section, assist in the removal of the trapped tooling after curing.

Custom designed - to offer a wide range of options

Mandrels are custom designed for each application to account for desired geometry, cure conditions and other specific customer requirements. Materials with various; durometer, Coefficient of Thermal Expansion (CTE) and other mechanical properties may be selected based on the specific application.

Fluorinated polymer barrier layers are typically bonded onto the surface of the mandrels to assist removal and to avoid interactions with the resin. Mandrels can be designed to have voids of different geometry through the length of the mandrel to specifically accommodate some of the thermal

expansion during processing and curing.

Generic cross sections are available upon request for manufacturing trials and prototyping exercises. Custom designed elastomeric cauls and end dams can be paired with the mandrel to achieve close radii tolerances and laminate consistency.

Whatever the requirement or application, customers can count on Rubbercraft's absolute attention to detail and commitment to a quality product, on time and on budget.

Rubbercraft – advancing existing products and introducing new elastomeric solutions

Mission

Enabling custom engineered solutions through our polymers material science, technologies & applications expertise

Vision

To be Polymers subject matter experts delivering innovative products and operational excellence that meets or exceeds customer expectations



People

Engaging & respecting our most important resource in serving our customers



Teamwork

Working as a single team in exceeding customer expectations



Ownership

Bringing the right focus, accountability & integrity to all we do



Performance

Delivering top level results