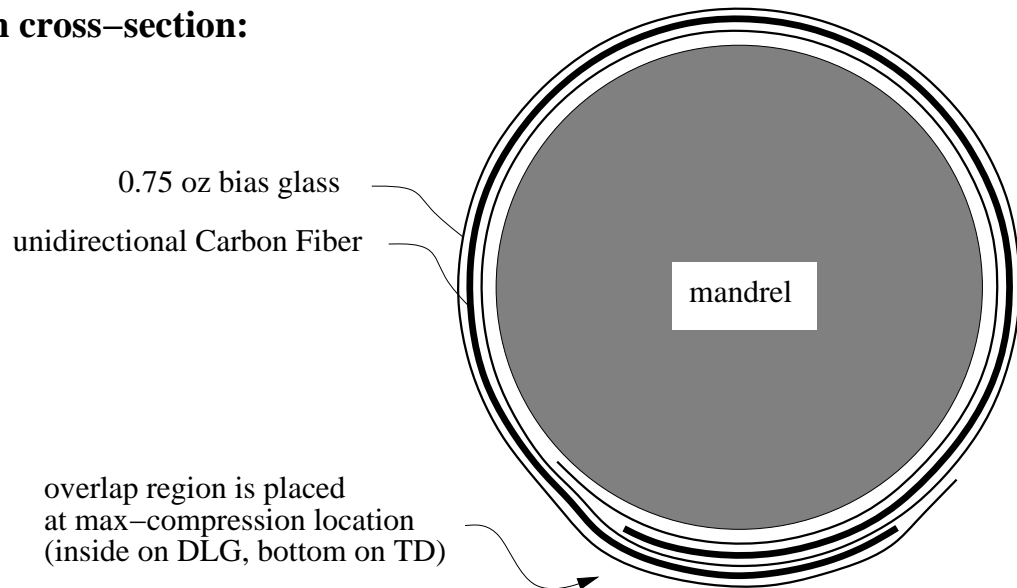


Typical boom cross-section:



Material blanks

Outside glass cannot expand, so minimum CF width is

$$\pi * \text{Outside_diameter} = \pi * (\text{mandrel_diameter} + 4 * \text{glass thickness} + 2 * \text{CF thickness})$$

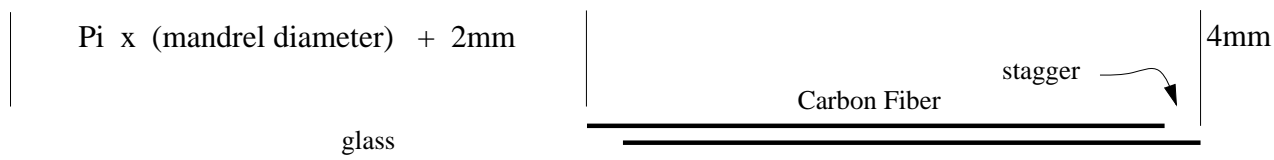
Add extra width to ensure no gaps. A significant overlap region is beneficial at max-compression point.

If using multiple CF-stock layers, stagger by several mm for more gradual step.

Add extra 4mm and 2mm on the two glass edges, as shown below.

Laminate glass and CF layers with very light 3M77 mist.

Cross-section of material blanks, before rolling:

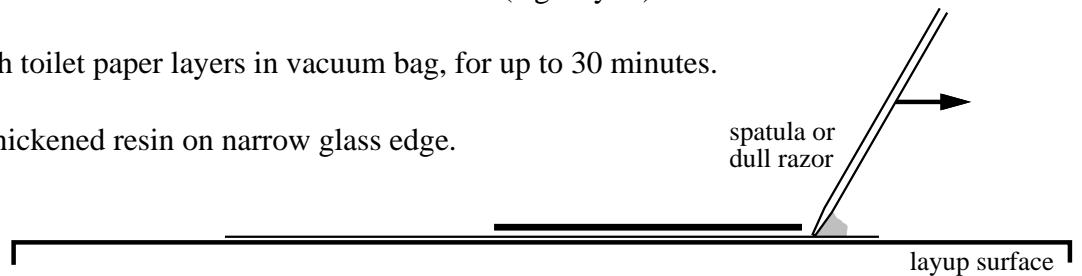


Wet-Layup Carbon Boom Construction

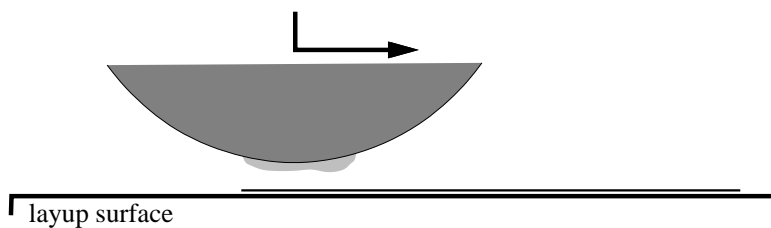
2/2

Layup Sequence

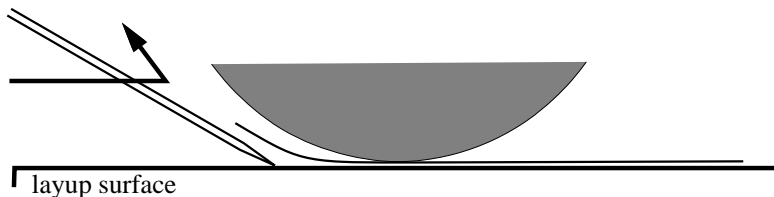
- 1) Wet out laminated blank with resin on smooth hard surface (e.g. Mylar).
- 2) Blot thoroughly with toilet paper layers in vacuum bag, for up to 30 minutes.
- 3) Squeegee highly-thickened resin on narrow glass edge.



- 4) Wipe narrow stripe of highly-thickened resin onto mandrel.
Place down on other edge of glass. Roll mandrel slightly to check adhesion.



- 5) Glass edge will probably not adhere in some spots.
Scrape it up and stick it to mandrel with razor blade.



- 6) Roll mandrel onto blank. Thickened epoxy on other glass edge should prevent unrolling.
- 7) Wrapping in the same direction, spiral-wrap with thin plastic strip, starting at small end.
- 8) Wrap with fluffy breather, put in vacuum bag to cure, preferably at elevated temperature.
- 9) If mandrel has ID threads on big end, a bolt can be used to force boom off mandrel.

