

Epoxy tooling prepreg system

RP803

Mid-range cure cycle

Applications

- Composite Tooling

TDS020





Description

RP803 is formulated to provide an initial cure cycle of either 12 hours at 60°C or 6 hours at 70°C and extended out life of 9 days at 20°C. The system is capable of withstanding temperatures up to 190°C after full post cure.

RP803 is available in carbon and glass woven fabrics from 200 - 800 g/m² impregnated with epoxy resin. RP803 prepreg allows high quality tooling laminates to be produced directly from a low temperature master model permitting a wide choice of master model materials. Using a low temperature vacuum bag and autoclave process for initial cure, the tool laminate can then be demoulded for freestanding post cure.

Main features

- Initial cure from 60°C to 70°C
- Post cure: 170°C
- Autoclave processing
- Excellent surface finish

Shelf life

Storage Temperature	Shelf life
-18°C	12 month
20°C	Tack life: 7 days Out life: 9 days

Material types

Fibre type	Weave style	Weight	Thickness/Ply	Width
Carbon	2/2 twill	200 g/m ³	0.23 mm	1250 mm
Carbon	2/2 twill	645 g/m ³	0.72 mm	1250 mm
Glass	8HS	300 g/m ³	0.25 mm	1250 mm
Glass	2/2 twill	800 g/m ³	0.70 mm	1250 mm

Other fabrics available on request.



Curing

Preferred initial cure can be either of the following:

60°C for 12 hours

70°C for 6 hours

Heat ramp up rate: 0.5-1.0°C/minute up to temperature, under 6-7 bar pressure and >0.9 bar vacuum.

Ensure even heat in the autoclave and make sure that temperature does not exceed over 5°C of the component initial cure temperature.

When the entire component has reached the initial curing temperature, hold for the specified time.

Cool the laminate under pressure to room temperature (or <30°C) at 3°C per minute (max). Tooling can be demoulded from the master after this cure.

For post cure, the tool must rest on a level surface to prevent possible deformation. The recommended post cure cycle is as follows:

- From initial cure temperature, ramp up at 1°C per minute up to 170°C and cure for >2.5 hours, then cool naturally. This will provide a Tg >170°C (DSC).
- Post cure > 4h @ 170°C provides a Tg of 190°C (DSC).

The maximum heat ramp up rate at each stage is 1°C/minute.

Health and Safety - Refer to the full Material Safety Datasheet before use.

Find out what PRF can do for your business

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