

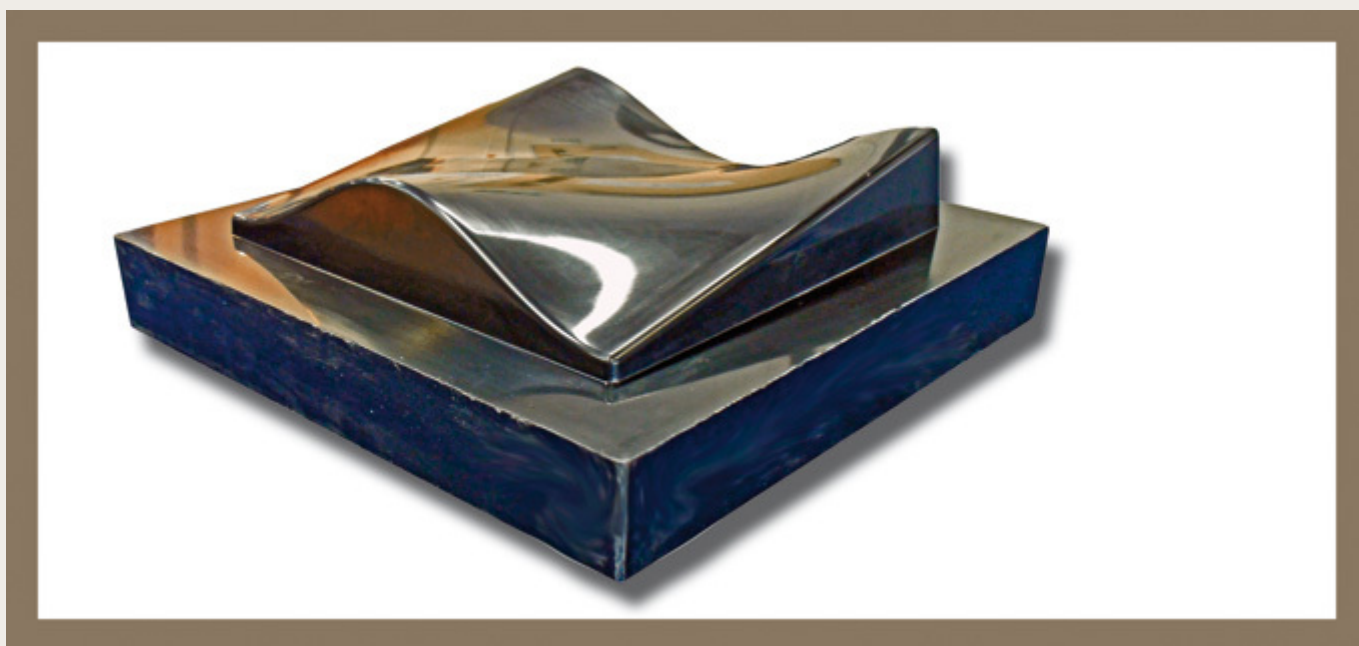
DATA SHEET

Toolfusion® 3

High temperature infusion resin with low initial cure temperature

■ DESCRIPTION

Toolfusion® 3 is a two part low viscosity epoxy infusion resin formulated to produce pre-preg quality, composite moulds. Toolfusion® 3 has a low initial cure temperature of 49 °C and can be post cured to achieve a high glass transition temperature of 218 °C. Void contents of less than 1% are achievable. Toolfusion® 3 will work in various RTM and VARTM processes including single and double bag arrangements to produce autoclave quality laminates.



■ BENEFITS

- > Resin infusion process delivers very high quality laminates with low manufacturing costs, no refrigeration costs, no autoclave running costs.
- > Low initial cure temperature for low thermal expansion effect during curing and ability to use low cost master model materials.
- > Nano technology delivers outstanding toughness & high Tg. (218 °C) for long tool life and reduced life cycle cost.
- > Low viscosity allows infusion of thicker and more complex laminates with fewer resin feed lines.
- > In comparison to metallic tools, Toolfusion® 3 composite tools are lighter weight for easier manual handling.
- > In comparison to metallic tooling, Toolfusion® 3 composite tools have faster heat up and cool down rates for reduced production costs.
- > Toolfusion® 3 composite tooling laminates have vacuum integrity for vacuum bag processing of parts in oven and autoclave.

Last updated : 2010-07-22

Catalogue position : [Resin infusion products](#)

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TECHNICAL DATA

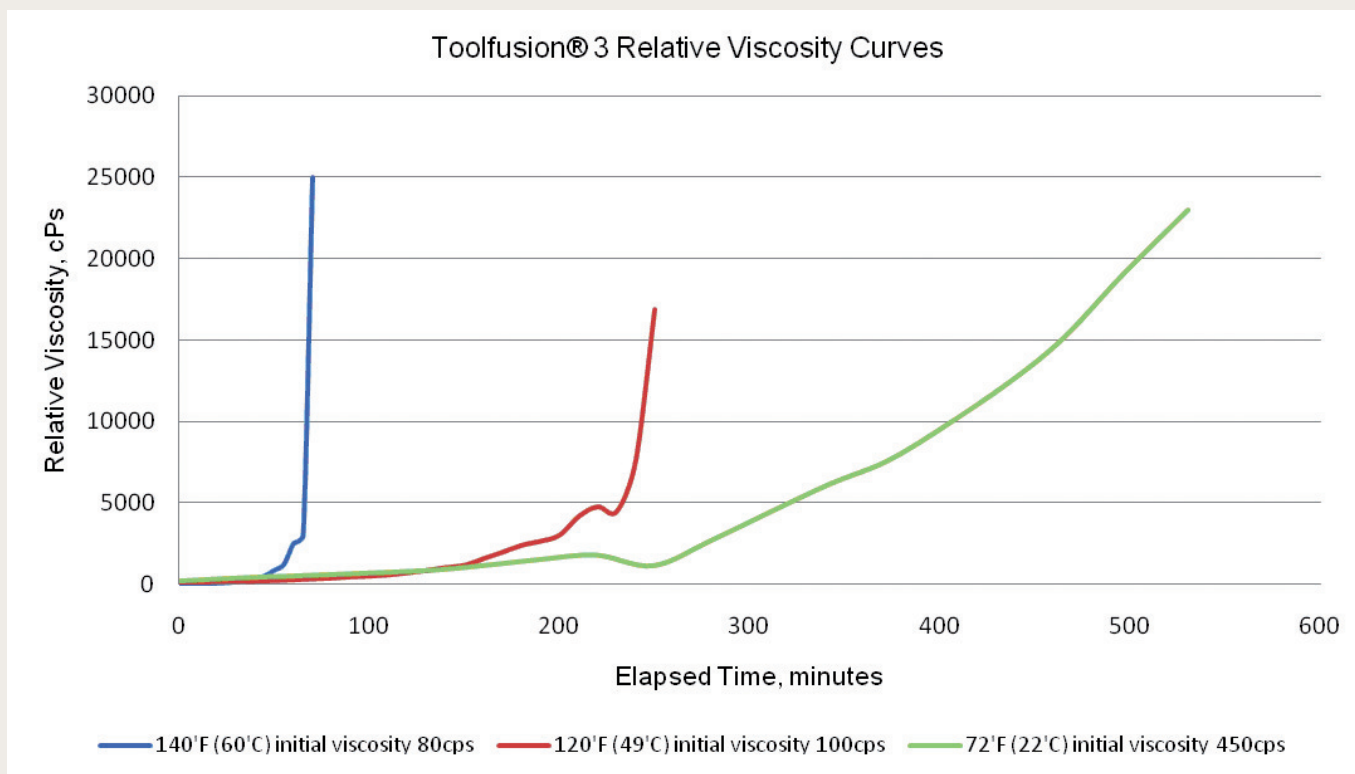
Test method

Material type	Epoxy	
Colour	Black : Clear (A : B)	
Mix ratio by weight	100 : 85 (A : B)	
Pot life	300 minutes (100 g at 22 °C)	
Viscosity (initial at 22 °C)	450 cps	
Density (mixed)	1,13 g/cm ³	
Glass transition temperature	218 °C	
Hardness	89 Barcol	ASTM D2583
Shrinkage	0,9 %	
Shelf life	12 months from date of shipment when stored at 22 °C	

SIZES

Packaging	Part A	Part B
5 gallon kit	5 gallons / 45 Lbs (18,5 l / 20,4 Kg)	5 gallon / 40 Lbs (15,6 l / 18,1 Kg)

CURING DATA



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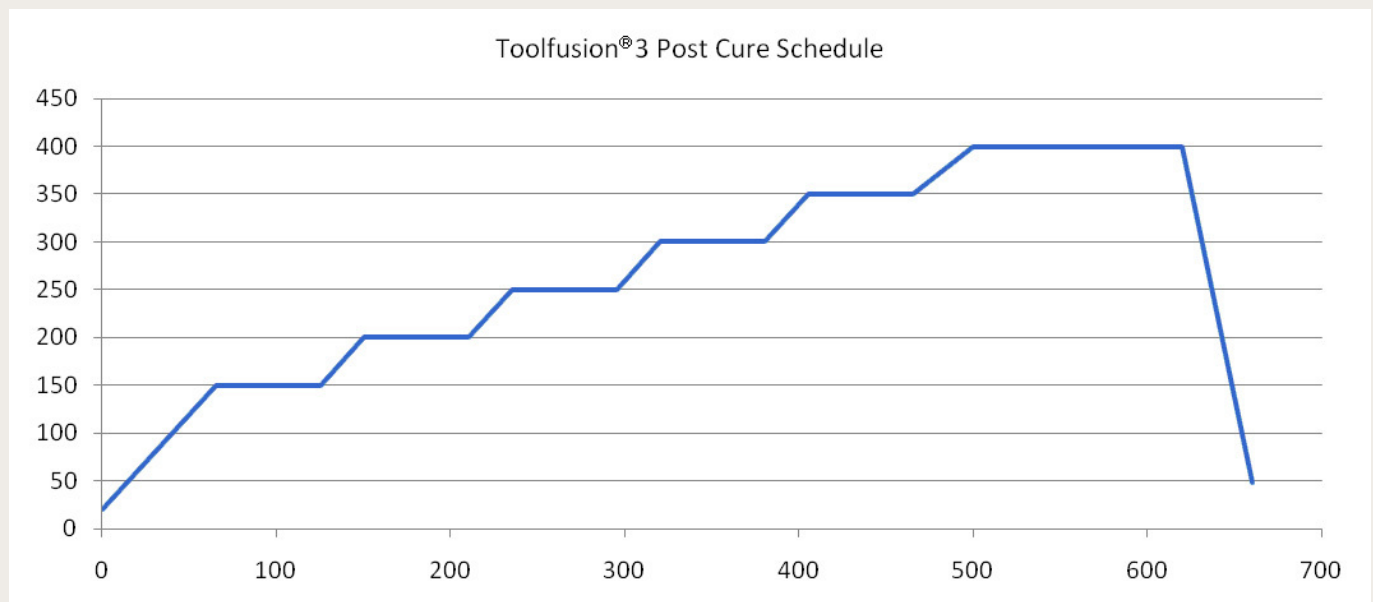
Initial cure:

- > Cure laminate on master model with full vacuum applied.
- > Raise temperature to 49 °C and hold for 12 hours.
- > Remove vacuum bagging materials and attach back-up structure if required.
- > Carefully remove the laminate continue with post cure.

Post cure schedule:

- > Ramp to 65 °C and hold for 60 minutes.
- > Ramp to 93 °C and hold for 60 minutes.
- > Ramp to 121 °C and hold for 60 minutes.
- > Ramp to 149 °C and hold for 60 minutes.
- > Ramp to 177 °C and hold for 60 minutes.
- > Ramp to 204 °C and hold for 120 minutes.

Note: Part A and Part B are sold separately.



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