

Composite Projects Data Log

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Project Description:			Layer 1		Resin Type:
			Layer 2		Resin Temp:
			Layer 3		Mold Temp:
			Layer 4		Laminate Temp:
			Layer 5		Ambient Temp:
			Layer 6		Catalyst Ratio:
			Layer 7		Resin Amount:
			Layer 8		Vacuum Amount:
			Layer 9		
			Layer 10		
Resin Profile	Mixed at:	AM/PM			
Time	Temp	State	Project Notes:		
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Fast Facts and Usage Guide

Estimating Resin Consumption

Below is a Chart that estimates resin consumption by how many square feet a gallon of resin will cover of different weight fabrics. If your fabric isn't listed you can calculate off of the values given for example if you are using 20oz triaxial glass just divide the 10oz cloth figures in half, for 50sq.ft. per gallon on the first coat and 85 sq. ft per gallon on the second coat. These are estimates and will vary depending on factors such as wastage, process materials, etc.

Material	First Coat	Second Coat
4oz Cloth	150	300
6oz Cloth	130	250
10oz Cloth	100	170
26oz Biax	32	40

Effects of Temperature

Most resin data sheets will provide cure times at 77F, temperature and mass are huge factors in determining how fast a resin cures and often actual shop temperatures do not match the temperatures on the data sheet. As a rule using the same speed hardener or initiator(catalyst) ratio in a resin the cure time will double for every 18F drop in temperature. Likewise for every 18F rise in temperature the cure time will be cut in half. For instance if a slow epoxy that has a 1 hour pot life at 77F will have a 2 hour pot life at 60F and if that resin system needed to be under vacuum for 4 hours at 77F it will need to be under vacuum for 8 hours at 60F. Conversely at 95F it will have a 1/2 hour potlife and a 2 hour vacuum time. If we were really in a hurry and bumped the temp up to 120F the pot life would drop to 15 minutes and the vacuum time to 1 hour.

Typical Fiber Properties

Fiber	Tensile Strength (KSI)	Tensile Modulus (MSI)	Strain to Failure (%)	Coefficient of Thermal Modulus(10 ⁻⁶ /F)	Decomposition Temp (F)	Density (lb/in ³)
E-glass	500	10.5	4	3	1346	0.095
S-2 glass	665	12.5	5.5	0.9	1562	0.09
Carbon Standard Modulus Pan	530	33.5	1.5	-0.33	6332	0.064
Kevlar 49	424	15.8	2.5	-1.5	842	0.052

Tech Questions?

Got tech questions or need help figuring out what material or process to use? If so don't hesitate to give us a call, we're here to help. Fiberglass Supply has been in business since 1982, starting out in Santa Cruz, CA providing materials to the emerging high performance sail boat building community under the name Monterey Bay Fiberglass. In 1989 we opened a branch in Bingen Washington in the heart of the Columbia River Gorge near Hood River Oregon to supply materials to the sailboarding industry. In 1997 we changed names to Fiberglass Supply and started our online business. In 2008 we moved from the Gorge to Burlington Washington where we continue to provide quality materials to discerning craftsmen in many industries from aerospace to recreation.