

ForTec #4124

Epoxy Resin & Hardener Data Sheet



The 4124 Epoxy system is formulated for laminating synthetic composite structures. Use 4124 for primary laminating applications and for tabbing, taping and secondary bonding applications. The 4124 will provide a working time of approximately 30 minutes at 72° F. A typical laminate will be gelled in approximately 2 hours at 72° F.

MIXING

Combine the 4124 Resin & Hardener following the ratios by weight or volume shown in the table. Stir the mixture thoroughly and transfer to bucket, roller pan, or apply directly to the laminate or bonding surface.

CURING

The 4124 maintains excellent working properties until gel takes place. The mixture will temper and continue to cure over the next several days at room temperature, and after two weeks will reach an acceptable degree of cure for most applications. Elevated temperature post cure will increase the degree of cure and improve the mechanical and thermal properties. We recommend building and testing sample laminates using proposed materials and manufacturing processes to confirm working and curing characteristics under anticipated use conditions.

HANDLING CHARACTERISTICS *(Not for specification purposes)*

Property Mixed Resin/Hardener

Density 9.1lb/gal

Viscosity@72°F (ASTM D-2393-80). 1,400cps

Mix Ratio (4124 Resin & Hardener) Target Acceptable Range

by weight 100:31 100:32.9 to 100:27.7

by volume 100:32 100:34.1 to 100:29.0

Pot Life (ASTM D-2427-71) 100g

@65°F. 32min

@72°F. 20min

@80°F. 15min

Physical Property	Test Method	Cure Schedule				
		Room Temp. x 2 weeks	RT x 15 hr + 110°F x 8 hr	RT x 15 hr + 125°F x 8 hr	RT x 15 hr + 140°F x 8 hr	RT x 15 hr + 180°F x 8 hr
Hardness (Shore D)	ASTM D-2240	87	88	87	88	88
Compression Yield (psi)	ASTM D-695	15,087	15,642	15,426	15,494	15,758
Tensile Strength (psi)	ASTM D-638	10,077	10,457	10,743	11,269	10,297
Tensile Elongation (%)	ASTM D-638	2.8	4.0	4.2	5.0	4.6
Tensile Modulus (psi)	ASTM D-638	5.32E+05	5.11E+05	4.87E+05	5.05E+05	4.65E+05
Flexural Strength (psi)	ASTM D-790	13,876	17,972	20,055	19,440	18,158
Flexural Modulus (psi)	ASTM D-790	5.43E+05	5.43E+05	5.26E+05	5.14E+05	5.41E+05
Heat Deflection Temperature (HDT) (°F)	ASTM D-648	127	142	152	166	161
Onset of T _g by DSC (°F) **		133	142	149	144	163
Ultimate T _g by DSC (°F) **		164	164	164	164	164
Izod Impact, notched (Ft-lb/in) ASTM D-256		0.23	0.36	0.52	0.42	0.39

** Determined using a Differential Scanning Calorimeter (DSC). Value reported is the onset of the glass transition. Test Specimens were neat epoxy (without fiber reinforcement). Typical Values; not to be construed as specification

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