



EP-300

HIGH TEMPERATURE EPOXY PLANK®

PRODUCT BULLETIN



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DESCRIPTION:

Epoxy Plank EP-300 is a seafoam green high temperature epoxy tooling plank designed for building aerospace master models, lay-up tools for medium and high temperature prepregs, vacuum-form tooling and other high temperature tooling. This high temperature tooling plank has an excellent surface finish, good edge definition, and is easy to CNC machine. **EP-300** Epoxy Plank is recommended for tooling up to 300°F.

TYPICAL PROPERTIES:

Color.....	Seafoam
Hardness @ 75°F.....	78 Shore D
Density.....	49.6 lbs/cu ft
Flexural Strength.....	8,169 psi
Flexural Modulus.....	392,700 psi
Tensile Strength.....	6,167 psi
Elongation.....	1.6%
Compressive Strength.....	12,590 psi
Compressive Modulus.....	438,100 psi
Heat Deflection Temperature @ 66 psi.....	320°F/160°C
Tg by TMA.....	325°F/163°C
Coefficient of Linear Thermal Expansion (from 30°C to 100°C).....	44.1 x 10 ⁻⁶ in/in/°C
Coefficient of Linear Thermal Expansion (from -30°C to 30°C).....	29 x 10 ⁻⁶ in/in/°C

High Temperature Adhesive System EL-336 R/H

Standard Size Available: 2", 3", 4"T x 24"W x 60"L

STORAGE: Store all Tooling Planks on a flat surface at 60°F-100°F.

IMPORTANT!

For post-curing parts and to achieve homogeneous coefficient of thermal expansion of the tools: When either ramping up or cooling down, the temperature differential (delta T) between the center of the tool and the external surface must never exceed 50°F. To achieve this, a temperature soak of 6 hours for every 50°F up and down in the oven and temperature ramp rates of no more than 1°F per minute are recommended. Leave the tool in the oven for at least 6 hours below 100°F before opening doors and exposing the tool to ambient conditions.

RECOMMENDED CNC MACHINING INFORMATION

(Carbide Cutters are highly recommended)

	Inches per minute (Feed IPM)	Plunge (mm)	Spindle Speed (rpm)
2" E-Mill for Roughing	100	25	6000
3/4" Ball	75	20	3000+
1/2" Ball	60-75	10-20	3000+
1/2" x 1/32" R	40	20	4000
1/4" Ball	60	10-20	5000

These are possible recommendations. There may be some variance depending on cutters and CNC mill capabilities.

CUTTING SUGGESTIONS FOR TOOLING PLANKS

CUTTING HORIZONTALLY ON A PLANNER MILL: Head is a 10 insert, 8" in diameter. For best results use 5 inserts. Inserts are SFE-42E-10J-C5. We have found a C2 Carbide insert does not chip as easily. RPM 2200-2400 – table feed 50-55 inches per minute. Some modifications may be needed.

SAW BLADES: A carbide-tipped, positive rake saw blade with air slots should be used, if possible. We suggest alternate top bevel ATB or triple chip grind TCG rpm, depending on the saw. We suggest 3,500 max rpm. Check with manufacturer on saw and blade size.

- 12" blade, 48 teeth
- 16" blade, 48 teeth
- 18" blade, 60 teeth

When sawing, you may need to back part away from blade to relieve heat and binding, then proceed with cut. It may be necessary to take more than one cut to achieve best finish.

EP-300 Tech/Revised 12/14/10
Supersedes 10/28/09