

Advanced Materials

RenShape® BM 5060

HIGH PERFORMANCE, HIGH TEMPERATURE EPOXY BOARD

DESCRIPTION: The RenShape® 5060 epoxy board features a very fine surface structure, excellent machinability, dimensional stability, and heat resistance up to 284°F (140 °C).

Applications	Advantages
<ul style="list-style-type: none"> • High Temperature Curing Prepregs • Prepreg Draping Tools • Master Models 	<ul style="list-style-type: none"> • High deflection temperature up to 284°F • Very fine surface structure • Very good dimensional stability • Easily machinable

ACCESSORIES: Matched Epoxy Adhesive: Freeman 5001 Adhesive or Freeman 4105 Hi-Temp Epoxy Laminating System. Only follow post-cure shown on BM 5060 Technical Data Sheet.

Technical Properties*	Test Method	Test Values
Color	Visual	Blue
Density, lb./ft ³ (g/cm ³)	ASTM D-792	45 (0.72)
Compressive strength, psi (MPa)	ASTM D-695	9,790 (67.5)
Flexural modulus, psi (MPa)	ASTM D-790	369,850 (2,550)
Flexural strength, psi (MPa)	ASTM D-790	5,366 (37)
Linear thermal expansion coefficient temperature. °F (°C)	ASTM D-3386	19.5 x 10 ⁻⁶ (35 x 10 ⁻⁶)
Hardness, Shore D	ASTM D-2240	75
Deflection temperature °F (°C)		284 (140)

*Tested @ 77°F (25°C) unless otherwise noted.

NOTE: These physical properties are reported as typical test values obtained by our test laboratory. If assistance is needed in establishing product specifications, please consult with our Product Management Department

Use Ren-Weld 5008 adhesive for bonding. Let cure 24 hrs. @ R.T. initially. It is recommended to run tool or model through the intended application cure before final machining to the dimensions needed.

IMPORTANT!

Post-Cure of parts on RenShape® 5060 Tools: The temperature differential (delta T) between the center of the tool and the external surface must never exceed 50°F on either ramp up or cool down. To achieve this, a temperature soaks of 6 hours every 50°F up and down in the oven and temperature ramp rates of no more than 1°F/min are recommended, but if the temperature differential would exceed 50°F then these parameters need to be adjusted until it does not. Leave the tool in the oven for at least 6 hours below 100°F before opening doors and exposing the tool to room temperature conditions.

MACHINING	Roughing Speed	Roughing Feed	Finishing Speed	Finishing Feed
	1,600 RPM	40 IPM (101cm/min.)	10,000 RPM	100 IPM (254cm/min.)

Cutters: **Roughing** 1 in. (2.5cm) Hog Ball End Mill 4-Flute HS Steel 8% cobalt
Finishing 5/8 in (16mm) Ball End Mill 2-Flute Carbide
Depth Roughing varies from 0.25 in. to 2.5 in. (6mm to 6.35cm) with a 40% stepover
Finishing depth is 1/8 in. (3mm) leaving a 0.002 in. (0.05mm) scallop height

These machining parameters are represented as starting points. Cutter type and material, spindle speed, feed rate, machine power and rigidity all affect machining results. User must determine the best parameters for specific situations.

STORAGE :

This RenShape® board should be stored flat in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+35.6°F and 104°F). Under these storage conditions, the shelf life is 10 years. The product should not be exposed to direct sunlight.

PRECAUTIONARY STATEMENT :

Huntsman Advanced Materials Americas LLC maintains up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to MSDS as mentioned above.