



Advanced Materials

RenShape® 5014 Low Density Board

DESCRIPTION:

RenShape® 5014 board is a caramel-colored, syntactic polyurethane with a density of approximately 4 lbs./ft³. The board is easy to machine and features a good surface finish. The RenShape® 5014 board can be hand carved as well as CNC machined for the production of visual, styling and temporary master models, architectural master models, and prototypes. It is also well suited for CAD design verification.

ADVANTAGES	
	• Easy to hand-work and machine
	• Suitable for milling with fast cutting speeds
	• Non-abrasive
	• Good edge definition
	• Good dimensional stability

ACCESSORIES	Adhesive	Repair Paste
	Ren-Weld® 103 , Freeman Repro Ultra Light	Freeman Quick-Fil

TYPICAL PROPERTIES*	Test Method	Test Values
Color	Visual	Caramel
Density, lb./ft ³ (g/cm ³)	ASTM D-1622	4 (0.064)
Ultimate Flexural Strength, psi (MPa)	ASTM C-203	116 (0.8)
Ultimate Tensile Strength, psi (MPa)	ASTM D-1623	105 (0.72)
Compressive Strength Parallel to Rise psi (MPa)	ASTM D-1621	95 (0.66)
Perpendicular to Rise psi (MPa)		66 (0.46)
CTE	ASTM D-696	33 x 10 ⁻⁶ °F 59 x 10 ⁻⁶ °C
Service Temperature °F (°C) **	Internal	-300/+195 (-149/+91)

*Tested @ 74°F (23°C) unless otherwise noted.

** Actual service temperature limits vary considerably based on actual conditions and on client tolerance, contact us for further information.

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.

MACHINING	Roughing Speed	Roughing Feed	Finishing Speed	Finishing Feed
	2,500 RPM	200 IPM (508cm/min)	15,000 RPM	200 IPM (508cm/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 :

RenShape® 5014 board should be stored flat in original cartons at temperatures between 36°F to 104°F (2°C to 40°C). 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.

**KEEP OUT OF REACH OF CHILDREN
FOR PROFESSIONAL**

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