

Advanced Materials

RenShape® 550

**INTERMEDIATE TEMPERATURE
POLYURETHANE BOARD**

DESCRIPTION :

RenShape® 550 board is a heat-resistant polyurethane material designed for use in forming large, dimensionally-accurate aerospace models and prepreg lay-up tools that can withstand temperatures up to 200°F (93°C). It is also well suited for building prototype foundry patterns and vacuum-form molds. RenShape® 550 board is easy to machine with carbide cutters and exhibits performance characteristics including.

ADVANTAGES	<ul style="list-style-type: none"> • Good edge definition • Good dimensional stability • Good flexural strength • High tensile and compressive strengths
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ACCESSORIES	Matched Epoxy Adhesives	Polyurethane Repair Paste
	CG 1305 R/H or RenLam® 4005/Ren® 1500	RenPatch® 177-119/Ren® 177-119

TYPICAL PROPERTIES*	Test Method	Test Values
Color	Visual	Cream
Density, lb./ft ³ (g/cm ³)	ASTM D-792	53 (0.85)
Hardness, Shore D	ASTM D-2240	82
Ultimate Flexural Strength, psi (MPa)	ASTM D-790	8,800 (60.6)
Flexural Modulus, psi (MPa)	ASTM D-790	414,000 (2,855)
Ultimate Tensile Strength, psi (MPa)	ASTM D-638	7,000 (48.3)
Tg by DMA, E", °F(°C)	ASTM D-4065	289 (143)
Compressive Strength, 0.2% offset, psi (MPa)	ASTM D-695	10,500 (72.4)
Compressive Modulus, psi (MPa)	ASTM D-695	415,000 (2,862)
Coefficient of Thermal Expansion 77°F to 212°F, in/in/°F 25°C to 100°C, in/in/°C	ASTM D-3386	27.5 x 10 ⁻⁶ 49.5 x 10 ⁻⁶

* 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.

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.

PACKAGING :

RenShape[®] 550 board is available the following size: 2 in. (5cm) thickness, width of 16 in. (41cm) and length of 57 in. (145cm). Boards are finished on top and bottom faces and on all edges. Please contact Customer Service (800) 367-8793 for currently available options, price and availability.

STORAGE :

RenShape[®] 550 boards 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.

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

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