

REN SHAPE[®] 550

REN[®] Tooling Boards

INTERMEDIATE-TEMPERATURE POLYURETHANE BOARD

Ren Shape 550 is a heat-resistant polyurethane board designed for forming large, dimensionally-accurate models and curing tools that can withstand temperatures up to 200°F (93°C). The boards can be CNC-machined with carbide cutters. Ren Shape 550 exhibits performance characteristics including.

- ? Excellent edge definition
- ? Outstanding dimensional stability
- ? Good flexural strength
- ? Excellent tensile and compressive strength

Applications include intermediate-temperature aerospace masters and lay-up tools, master models, prototype foundry patterns, and prototype vacuum-form molds.

ACCESSORIES

Matched Adhesive
RP 4005R/RP 1500H
or CG 1305 R/H

Repair Paste
TDT 177-119 R/H

TYPICAL PROPERTIES*

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

* Tested @ 77°F (25°C). See data sheet for additional values @ 150°F (66°C) and 200°F (93°C).

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

<u>Roughing Speed</u>	<u>Roughing Feed</u>	<u>Finishing Speed</u>	<u>Finishing Feed</u>
1,600 RPM	40 IPM	10,000 RPM	100 IPM

Cutters: Roughing - 1" Hog Ball End Mill 4-Flute HS Steel 8% Cobalt
Finishing - 5/8" Ball End Mill 2-Flute Carbide

Depth: Roughing - varied from 1/4" to 2-1/2" deep with a 40% stepover
Finishing - 1/8" deep leaving 0.002" scallop height

SAFETY: Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

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