

REN SHAPE[®] 5169

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Foundry Pattern Board

REN SHAPE 5169 is an extremely tough, abrasion resistant board for use in CNC-machining foundry patterns, core boxes and other tools. It can be milled with hardened-steel cutters. The material has found extensive use in the fabrication of prototype molds for clear, thin-gage thermoplastic sheets. Resultant parts show excellent transparency results.

REN SHAPE 5169 features these unique qualities:

- Excellent Impact and Wear Resistance
- Superior Edge Definition and Dimensional Stability
- Polishable to a High Luster
- Good Compressive and Tensile Strength
- Tough and Resilient

Typical Properties

Color	Red
Density	75 lb/ft ³
Hardness	85 Shore D
Flexural Strength	14,000 psi
Flexural Modulus	380,000 psi
Compressive Strength	8,800 psi
Compressive Modulus	366,000 psi
Tensile Strength	9,000 psi
Notched Izod Impact	0.90 ft-lb/ in.
Glass Transition Temp	206° F
Coefficient of Thermal Expansion (-22° F to 86°F)	40.8 x 10 ⁻⁶ in/in /°F

Available Sizes

1"x 20"x 60" 2"x 20"x 60"
1.25"x 24"x 60" 1.5"x 24"x 60"
3"x 20"x 60" 4"x 20"x 60"
6"x 24"x 30"

Accessories

Adhesive: Matched REN -Weld 5169 Adhesive
Patch Paste: REN Patch 5169 Repair Pastes

Applications

REN SHAPE 5169 applications may include prototype thermoforming molds, prototype and production foundry patterns, tooling aids and fixtures, and metal forming tools.

Machining

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
Blades: Use Carbide Offset-tooth blade for faster cutting and less binding
Roughing Speed 1,600 RPM Roughing Feed 70-140 IPM Finishing Speed 10,000 RPM Finishing Feed 100-200 IPM

Safety

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