



R1/HG3000

R1/HG3000 DATASHEET

2036 Nevada City Hwy
Box 573
Grass Valley, CA 95945
Ph: (530) 272-1133
Fax: (530) 272-1070
Email:
sales@goldenwestmfg.com
Web: goldenwestmfg.com

DESCRIPTION & APPLICATION:

R1/HG3000 is a rigid very smooth, High Density Urethane, (HDU), Tooling/Modeling board designed for Prototype Machining, Water Jet Cutting, Pattern Making, Thermoforming, Prepreg Composite Layup Tooling Vacuum Form Tooling, Tool Path Proofing, Lost Wax Casting Masters, Master Model Making, Artistic Carving Blocks, Indoor and Outdoor Signage. R1/HG3000 is made in the USA.

R1/HG3000 does not contain **CFCs** or **VOCs**. See the MSDS on our website.

R1/HG3000 can be machined with HSS bits or cut with any standard cutting tool. R1/HG3000 density is 101 lbs. per cubic foot. Stock block sizes are 12" x 12", 12" x 24", 24" x 24" & 24" x 48" in thicknesses from 1.65" to 6". Minimum thickness is 1.65" and the maximum thickness is unlimited.

Custom shapes (disks, cones, rectangles, triangles, donuts, cubes, mandrels, or to your specifications) and sizes are typically available to ship within one week, most larger sizes will require a slightly longer lead time.

A liquid patch repair kit of the same resin and filler is available to change or repair this material making sanding the bond line a snap.

PHYSICAL PROPERTIES:

Density	ASTM D-1623	101 lbs. per cubic foot
Compressive Strength	ASTM D-1621	4230 psi
Compressive Modulus	ASTM D-1621	397,000 psi
Tensile Strength	ASTM D-1623	1740 psi
Tensile Modulus	ASTM D-1623	397,000 psi
Shear Strength	ASTM C-273	3010 psi
Shear Modulus	ASTM C-273	84,039 psi
Flexural Strength Method 1 A	ASTM D-790	3920 psi
Flexural Modulus Method 1 A	ASTM D-7900	324,000 psi
Hardness / Shore D	ASTM D-2240	76
Elongation		2.7 %
Dimensional Stability	ASTM D-2126	0.2 % Max
Water Absorption	ASTM D-2842	0.01 % by volume after 96 hrs.
Closed Cell Content	ASTM D-2856	98%
"K" Value Insulation Factor	ASTM C-177	1.75%
Impact Resistance	0°F 4.6 OZ. 1" Dia. 9"6" drop	No cracking observed
Freeze Thaw	ASTM D-2126, 25 cycles	No de-bonding or distortion occurred
Mold and Mildew Resistance	ASTM D-3273	Does not support growth
Dielectric Constant	ASTM D-1678	1.3
Maximum Service Temperature	Dry	255° F
Coefficient of Thermal Expansion (CTE)		37 x 10 ⁻⁶ ° F
Specific Heat @ 77° F	ASTM E-1269	1.577
Glass Transition	DMA/TMA	237° F
Flammability Tests:	FAR 25.853 Vertical Burn	Pass
	MIL P 26514 Burn Test	Pass
	ASTM D-1692-74 Burn Test	Pass
	ASTM D-635-06 Burn Test	Pass

Follow heat temperature ramping of 1° F up per minute and 2° F down per minute. This plastic is slightly abrasive. Use carbide cutters or cobalt helix cutters (1600-1100 RPM @ 30 I.P.M.). Old horizontal boring mill (500-1200 RPM @ 45 I.P.M.) New Gantry mill (1200 to 2000 RPM @ 300-400 I.P.M) Caution on corners, slow down!

Questions? Please contact Goldenwest Manufacturing, Inc.

(530) 272-1133 or email sales@goldenwestmfg.com
www.goldenwestmfg.com

WARRANTY: All recommendations for product use have been derived from experience and test data believed to be reliable. We warrant and guarantee the uniformity of our products within manufacturing tolerance. However, since the use of our products is beyond our direct control, they are furnished upon the condition that each party shall make his/her own tests to determine their suitability for his/her particular purpose. Except as stated herein, Goldenwest Manufacturing Inc. makes no warranty or guarantee, expressed or implied, and disclaims all responsibility for results obtained, nor assumes any liability for any damages, whether arising out of negligence or breach of guarantee and is hereby expressly limited to replacement of product only. For additional information on product handling, please refer to R1/HG3000 MSDS on our website.