



R1/BB BUTTER-BOARD®

R1/BB Datasheet

DESCRIPTION & APPLICATION:

R1/BB Butter-Board® is a light weight, rigid, High Density plastic that is non-abrasive and very easy to machine or work with hand tools. R1/BB has a glass smooth cell structure. This plastic can be hand sanded with 400 grit wet/dry sandpaper to a nice smooth sheen prior to painting. R1/BB is a good alternative to machinable wax as it is physically stronger and therefore less likely to break, especially on thin walled areas, down to a 1/16" thickness.

R1/BB can be used 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, Cast Reproductions, or Custom Fixtures. R1/BB does not contain: Chlorinated Fluorocarbons (CFC's) or Volatile Organic Compounds (VOC's) see the MSDS for details.

R1/BB can be machined with HSS bits or cut with any standard cutting Tool. R1/BB density is 48 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 standard thickness is 6". If greater than 6" thickness is required, consider R1/M15 or R1/HG3000 or R1/Easy Green, all with unlimited thickness capability. Stock cylinder sizes are 12" long in diameters from 2 to 12 inches. Custom sizes and shapes are our specialty.

R1/BB can be bonded to itself or most other substrates using one part urethane or a two-part epoxy adhesive available from Goldenwest Manufacturing, Inc.

PHYSICAL PROPERTIES:

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| Density | ASTM D-1623 | 48 lbs./Cubic Foot |
| Compressive Strength | ASTM D-1621 | 2290 psi |
| Compressive Modulus | ASTM D-1621 | 74,400 psi |
| Tensile Strength | ASTM D-1623 | 2030 psi |
| Tensile Modulus | ASTM D-1623 | 75,600 psi |
| Shear Strength | ASTM C-273 | 2,130 psi |
| Shear Modulus | ASTM C-273 | 67,793 psi |
| Flexural Strength Method 1A | ASTM D-790 | 2,280 psi |
| Flexural Modulus Method 1A | ASTM D-7900 | 94,400 psi |
| Hardness Shore D | ASTM D-2240 | 63 |
| Elongation | | 4.2% |
| Dimensional Stability | ASTM D-2126 | 1.3% Max. |
| Water Absorption | ASTM D-2842 | 0.01% by Vol. after 96 hrs. |
| Closed Cell Content | ASTM D-2856 | 98% |
| "K" Value Insulation Factor | ASTM C-177 | 1.4% |
| 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 | 1.35 |
| Maximum Service Temperature | Dry | 235° F |
| Coefficient of Thermal Expansion (CTE) | | 73.2 X 10 ⁻⁶ °F |
| Specific Heat @ 77°F | ASTM E-1269 | 0.350 |
| Glass Transition | DMA/TMA | 248°F |
| Flammability Tests: | FAR 25.853 Vertical Burn | Pass |
| | MIL P 26514 Burn Test | Pass |
| | ASTM D-1692-74 Burn Test | Pass |
| | ASTM D635-06 Burn Test | Pass |

Follow heat temperature ramping of 1°F up per minute & 2°F down per minute. Recommended tooling speed is 1600-1100 RPM @ 100 I.P.M using Cobalt or Carbide tools.

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/Butter-Board MSDS on our website.