

## Sawbones Solid Rigid Polyurethane Foam 50 pcf Density

Category : Other Engineering Material , Composite Core Material , Polymer , Thermoset , Polyurethane, TS , Thermoset Polyurethane Foam, Unreinforced

### Material Notes:

**Solid Rigid Polyurethane Foam Primary Use** Solid rigid polyurethane foam is primarily used as an alternative test medium for human cancellous bone. These products are not intended to replicate the mechanical properties of human bone, however, it does provide consistent and uniform material with properties in the range of human cancellous bone. Relevant mechanical properties for comparison to human cancellous bone may depend on the particular test method that is being developed. The ASTM F-1839-08 "Standard Specification for Rigid Polyurethane Foam for Use as a Standard Material for Testing Orthopaedic Devices and Instruments" states that, "The uniformity and consistent properties of rigid polyurethane foam make it an ideal material for comparative testing of bones screws and other medical devices and instruments." **Description** Solid rigid polyurethane foam has a closed cell content ranging from 96.0 to 99.9%. Foam is available in a range of sizes and densities, from 0.08 to 0.80 grams per cubic centimeter (5 to 50 pounds per cubic foot).. Standard block size: 13cm X 18cm X 4cm Standard sheet size: 13cm X 18cm X 3mm **Other Notes** Water absorption ranges from 0.301 to 0.0 kg/m<sup>2</sup> Foam meets ASTM F-1839-08. Block dimensions are within  $\hat{A}\pm 2$ mm and sheet thickness is within  $\hat{A}\pm 0.3$ mm. Foam density may vary  $\hat{A}\pm 10$ %. Properties parallel to direction of the rise of foam. Information provided by Sawbones.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Sawbones-Solid-Rigid-Polyurethane-Foam-50-pcf-Density.php](http://www.lookpolymers.com/polymer_Sawbones-Solid-Rigid-Polyurethane-Foam-50-pcf-Density.php)

Physical Properties	Metric	English	Comments
Density	0.800 g/cc	0.0289 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Tensile Strength	27.0 MPa	3920 psi	
Tensile Modulus	1.469 GPa	213.1 ksi	
Compressive Yield Strength	48.0 MPa	6960 psi	
Compressive Modulus	1.15 GPa	167 ksi	
Poissons Ratio	0.30	0.30	
Shear Modulus	0.178 GPa	25.8 ksi	
Shear Strength	16.0 MPa	2320 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	63.0 $\hat{A}\mu$ m/m- $\hat{A}^{\circ}$ C	35.0 $\hat{A}\mu$ in/in- $\hat{A}^{\circ}$ F	
	@Temperature -46.0 - 93.0 $\hat{A}^{\circ}$ C	@Temperature -50.8 - 199 $\hat{A}^{\circ}$ F	

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