



SWX-217 Gamma Shielding

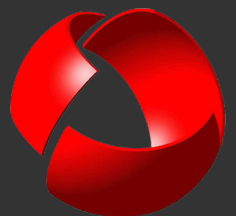
Poly-Biz



- High hydrogen content
- Gamma shielding alternative to lead
- Available in slabs, cylinders, and other custom shapes

SWX-217 Poly-Biz is an effective alternative to lead-based shielding products. It is comprised of a solid suspension of high density bismuth powder in a polyethylene matrix. Poly-Biz is a non-hazardous gamma shield with an additional benefit as a neutron moderator.

1-inch of Poly-Biz is roughly equivalent to 1/4-inch of lead for gamma shielding applications. Poly-Biz is typically provided as slabs or bricks, but is readily machined into custom shapes, like the dark outer cylinder of the shielding cask pictured.





SWX-217 Gamma Shielding

Specifications

Composition Data

Hydrogen atom density / cm ³ :	5.39 x 10 ²²
Hydrogen weight percent:	3.09 %
Bismuth atom density / cm ³ :	6.60 x 10 ²¹
Bismuth weight percent:	78.5 %
Total Density:	2.92 g / cm ³ (182 lbs. / ft ³)

Radiation Properties

Macroscopic thermal neutron cross section:	0.02 (cm ⁻³)
Gamma resistance:	5 x 10 ⁸ rad
Neutron resistance:	2.5 x 10 ¹⁷ n / cm ²

Physical Properties

State:	Bricks, slabs, cylinders
Color:	Brown
Odor:	No odor
Machinability:	Excellent

Thermal Properties

Recommended Temperature Limit:	180 °F (82.2 °C)
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Chemical Properties

Chemical Name & Synonyms:	Bismuth Polyethylene
Trade Name & Synonyms:	SWX -217, Poly -Biz
Chemical Family:	Polyolefins
Formula:	Mixture (CH ²) _n , Bi
Solubility in Water:	Negligible

