

SWX-210

30% Borated Polyethylene



SWX-210 30% Borated Polyethylene is typically used in applications such as criticality control where an effective thermal neutron poison is required. It has a high hydrogen content making it an effective fast neutron shield combined with a very high boron content of 30% for thermal neutron attenuation.

SWX-210 is available in slabs, bricks, and cylinders, and can be poured into custom molds to create application specific shielding forms.



Borated polyethylene containing 30% boron and a high hydrogen content

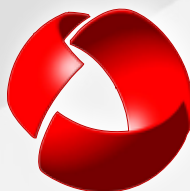


Effective neutron shielding for criticality control applications



Available in slabs, bricks, cylinders, and other custom shapes

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shieldwerxTM

SWX-210

30% Borated Polyethylene

Specifications

Composition Data

Hydrogen atom density / cm ³ :	6.07 x 10 ²²
Natural isotope distribution:	99.98 % ¹ H
Boron atom density / cm ³ :	1.99 x 10 ²²
Natural isotope distribution:	19.6 % ¹⁰ B and 80.4 % ¹¹ B
Weight percent of all isotopes of boron:	30 %
Total Density:	1.19 g / cm ³ (74.3 lbs./ft ³)

Radiation Properties

Macroscopic thermal neutron cross section:	14.5 (cm ⁻¹)
Gamma resistance:	5 x 10 ⁸ rad
Neutron resistance:	2.5 x 10 ¹⁷ n/ cm ²

Physical Properties

State:	Bricks, slabs, cylinders
Color:	Dark gray / black
Odor:	No odor
Machinability:	Poor

Thermal Properties

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

Chemical Name & Synonyms:	Borated Polyethylene
Trade Name & Synonyms:	SWX-210
Chemical Family:	Polyolefin's
Formula:	Mixture (CH ²) _n , B
Solubility in Water:	Negligible



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