

SWX-227

9% Borated Flexi-Panel



SWX-227 Borated Flexi-Panel is typically used for shielding neutrons such as those produced by high-energy accelerators used in physics research and fusion test facilities. Neutrons absorbed by facility structural elements can produce high energy capture gammas and activate the components of concrete.

SWX-227 is a flexible light-weight sheet material with relatively high boron content of 9% (natural isotope distribution) that produces an attenuation factor of 22 for thermal neutrons. SWX-227 also includes a hydrogenous additive that helps slow the fast neutrons and can reduce the overall radiation field.

It is a relatively inexpensive neutron shielding material and is available in standard flexible sheets 0.275" thick x 48" x 48" (7 x 1219 x 1219 mm) or in custom sizes. The strong, rubber-like material is self-extinguishing when exposed to flame. Each sheet weighs only 27-lbs (12.3 kg) and is easily handled and installed by non-specialized personnel. This material can be cut to size using a pocket knife and can be bent in a radius as small as 1/2" (12.7mm). SWX-227 is easily attached to concrete or other wall materials using standard mounting techniques.



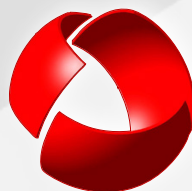
Highly flexible neutron shielding material ideal for installation on walls or in doors



Contains 9% boron along with hydrogen in a tough flexible elastomer



Easily Handled and Installed by Non-Specialized Personnel.



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Specifications

Composition Data

Hydrogen atom density / cm ³ :	4.63 x 10 ²²
Hydrogen weight percent:	5.24 %
Boron atom density / cm ³ :	5.8 x 10 ²¹
Boron natural isotope distribution:	19.6% ¹⁰ B and 80.4% ¹¹ B
Boron weight percent:	9.00%
Total density:	1.16 g / cm ³ (72.2 lbs / ft ³)

Radiation Properties

Macroscopic thermal Neutron cross section:	4.41 cm ⁻¹
Gamma resistance:	10 x 10 ⁸ rad
Neutron resistance:	5.0 x 10 ¹⁷ n/ cm ²

Physical Properties

State:	Rubbery Solid
Odor:	Mild odor
Color:	Off-white
Machinability:	Poor, but easy to cut

Thermal Properties

Recommended Temperature Limit:	180 °F
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Chemical Properties

Chemical Name & Synonyms:	Borated Polyurethane
Trade Name & Synonyms:	SWX-227
Chemical Family:	Polyurethane plus Boron compound
Solubility in Water:	Negligible



A Division of Bladewerx LLC

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