



SWX-238 Neutron Shielding

Flexi-Boron Shielding



SWX-238

- High temperature, flexible shielding material
- Contains 25% boron by weight that is uniformly distributed throughout a silicon elastomer matrix
- Available in sheet form or custom shapes and sizes

SWX-238 Flexi-Boron is a flexible highly effective thermal neutron shielding material useful for shielding irregular shapes as well as for being adhered to large straight or curved vertical surfaces. It can be cut to size with a utility knife and bent in a radius as small as $\frac{1}{4}$ " (6.4 mm). It can also be custom molded to virtually any configuration; a common application being cylinders with lids for shielding detectors.

SWX-238 Flexi-Boron has a high boron concentration that provides a thermal neutron attenuation factor greater than X250 for the standard $\frac{1}{8}$ " (3.2 mm) thickness. It will withstand temperatures of up to 400 °F (205 °C) without loss of physical or nuclear properties and is self-extinguishing when exposed to flame.

Three standard sizes of Flexi-Boron are available from stock:

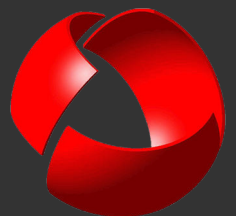
SWX-238A is 12" x 24" (305 x 610 mm)

SWX-238B is 24" x 36" (610 x 914 mm)

SWX-238C is 6" x 6" (152 x 152 mm)

All are $\frac{1}{8}$ " (3.2 mm) thick. Other sizes and thicknesses are available to meet your specific application requirements.

For more information visit: www.shieldwerx.com





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Specifications

Composition Data

Hydrogen atom density / cm ³ :	2.70 x 10 ²²
Hydrogen weight percent:	2.76 %
Boron atom density / cm ³ :	2.51 x 10 ²²
Boron natural isotope distribution:	19.6 % ¹⁰ B and 80.4% ¹¹ B
Boron weight percent:	27.6 %
Total Density:	1.64 g / cm ³ (102 lbs. / ft ³)

Radiation Properties

Macroscopic thermal neutron cross section:	18.9 (cm ⁻¹)
Gamma resistance:	1 x 10 ¹⁰ rad
Neutron resistance:	5 x 10 ¹⁸ n/ cm ²

Physical Properties

State:	Rubbery Solid
Color:	Black
Odor:	No odor
Machinability:	Poor, but easy to cut

Thermal Properties

Recommended Temperature Limit:	400 °F (205 °C)
Percent Volatile by Volume:	0

Chemical Properties

Chemical Name & Synonyms:	Flexi-Boron
Trade Name & Synonyms:	SWX -238
Chemical Family:	Boron Compound in silicon elastomer
Solubility in Water:	Negligible

