SWX-238 Flexi-Boron Shielding

- 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 ¼” (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 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 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
## Specifications

### Composition Data
- **Hydrogen atom density / cm$^3$:** $2.70 \times 10^{22}$
- **Hydrogen weight percent:** 2.76%
- **Boron atom density / cm$^3$:** $2.51 \times 10^{22}$
- **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:** $1 \times 10^{10}$ rad
- **Neutron resistance:** $5 \times 10^{18}$ 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