

# SWX-238

## Flexi-Boron Shielding



SWX-238 Flexi-Boron is a flexible 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 of 259 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.

Two standard sizes of Flexi-Boron are available

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

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

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



**High temperature, flexible shielding material**

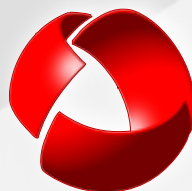


**Contains 25% boron by weight that is uniformly distributed throughout a silicon elastomer matrix.**



**Available in sheet form or custom shapes and sizes**

A Division of Bladewerx LLC



**shieldwerx**<sup>TM</sup>

# SWX-238

## Flexi-Boron Shielding

# Specifications

### Composition Data

Hydrogen atom density / cm <sup>3</sup> :	2.7 x 10 <sup>22</sup>
Natural isotope distribution:	99.98% <sup>1</sup> H
Boron atom density / cm <sup>3</sup> :	2.32 x 10 <sup>22</sup>
Natural isotope distribution:	19.6% <sup>10</sup> B and 80.4% <sup>11</sup> B
Weight percent of all isotopes of boron:	25.3%
Total Density:	1.64 g / cm <sup>3</sup> (102 lbs./ft <sup>3</sup> )

### Radiation Properties

Macroscopic thermal neutron cross section:	17.5 (cm <sup>-1</sup> )
Gamma resistance:	1 x 10 <sup>10</sup> rad
Neutron resistance:	5 x 10 <sup>18</sup> n/ cm <sup>2</sup>

### Physical Properties

State:	Rubbery Solid
Color:	Black
Odor:	No odor
Machinability:	Poor

### Thermal Properties

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

### Chemical Properties

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



A Division of Bladewerx LLC

# shieldwerx<sup>TM</sup>

103 Rio Rancho Dr NE, #C4  
 Rio Rancho, New Mexico 87124  
 United States of America  
 Phone: +01.505.892.5144  
 Fax: +01.505.890.8319  
 Email: sales@shieldwerx.com

Data Sheet Revision: July 2007