



## Neutron Shielding Products



# The Borated Polyethylene Neutron Shielding

King Plasti-Shield® is an effective shielding material with 5% boron by weight and our trademark purple color to meet all applicable applications for healthcare cancer treatment centers, diagnostic and hospital facilities. Applications include linear accelerators, nuclear or radiation shielding, industrial use, security such as seaports and airport security, nuclear submarines, nuclear power plants, border protection and other applications requiring attenuation of thermal neutrons.

King Plasti-Shield is certified by prime vendors of the U.S. government as the source for Grade II and Grade III neutron shielding material on nuclear submarines and naval warships. Our process, materials, quality programs, sampling, testing, tracing and packaging all meet or exceed military specifications such as MIL-P23536A and EB2562E. We use MIL-STD-45662 for internal calibration system traceable back to NIST.

## **KING** **PLASTI-SHIELD®**

### Applications

- Airport Security and Sea Port Security
- Doors for Linear Accelerators
- International Border Security
- Medical Vaults
- Nuclear Reactors
- Nuclear Powered Vessels
- Research Applications

## Specifications for 5%

### Standard Sheet Size

**in:** 48" x 96"

**mm:** 1219mm x 2438mm

### Standard Gauge

**in:** 1"

**mm:** 25.4mm

### Approximate Weight

**lbs:** 174 lbs

**kg:** 78.925kg

### Tolerance information:

**K-Stran™**

Gauge 1" ± 5%

Length and width plus only at room temperature

Custom sheets, blocks and slabs available in standard or custom colors

Properties	Units	ASTM	Nominal Values
Density (5% Borated)	g/cc	D1505	0.98
Tensile Strength @ Yield	p.s.i.	D638	3,960
Durometer	Shore D	D2240	66
Vicat Softening	°C (°F)	D1525	89°C (192°F)

All values are determined on specimens prepared according to ASTM Standards.  
Thickness required to attenuate a neutron beam by a factor of 10. M.

Material	Density	Thickness
Water	1.0	8.8"
Concrete	2.4	9.6"
HD Concrete	3.5	9.6"
Iron	7.9	5.7"
Lead	11.3	7.8"
King Plasti-Shield 5%	1.04	8.0"

For tolerance information, contact your King Plastic Corporation representative.  
Custom and proprietary colors available with appropriate minimum order.  
Nominal values should not be interpreted as specifications.



King Plastic Corporation  
Our Innovation. Your Imagination.®

## Standard Color

## Also Available



5% Purple



2% Red

Note: Color accuracy can vary considerably on computer monitors and printers.  
Please consult your distributor for a product sample before making critical color choices.

## Our Capabilities Include

- Approved suppliers for all raw materials
- Test for Hydrogen Density to verify correct level
- Fluoroscopic X-Ray machine to check for voids and foreign materials
- Performing all packaging and shipping requirements
- Lab reports and certifications available for a fee
- 100% visual inspections performed on all material
- Systems in place to handle the use of NO-FORN documents and have been approved for use in military critical technical data
- Audits by the Navy Nuclear, Electric Boat and Northrup Grumman every 2 years with no findings
- Meeting military specifications such as MIL-P23536A and EB2562E
- Approved sampling plan in accordance with MIL-STD-105 with AQL of 0.4%
- Performing all marking of material for traceability in accordance with MIL-STD-792
- We use MIL-STD-45662 for internal calibration system traceable back to NIST

Distributed by:



**Piedmont Plastics®**  
where solutions take shape

Toll Free: 1.800.277.7898  
www.piedmontplastics.com