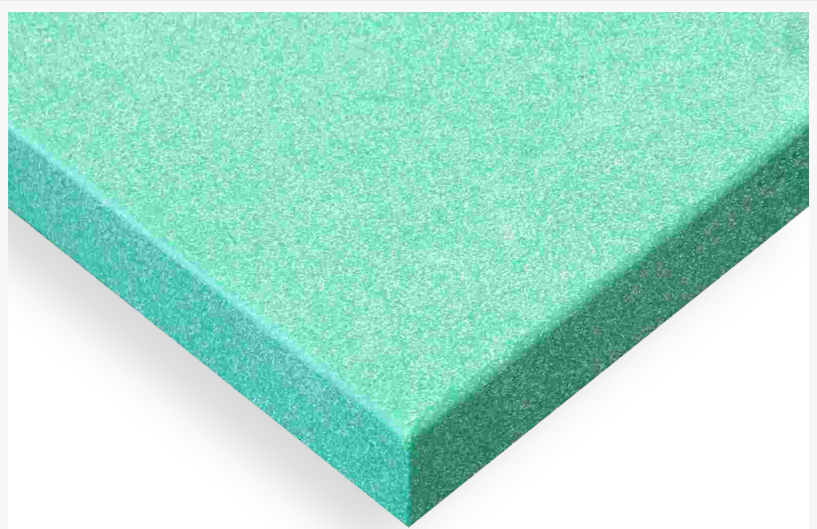


# Next-Generation Safety Shielding Solutions for High Radiation Environments

*Boron-infused HDPE from Interstate Advanced Materials is a lightweight, lead-free alternative to traditional neutron shielding materials.*

SACRAMENTO, CA, UNITED STATES, March 26, 2025 /EINPresswire.com/ -- The fusion energy, power generation, and nuclear shielding industries need materials that provide exceptional protection against neutron radiation exposure without compromising safety or performance. Designed specifically for high-radiation environments, [Boron-infused high-density polyethylene \(HDPE\)](#) from Interstate Advanced Materials delivers reliable neutron protection while offering a lightweight, lead-free alternative to traditional shielding materials.



Radiation shielding Boron HDPE sheet is specifically designed to protect against neutron bombardment and can replace lead for control room barriers, protective wall linings, and other nuclear shielding applications.

Neutron shielding panels, control room barriers, medical radiation shielding, and protective wall linings in radiation therapy centers require protection that effectively blocks neutron radiation while maintaining durability and ease of use. Boron HDPE, which integrates 5% Boron by weight into a [high-density polyethylene \(HDPE\)](#) base, is a shielding material that absorbs and attenuates neutron radiation exposure. This composition enhances safety in radiation-prone environments by reducing the harmful effects of neutron bombardment in high-radiation areas.

Critical components, including shielding for fusion reactors, containment structures, and supporting equipment such as radiation shields for diagnostic devices, access hatches, and high-energy test chambers all benefit from Boron HDPE. It effectively minimizes radiation exposure by interacting with neutrons to reduce penetration, ensuring safe operating conditions. Unlike traditional materials, Boron HDPE provides a non-toxic, lead-free alternative that is easier to handle and install, reducing potential health risks for workers and researchers.

X-ray room shielding panels, protective barriers for imaging machines, and shielding curtains for



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*Christopher Isar*

radiation therapy rooms need radiation shielding that retains its structural integrity over time. Boron HDPE provides consistent neutron attenuation, making it a dependable choice for long-term shielding in medical imaging rooms, veterinary clinics, chiropractor offices, dentistry offices, areas using X-ray equipment, and radiation therapy facilities. Unlike traditional shielding materials, Boron HDPE does not require special handling procedures associated with lead, making it safer for personnel and reducing regulatory concerns.

Shielding reactor vessel linings, neutron collimators, radiation shielding doors, and particle accelerator enclosures in power generation facilities - including nuclear power plants and particle accelerators - all use Boron HDPE. Its significantly lower weight than lead makes it easier to transport and install, lowering labor costs and increasing flexibility in radiation protection design. Additionally, Boron HDPE does not corrode or oxidize, ensuring long-term durability and reliability in demanding environments.

Interstate Advanced Materials offers Boron HDPE in full sheet and cut-to-size options. To learn more about how Boron HDPE for fusion energy, power generation, and nuclear shielding applications, call a material expert today at 800-742-3444.

Interstate Advanced Materials is a full-line distributor of high-performance sheet, rod, tube, plate, and bar, and proudly serves many diverse industries, including OEM, semiconductor, food processing, POP display, government, agriculture, automotive, and many others. With 10 locations nationwide and an online sales and support team, Interstate Advanced Materials provides full sheets and pallets, cut-to-size service, complex CNC, welding solutions, and full machining capabilities.

Interstate Advanced Materials is known for selling high-quality products, providing excellent customer service, and providing superior technical support. Excellence in all facets of the customer experience has been the cornerstone of Interstate Advanced Materials for over 40 years.

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