

Demron™ ALARA Shield Blanket



The Demron™ ALARA Shield blanket is a contemporary shielding solution for gamma and X-Ray radiation. **The fabric can be configured in industry standard shielding blankets or curtain designs as well as in unique, customizable designs.**

Key Benefits:

- ◇ Significantly lighter weight (pounds/square foot) compared to lead; Results in reduced resources and person dose required to deploy/collect
- ◇ Non-toxic material; eliminate mixed hazardous waste concerns typically encountered with lead
- ◇ Customizable size and thickness solutions; can develop specific solution for given application
- ◇ Outer layer of material is easily wiped down/decontaminated due to Herculite outer layer
- ◇ Large Area Blankets/ Curtains can be designed with grommets or magnets to facilitate easy hanging and attaching to surfaces and locations

Utilizing a patented material that is a mixture of heavy metal and polymers, the ALARA shielding material allows for an industrial shielding solution that is lighter in weight than lead and is Non-Toxic. **Therefore, when the Demron material becomes contaminated with residual radioactive contamination it is NOT A MIXED HAZARDOUS Material such as traditional lead.**

Custom Use Cases/Industry Example:

- ◇ In-core detector shielding bag
- ◇ Reactor Coolant/Demineralizer filter transfer Container shielding
- ◇ 55-gallon drum lid shield covers
- ◇ Shielded Work or Hot Tool Bag (used to move material with hot particle)
- ◇ Low Dose shielding Decon Tents
- ◇ Fuel Handling Crane and Tool customized shielding
- ◇ Neutron Flux (Gamma metrics) detector box slip covers

Blanket Use Cases:

- ◇ Pipe/component shielding
- ◇ Outage/Reactor Head/Cavity shielding
- ◇ Tool/Component shielding
- ◇ Rad Monitoring or Contamination/Portal Monitoring shielding
- ◇ Shadow or Large Area shielding
- ◇ Rad Waste/HIC Container shielding
- ◇ Glovebox/sampling skid shielding



Characteristics:

- ◇ Material available in standard 6 or 12 layer thicknesses
- ◇ Industry standard Herculite protective outer layer
- ◇ Approximately 30-45% (or better) attenuation of nuclear power plant standard plant mix gamma fields as measured in numerous Nuclear Plant environments for ALARA (6 layer) blankets. Standard blanket dimensions: 1' x 2' to 1' x 6' standard dimensions
- ◇ Approximately 1.5 pounds/square foot for standard blanket design
- ◇ Highly non-flammable material; material heat rating of 370 degrees F; non-flammable Herculite outer layer
- ◇ Specific Molecular engineering of material provides attenuation to gamma and X ray radiation and maximum heat dissipation
- ◇ Material can be folded for added layers of protection
- ◇ Material (Blankets and Curtains) available with magnets, handles and grommets for easy deployment
- ◇ Non-Toxic, Non-mixed hazardous waste blend of metallic material and polymer beads



	% Reduction using ALARA 6 layer blanket	Plant location of test
Site 1	36%	Reactor Building
Site 2	45%	Rad Waste
Site 3	30%	Rad Waste
Site 4	82%	PWR Reactor Core Barrel
Site 5	24%	PWR CVCS Room

Cs-137 (662 kev) Free Air Irradiation

(at NIST traceable lab; as measured with calibrated EPD's)

Note: Data collected at 2 R/hr, 5 R/hr, and 10 R/hr

	Average % Reduction
ALARA (6-layer) blanket	12%
ALARA+ (12-layer) blanket	19%