

Radiation Protection & Contamination Control



Manufacturing radiation protection and contamination control solutions since
1974

Seattle | Providence | Washington, D.C.

Lancs Industries manufactures custom designed radiation shielding and containment products used to increase safety and reduce risk to workers in Nuclear, Chemical and Bio Hazard work environments throughout the world. Our products successfully mitigate hazards at Commercial Nuclear Sites, Site Remediation, Decommissioning and Demolition, Research Laboratories as well as Naval ships and shipyards in facilities in North America, Europe and Asia.



Custom Protective Clothing



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Custom Protective Clothing

- **Suits:** One-piece, Two-piece, Sack Suit, Wet Suit, Acid Suit, Welders Jacket
- **Hoods:** PVC, Cotton, Poly/Cotton Blend, Urethane-coated Nylon, Endura
- **Shoe Covers:** High Top PVC Bootie, Low Top Overshoe, Cotton Overshoe, Low Top Rubber Bootie, Low Top Rubber Overshoe, Rubber Overshoe with Gaiter, Urethane-coated Nylon with Hypalon Sole



Radiation Shielding



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Radiation Shielding

- Lead Blankets: Largest manufacturer of lead wool and lead plate blankets



Approximate Dimensions	Density=	48.8 kg/m ²	61.1 kg/m ²	73.2 kg/m ²	97.6 kg/m ²
300mm x 600mm		LI-202	LI-212	LI-222	LI-232
300mm x 900mm		LI-203	LI-213	LI-223	LI-233
300mm x 1200mm		LI-204	LI-214	LI-224	LI-234
300mm x 1500mm		LI-205	LI-215	LI-225	LI-235
300mm x 1800mm		LI-206	LI-216	LI-226	LI-236

Lead Wool Density (kg / m ²)	Approximate Finished Blanket Thickness (mm)	Lead Sheet Equivalent Thickness(mm)	% Dose Rate Reduction (Co-60)
48.8	9.5	3.2	20%
61.1	12.7	4.0	23%
73.2	15.9	4.8	26%
97.6	19.1	6.4	31%

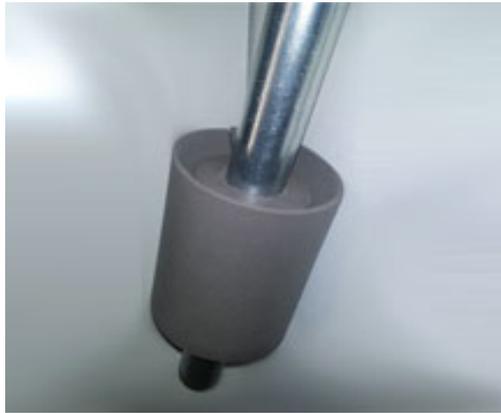


Radiation Shielding

Pipe Wrap



Pipe Shields



Floor Shields



Blankets



Radiation Shielding

Attenuation for 1250 KeV Co-60 for Shielding Materials versus Thickness

Material Thickness (Inches)												
MATERIAL TYPE	.25	.5	.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3
Tungsten	22%	39%	52%	62%	70%	77%	82%	86%	89%	91%	93%	95%
Bismuth	16%	29%	40%	50%	58%	64%	70%	75%	79%	82%	85%	87%
Iron	9%	17%	25%	32%	38%	44%	49%	53%	58%	62%	65%	68%
Compared to:												
Lead Plate	34%	56%	71%	81%	87%	91%	94%	96%	98%	98%	99%	99%

Containments and Tents



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Glovebags

CH2M Hill, Hanford

- This is an example of a Glovebag being used in part of the Transuranic Waste Repacking process. We also supplied bags with BOP filters for retrieving the drums before they were sorted.
- [Transuranic Waste Repacking video](#)



Glovebags

Pine Bluff Arsenal

- We collaborate with PBA and provide products for their individual and collective chemical protection / decon systems and munition production. They also use our products as part of their chemical & biological defense operations training program.



Glovebags

Hanford Site, Tank Farms

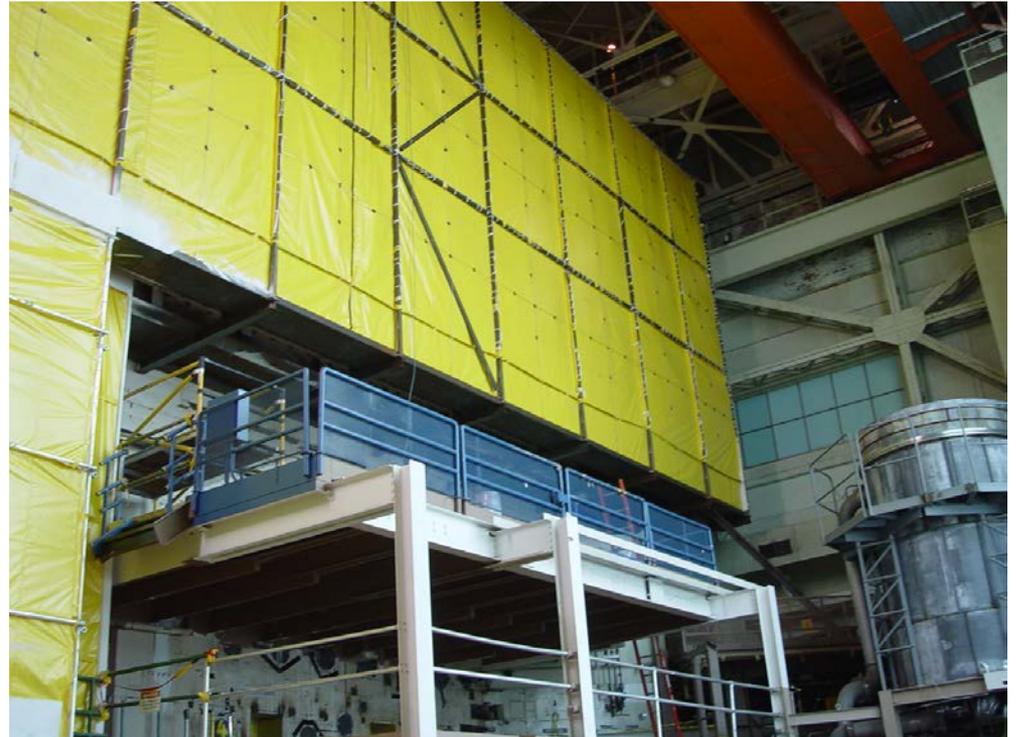
- This glovebag was used in part of Hanford Tank Farms sampling and inspection operation.



Containment Tents

Brookhaven National Lab

- This project involved the dismantling of the Brookhaven Graphite Research Reactor. It consisted of several large containments covering thousands of square feet.



Containment Tents

Hanford Site

- At Hanford Tank Farm a preassembled tent is being crane lifted into place so workers can perform work on a leaking tank



Containment Tents

EnergySolutions

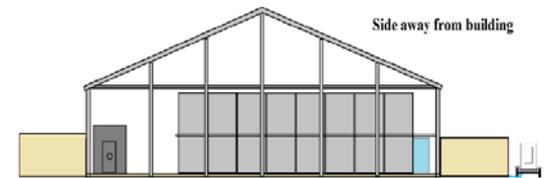
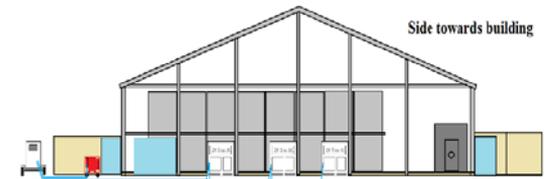
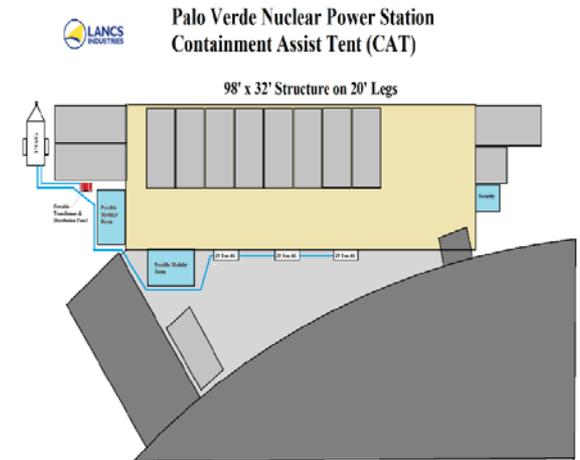
- At Humboldt Bay, components are being decommissioned from Unit 3. This shows an example of the ventilation equipment we can provide with our tents.



Large Containment Tents

Designed for rapid installation. Withstand 100 km/hr winds. Complete with electrical distribution, HVAC, lighting and HEPA Filtration.

At Palo Verde, components are stored outside of Containment Building during Refueling Outages. This shows design of the Large Tent we designed for their Site.





Duradeck Flooring

Module Size:

Length: 8' / 2.44 m

Width: 4' / 1.22 m, 3' / .914 m, 2' / .609m

Module Size: 32 sq/ft / 2.973 sq/meters

Thickness: ½" thick mat + 3/8" cleat

Module Weight:

Weight: 86 lbs / 39.01 kg

Per Square Foot: 2.69 lbs. / 43 oz. / 1.22 kg. / 1219 grams

Per Square Meter: 28.60 lbs. / 12.97 kg.

Colors:

Black, White.

Custom colors available (minimum order required).

Material:

Black High-Density Polyethylene (HDPE) post-industrial recycled plastic, naturally UV resistant due to the carbon black used for color. White mats available.

Compressive Strength:

ASTM D695-02a: 2,843psi

Flammability Resistance:

UL-94 HB Rating

Tread Pattern:

DD1: Double-traction tread design includes two parallel traction treads positioned at a 90-degree angle to adjacent double traction tread sets.

DD2: Rugged double-traction tread on one side/Pedestrian tread one side

DD3: Pedestrian tread on one side/Smooth (no tread) on one side

DD4: Rugged double-traction tread on one side/Smooth (no tread) on one side

Support Structure:

Matting incorporates multi-directional structural support (cleat design) allowing for distribution or dispersion of PSI weight factors. Not intended for bridging.

Weight Loading:

Varies, depending on sub-surface, up to 80 tons capacity.

Ground surface:

DuraDeck mats are designed to be used with no ground preparation over grass, gravel, soil, concrete, asphalt, mud and sandy soil conditions.

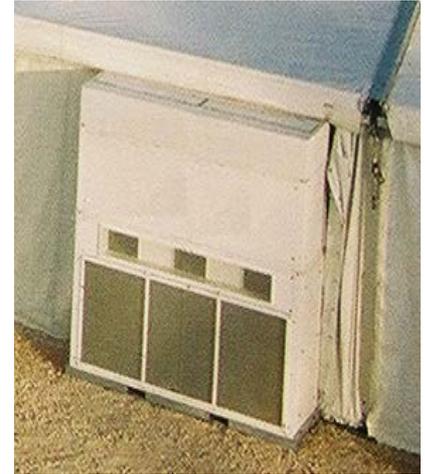
Connection System:

DuraDeck mats have six holes (in each corner and in the center line) to create multi-directional roadways or nearly any size or shape. Mats can be connected using metal DuraLink connectors. DuraLinks do not require tools to install.

Warranty:

7 years against cracking and breaking under normal use.

Portable AC/Heat/Filtration



*** 100% Return Air w/ no Positive Air Pressure (Filtered)

Ambient Operating Range:	45-115°F
Design Supply Air CFM:	8,000
Supply Air Fan HP	5
Total Weight:	2150
Minimum Circuit Amps:	57.8 Amps
Cooling Only:	51.6 Amps

Refrigeration Circuits:	2
Supply Air ESP:	1.0"
Unit Dimensions (LxWxH)	91" x 36" x 94"
Power Connections:	Camloc – Power In & Out.
Electric Heat:	45 kW
MCA (Heating Only)	78.8 Amps

Electrical Systems

Power Temp Systems portable power distribution system which includes all Nema 3R Transformer, 120/208V and 480V Distribution Panels, Cam-Lok and Wetguard Extension Cables, GFCI & Wetguard Quad Boxes

400A Metal Halide High Bay Lighting Fixtures

Complete system is plug and play.



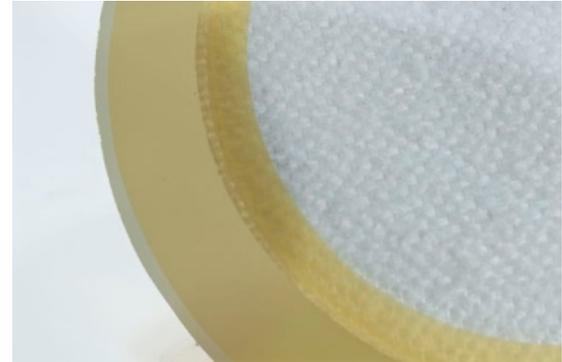
Supplies and Accessories



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Supplies and Accessories

- **Filters:** HEPA filters, Pancake Filter Cartridges, Metal Housings, Plastic Housings, BOP Filters
- **Glovebag /Tent**
Accessories: Frames, Glove Ring and Clamp, Tie-offs, Transfer Cylinder Assemblies, Bag-out Rings, Drain Assemblies, Adhesives
- **Other:** Signage, Barriers (Tape & Rope), Spill Kit, Poly Bottles



Respiratory Equipment



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Respiratory Equipment

- **Air Fed Hood:** Supplied Air Respirator (SAR), NIOSH approved
- **Air Hose:** Braided rubber hose, available in 25' lengths up to 300' max
- **Fittings:** Hansen, Foster, Schrader, Snap Tite and CEJN



Sleeving, Bags & Roll Goods



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Sleeving, Bags & Roll Goods

- **Sleeving:** Multiple materials and lengths, heat-sealed lap seam or seamless tubing
- **Bags:** Multiple materials and dimensions, may include flaps, snaps, grommets, bungee cord, O-rings, zip lock, Velcro, handles, pockets, filters
- **Roll Goods:** We can provide large quantities of film or sheet for any of the materials we stock





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