

OREX[®]

ADVANCED PROTECTIVE CLOTHING TECHNOLOGY

The Spin Cycle

Sorting through various claims about protective clothing



Launderable companies make enticing promises. **Only OREX disposables deliver results.**

There's a lot of information out there about protective clothing and the various benefits of both launderable and disposable options. In fact, with all the rampant claims in the industry these days, it's easy to be misled. At OREX, we wanted to set the record straight on some of the biggest claims being made by our competitors. After all, when it comes to something as important as personal contamination protection, don't you deserve to have all the facts?

	LAUNDERABLES	OREX
HOLES IN LAUNDERABLES VS. DISPOSABLES	<i>Competitors claim their launderable fabric openings range from 10-50 microns and offer improved protection over disposables, which they claim range from 20-300 microns. They offer supporting image magnification to illustrate this.</i>	<i>The claim of holes in launderable fabrics in the 10-50 micron range is valid. The fact is, launderables have holes in the weave across the entire surface of the fabric that can be as large as 125 microns. (Average power plant contamination ranges from 1 micron to 50 microns in diameter.) But OREX Ultra has been tested to protect against particulates down to 0.5 micron in size. OREX Ultra is actually a "barrier"; launderables are not. And OREX doesn't need to manipulate image magnification to illustrate this.</i>
PROPRIETARY TECHNOLOGY	<i>Competitors tout the superior strength and barrier protection of their garments.</i>	<i>The leading launderable fabric, which contains a carbon grid, was actually developed for anti-static applications in the electronics industry. It was not developed for radioactive particulate barrier protection. The OREX Ultra is rapidly becoming widely recognized as the preferred protective clothing for personal contamination protection across the nuclear industry.</i>
REAL PCE REDUCTION CLAIMS	<i>Competitors cite the numerous successes of their customers in various outages.</i>	<i>The fact that some of the same plants have since transitioned to OREX to set record low PCE levels has been conveniently omitted. Additionally, results cited often don't differentiate large scope outages from normal refueling scope outages so some values appear inflated.</i>
LAUNDRY SERVICE FACILITIES	<i>Competitors claim an abundance of active licensed facilities across the country to service your laundry needs.</i>	<i>With the ever-increasing growth of disposable use among power plants, several laundry service facilities have closed in recent years.</i>
SHARE OF THE POWER PLANT MARKET	<i>Competitors imply they're servicing the launderable needs of over 75% of the nuclear industry.</i>	<i>OREX has a dominant share of the commercial nuclear industry protective apparel market. Competitors often bolster their sales numbers by counting peripheral products like lifting straps and harnesses, or include DOE sales in their assumptions.</i>

Comparative Cost Analysis

Cost-Per-Use Calculator for Protective Clothing C-Zone Entries: 20,000

	LEASED LAUNDRY		OREX ULTRA PVA		OREX DELUXE PVA	
	Cost Per Use	Total Annual	Single Use	Total Annual	Single Use	Total Annual
Coveralls	\$3.94	\$78,800	\$6.73	\$134,600	\$5.87	\$117,400
Hoods*	\$0.73	\$14,600	\$0.56	\$11,200	\$0.56	\$11,200
Hard Hat Cover	\$0.30	\$6,000	\$0.55	\$11,000	\$0.55	\$11,000
Rubber Shoe Covers	\$1.06	\$21,200	\$1.50	\$30,000	\$1.50	\$30,000
Shoe Covers (Booties)**	\$1.16	\$23,200	\$1.05	\$21,000	\$1.05	\$21,000
Rubber Glove	\$0.84	\$16,800	\$0.58	\$11,600	\$0.58	\$11,600
Glove Liners	\$0.24	\$4,800	\$0.31	\$6,200	\$0.31	\$6,200
Ripout % [†]	0%	0	0%	\$0	0%	\$0
Dissolve Price/lb ^{††}	\$0.00	0	\$1.75	\$26,950	\$1.75	\$26,950
Radwaste Price/lb	\$0.00	0	\$2.20	\$19,663	\$2.20	\$19,663
Totals		\$299,540		\$272,213		\$255,013
Actual Cost Per Entry		\$14.98		\$13.61		\$12.75

	Ultra PVA	Deluxe PVA
Savings with OREX	\$27,328 (10%)	\$44,528 (17%)
5 Year Savings with OREX	\$136,638	\$222,638

Cost Factors Not Included in Launderable Analysis

Purchase & Disposal of Disposable PCs (assume 20% Double PCs)	\$45,000
Replacement costs not included in lease	\$29,750
Logistical Cost ¹	\$57,890
Misc. Fees & Surcharges	\$1,500

Totals
Actual Cost Per Entry

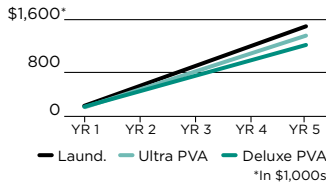
*Most plants use Original OREX hoods with Ultra or Deluxe Coveralls
 **Most plants use Deluxe booties with Ultra or Deluxe Coveralls
[†]OREX "Ripout%" is negligible
^{††}OREX dissolving price is \$1.75/lb or less

¹Leased laundry labor and shipping as a percentage of lease charges:
 \$33,080 Add Outage on-site distribution support (20% on Processing Invoice)
 \$24,810 Add On-site WMG RadPro shipper (15% on Processing Invoice)
 \$57,890 Total Support Charges

Protective Clothing Cost Comparison

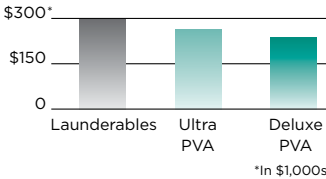
5 years cumulative

Launderables	\$1,497,700
Ultra PVA	\$1,361,063
Deluxe PVA	\$1,275,063



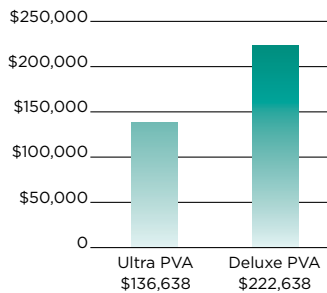
Cost Comparison Per Outage

Launderables	\$299,540
Ultra PVA	\$272,213
Deluxe PVA	\$255,013



Cost Savings with OREX

Over 5 years, vs. leased laundry



OREX Item Weights

Total lbs. per single-use PC set

Coveralls	0.550
Hoods	0.070
Hard Hat Covers	0.060
Booties (pair)	0.090
Total lbs dissolvable	0.770
Rubber Shoes (pair)	0.250
Rubber Gloves (pair)	0.150
Gloves Liners (pair)	0.047
Total lbs disposable DAW	0.447
Total lbs per set	1.217

“LAUNDERABLE GARMENTS ARE NEVER AS CLEAN AS NEW.”

Point/Counterpoint

Our competition has raised some issues about the relative merits of launderables vs. disposables. Here's the real story.

Competitor's Issue:

Liability of radwaste disposal pricing/availability with single use.

OREX Responds:

ETI assumes liability for processing of all OREX products.

Competitor's Issue:

Safety issues with fit on disposables, particularly shoe covers.

OREX Responds:

Workers enjoy the comfort and fit of single-use shoe covers and there are no safety issues.

Competitor's Issue:

Lack of water-repellency with single use PVA.

OREX Responds:

OREX Deluxe is splash-resistant; Ultra and Xtreme are waterproof.

Competitor's Issue:

Pricing includes an emergency supply of 2000 sets of launderables onsite during outages.

OREX Responds: ETI carries huge inventories of all products to meet emergent needs.

Competitor's Issue:

FR coveralls etc. also can be included on a cost-per-use basis.

OREX Responds: OREX FR can also be included to meet FR needs.

Competitor's Issue:

Strategically packaged distribution carts can reduce distribution labor and injuries.

OREX Responds: Light weight (70% less) of OREX truly minimizes material handling risk.

Competitor's Issue:

Launderable hoods & coveralls fit better for better worker efficiency.

OREX Responds: Many workers prefer the fit of OREX, and the comfort of having a new, clean garment every time they dress out.

Competitor's Issue:

Worker/labor time lost due to ripout (leaving and returning to area).

OREX Responds:

Ripout of OREX is negligible.

Competitor's Issue:

Launderable leasing facility assumes all responsibility for the final disposal of launderable PCs.

OREX Responds:

ETI assumes responsibility for OREX processing and final disposal of residuals.

Competitor's Issue:

All ASTM tests that are indicators of protection are improved with launderable garments.

OREX Responds:

OREX Ultra is the only coverall specifically designed and tested to protect against radioactive contamination.

Competitor's Issue:

Other radwaste-reducing items not used (FR, wipers, tarps, FME covers).

OREX Responds:

OREX has wipes, mops, sheeting, tote bags, and more.

All can be fully dissolved, resulting in zero waste.

Competitor's Issue:

Warehouse typically adds 20-30% onto purchase price for items they buy.

OREX Responds:

With the use of our outage trailers there are no additional warehousing costs.

Your OREX representative can provide a detailed cost comparison and analysis which accurately represents the costs and benefits of using OREX disposable garments versus launderables.

Please call us at 334-899-4351, or visit us online at orex.com.

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