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HEAVY INDUSTRY · TOTAL COST OF OWNERSHIP

PPE Total Cost of Ownership Tool

A three-year model that prices rush fees, quality rejects, compliance exposure and replacement frequency.

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DISCLAIMER

This resource is practical procurement guidance written from a China-side workwear factory's perspective. It is not legal, safety or compliance advice. FR and hi-vis standards, arc ratings and certification scope vary by garment, market and edition; confirm every value against the current standard, a verifiable certificate and an accredited lab report before you commit funds.

Heavy industry PPE resource | Document ID: SPEC-HVY-TCO-001

Purpose

Purchase price is a fraction of true PPE cost. This 3-year TCO model factors in rush fees, quality rejects, administrative overhead, compliance gap exposure, and replacement frequency — enabling an accurate comparison of multi-supplier vs single-supplier heavy industry PPE programs.

3-Year TCO Comparison Worksheet

Assumptions: 500-worker program. FR coveralls, hi-vis vests, anti-static workwear. 3 garments per worker per year baseline.

COST CATEGORY	MULTI-SUPPLIER (4 VENDORS)	SINGLE-SUPPLIER FACTORY-DIRECT
Purchase Price (per garment)	$85 avg across vendors	$55-70 factory-direct
Annual Garment Volume	1,500 units	1,500 units
Annual Purchase Cost	$127,500	$82,500 — $105,000
Expedited / Rush Order Fees	$8,000 — $15,000/year (emergency reorders from 4 vendors, unpredictable lead times)	$0 — $3,000/year (48-hr mill backup activation, no rush surcharge within protocol)
Quality Reject Costs	$5,000 — $10,000/year (inconsistent QC across vendors, 3-5% reject rate)	$1,000 — $2,500/year (triple-stage QC, ≤1.5% defect rate)
Compliance Gap Penalties & Fines	$0 — $50,000+/year (audit findings, expired certs, one incident = $200K-$2M+)	$0 (proactive cert tracking, 90-day alerts, batch documentation)
Administrative Overhead	$15,000 — $25,000/year (manage 4 vendor relationships, 4 sets of paperwork, 4 invoices, 4 compliance files)	$3,000 — $5,000/year (one account manager, one invoice, one compliance file)
Replacement Due to Premature Wear	$10,000 — $18,000/year (inconsistent fabric quality, early tape delamination, seam failures)	$3,000 — $6,000/year (100+ cycle validated, 3M Scotchlite, consistent fabric)
Insurance Premium Impact	Baseline or +5-15% (history of incidents/compliance gaps)	Potential reduction with documented compliant program

3-Year Cumulative Comparison

SCENARIO	YEAR 1	YEAR 2	YEAR 3	3-YEAR TOTAL
Multi-Supplier (Low Estimate)	$165,500	$165,500	$165,500	$496,500
Multi-Supplier (High Estimate)	$235,500	$235,500	$235,500	$706,500
Single-Supplier Factory-Direct (Low)	$89,500	$89,500	$89,500	$268,500
Single-Supplier Factory-Direct (High)	$121,500	$121,500	$121,500	$364,500

$138K–342K
3-YEAR TCO SAVINGS

28–48%
TCO REDUCTION

≥ 50x
ROI VS SINGLE INCIDENT

Hidden Costs Checklist — What Purchase Price Doesn't Show

- □ Rush Fees: When Vendor A can't deliver on time, what's the expedited shipping surcharge? With 4 vendors, this happens more often.
- □ Quality Rejects: Who pays for rejected batches? What's the replacement lead time? Workers without PPE = production stoppage.
- □ Admin Time: Procurement team hours spent managing 4 vendor relationships, 4 sets of invoices, 4 compliance files.
- □ Compliance Exposure: Cost of an audit finding. Cost of an OSHA citation. Cost of an incident where FR certificate can't be verified. These costs dwarf purchase price.
- □ Insurance Premiums: A history of incidents or compliance gaps leads to higher premiums. A documented, single-supplier compliant program can support lower rates.
- □ Worker Non-Compliance: If workers refuse to wear heavy, uncomfortable PPE, what's the cost of the resulting incident? What's the cost of replacing 40% more garments because they're not being worn?

How to Use This Tool

1. Gather your current invoices — all PPE suppliers, past 12 months. Include rush orders and rejected batches.
2. Enter your actual purchase prices in the worksheet above. Replace the example numbers with your real data.
3. Estimate hidden costs — admin hours, rush fees, quality rejects. If you don't track these, start. They're likely 15-30% of purchase cost.
4. Request factory-direct pricing from LantaoWork for your actual garment specs and volumes. We'll run the comparison using your numbers.
5. Compare 3-year TCO — not unit price. The supplier with the lowest unit price often has the highest total cost.

Note: All cost estimates are illustrative ranges based on industry benchmarks and client program data. Your actual costs depend on current supplier mix, volume, garment complexity, and hazard profile. Request a side-by-side comparison using your actual invoices — no commitment, just numbers.

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LANTAOWORK TCO TOOL

Purchase price is a fraction of PPE cost.

Send twelve months of PPE invoices — a three-year TCO comparison and a hidden-cost breakdown are returned against a factory-direct quote.

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