

ADVANCED PERSONAL PROTECTION FOR INDUSTRIAL WORKERS

PBI Performance Fabrics

Maximize personal protection with unmatched performance against flash fire and heat stress. PBI TriGuard® garments resist breakopen and will not burn, melt, drip, shrink, crack or embrittle during direct flame exposure. They remain resistant to breakopen even when exposed to the concussive force of arc flash. PBI TriGuard fabric is soft, lightweight, absorbent and breathable, and offers high tensile strength and tear properties. Garments made with PBI TriGuard fabric meet or exceed all Industrial OSHA and NFPA standards – including better flame and thermal protection than traditional fiber blends. The protective qualities afforded by PBI TriGuard fabrics are inherent in the fiber of the fabric, not applied to the surface, and therefore will not wear or wash out. Refineries, chemical facilities and power generating plants strive for safety. So, when you combine the routine hazards posed and the volatile materials processed in these facilities, providing workers with additional protection against the dangers of heat and flame becomes critical. The challenge in the past has been to provide highly protective workwear that is comfortable, durable, and practical. That challenge has now been met. A revolutionary material, PBI TriGuard, is the new, advanced blend of protective fabric...tough enough to stand up to the rigors of the petrochemical and electrical industries while at the same time promoting worker comfort and safety.



Blended Value

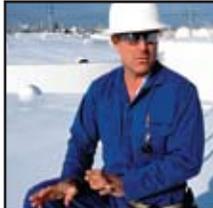
Refined Protection

On-Line Performance



A fabric's worth is directly related to its durability. If it loses its protective qualities after laundering, or embrittles and falls apart after exposure to heat and flame, it is no bargain at any price. PBI TriGuard®

is rugged and remains soft and comfortable with extended protective serviceability even after numerous machine washings. It is abrasion resistant, and maintains fabric strength job after job. The secret to this amazingly functional, exceptionally comfortable fabric is the technologically advanced blend of PBI, aramid and rayon fibers. Not only does this high-tech blend offer excellent protection against heat and flame, it offers magnificent value. Economically priced and manufactured for long wear-life, PBI TriGuard is a brilliant blend of enduring value and lasting protection.



In the petrochemical industry, fire is an ever-present danger. The powerful thermal protection of PBI TriGuard maximizes personal fire safety by protecting against the heat and flame of

fire and flashover. It will not burn, melt, drip, shrink, crack or embrittle during or after thermal exposure, and provides continuing resistance to tearing and breakopen even after repeated use and laundering. Not only does PBI TriGuard help to protect against fire injuries, it can also contribute to the elimination of possible ignition sources in volatile environments. Fabrics containing PBI TriGuard have excellent moisture regain and effectively dissipate the buildup of static charges. The electrical conductance of PBI TriGuard fabric is similar to 100% untreated cotton.

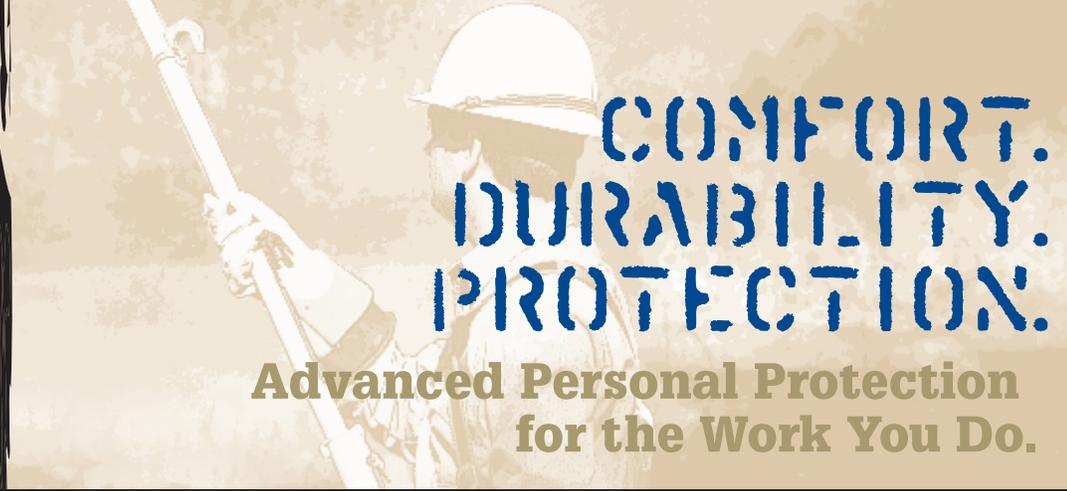


The world runs on electrical power. But it's the men and women of this industry who make power available for use. These extraordinary people require and deserve extraordinary protection. The cost-effective, triple-fiber blend of PBI TriGuard

provides that protection. PBI TriGuard offers protection on five fronts: 1. The heat, flame and arc protection prevents or reduces burn injuries. PBI TriGuard's high ATPV and HAV values provides excellent insulation against flame and arc burns. 2. PBI TriGuard retains its protective strength after exposure to heat and flame, and resists tearing or breakopen even when exposed to the blast force and intense heat of arc flash. 3. PBI TriGuard has excellent moisture regain, and therefore effectively dissipates the buildup of static charges. 4. PBI TriGuard's properties are inherent in the fabric and will not burn, melt or drip after flame exposure like chemically treated garments. 5. The soft, lightweight and comfortable PBI TriGuard fabric minimizes fatigue and heat stress to help you work safely. No matter how you count it, affordable PBI TriGuard is #1 in protection.

PBI TRIGUARD®





**Advanced Personal Protection
for the Work You Do.**

Property	Test Method	PBI TriGuard® 450	PBI TriGuard® 650	Nomex® 3A	Protera™	Indura® Ultra Soft®
Construction	—	Twill	Twill	Plain Weave	Twill	Twill
Weight (osy)	—	4.5	6.3	6.0	6.5	7.0
Fiber Blend	—	20% PBI, 30% FR Lenzing, 50% MicroTwaron	20% PBI, 30% FR Lenzing, 50% MicroTwaron	93% Nomex, 5%Kevlar, 2% Antistatic	33% Nomex & Kevlar, 65% Modacrylic, 2% Antistatic	88% Cotton, 12% Nylon
Thermal Properties						
Vertical Burn (w x f)						
Char Length (in)	D6413	0.40 x 0.49	0.42 x 0.44	0.93 x 0.98	3.0 x 1.95	2.9 x 3.12
Fabric integrity after 8-sec exposure (1800_F)	—	Supple, intact	Supple, intact	Brittle, crisp	Brittle, crisp	Brittle, tender
Thermal Protective Performance (TPP), cal/cm ₂	NFPA 2112	11.3	12.8	12.5	11.4	8.2
Breakopen	—	NO	NO	YES	YES	YES
Flash Fire Exposure (Manikin Test) - % body burn, 3 sec						
	ASTM F1930	36.3	20.8	25.4	35.2	35.3
Arc Thermal Performance (ATPV), cal/cm₂						
	ASTM F1959	6.0 (Level 1)	8.5 (Level 2)	5.7 (Level 1)	8.5 (Level 2)	8.1 (Level 2)
Comfort						
Moisture Regain (%)	D2654	6.7	7.0	5.5	—	7.7
Durability						
Elmendorf Tear Strength, lbf (w x f)	ASTM 1424	19.4 x 20.7	14.1 x 14.1	10 x 8	—	8.4 x 7.0
Tensile Strength, lbs (w x f)	ASTM 5305	118.1 x 120.2	173.3 x 158.6	102.4 x 65.7	102.5 x 47.8	81.2 x 46.2
Laundry Shrinkage (%)						
5X Wash	AATCC 135	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
Heat and Thermal Shrinkage % (w x f)						
	NFPA 2112	1.3 x 1.0	1.0 x 0.8	1.3 x 1.3	—	2.7 x 0.0



PBI TriGuard
Natural

PBI TriGuard
Tan

PBI TriGuard
Royal

PBI TriGuard
Orange

PBI TriGuard
Cobalt Blue

PBI TriGuard
Red

PBI TriGuard
Yellow

PBI TriGuard
Hunter Green



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