

# PROTECTION WHILE DEFENDING THE GREAT OUTDOORS...

## 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. Innovative PBI TriGuard features a unique ripstop design and enhanced water repellent finish that is highly resistant to tears and abrasion, quickly sheds water and remains service worthy longer. PBI TriGuard meets or exceeds all NFPA standards and is a single-layer fabric with dual certification by UL to the latest editions of, NFPA 1977 Wildland and NFPA 1951 USAR. Since it is lightweight, soft and flexible, PBI TriGuard provides significantly more moisture movement and is easier to don and doff than other competing materials. PBI TriGuard is breathable allowing air to circulate around the body while working long days where dirt, smoke, heat and sweat are constant companions. And at weights lighter than traditional fabrics, PBI TriGuard minimizes the risk of heat stress related injuries, for peace-of-mind protection allowing you to concentrate on the mission at hand. PBI TriGuard provides the best thermal and flame protection, greater comfort and durability in a single fabric.

PBI Gold® knits give you ultimate comfort, performance and protection. PBI Gold knit fabrics are softer, more comfortable and remain supple after flame and high temperature exposure while competing fabrics shrink, embrittle and break open.



PBI TriGuard®

PBI Gold®

Multi-Layer Protection



PBI TriGuard® is rugged and durable, and retains its soft comfort and protective serviceability even after countless

machine washings. It is abrasion resistant, tear resistant and does not pill, maintaining the fabric's strength day after day.

**PBI TRIGUARD®**



PBI Gold® knit fabrics are ideal for wearing next to the skin; engineered for comfort and protection – lightweight, soft, cool and thermally stable under

high heat conditions. PBI Gold keeps you cool, dry and absorbs perspiration better than other knit fabrics on the market. The high moisture regain of PBI wicks sweat from the body, while offering a soft feel against the skin. And, since PBI Gold provides the ultimate in thermal protection, more Thermal Protective Performance (TPP) per ounce than Nomex or FR Cotton, lightweight versions of PBI Gold can be used in virtually any application offering less bulk and more freedom of movement.



Combine PBI TriGuard with PBI Gold knit underwear for the most advanced multi-layer personal protection system on the market. This lightweight

ensemble provides the best protection against flash fire and heat stress. This exclusive PBI multi-layer system offers more freedom of movement, superior comfort and advanced moisture wicking characteristics. In laboratory testing of a 9 second flash fire, the PBI system generated less than 20% body burns while traditional fabrics generated more than 35%. PBI TriGuard combined with PBI Gold knit underwear form a personal protective system that is the lightest weight available while exceeding NFPA protective requirements. PBI TriGuard and PBI Gold knit underwear, liners, socks, and hoods make it to the top on their merits: comfort, protection and durability.

**PBI**  
*gold*

**PBI Performance LIVE BY IT**



# COMFORT. DURABILITY. PROTECTION.

Advanced Personal Protection  
for the Work You Do.



Property	NFPA 1977-2006 Requirements	PBI TriGuard® 590	PBI TriGuard® 650	Nomex® 3A
<b>Construction</b>	—	Ripstop	Twill	Plain Weave
<b>Weight (osy)</b>	—	5.3	6.3	6.0
<b>Fiber Blend</b>	—	20% PBI, 30% FR Lenzing, 50% MicroTwaron	20% PBI, 30% FR Lenzing, 50% MicroTwaron	93% Nomex, 5%Kevlar, 2% Antistat
<b>Finish</b>	—	DWR	—	—
<b>Flame Resistance (w x f)</b>				
Original				
Afterflame (sec)	≤ 2	0.0 x 0.0	0.0 x 0.0	0.0 x 0.0
Char Length (in)	≤ 4	0.43 x 0.63	0.42 x 0.44	2.6 x 2.4
After 100 Washes				
Afterflame (sec)	≤ 2	0.0 x 0.0	0.0 x 0.0	0.0 x 0.0
Char Length (in)	≤ 4	1.0 x 1.0	0.8 x 0.6	3.0 x 3.0
Breakopen	—	NO	NO	YES
<b>Comfort</b>				
Radiant Protective Performance (RPP)				
cal/cm <sup>2</sup>	≥ 7	9.1	9.4	10
Fiber Moisture Regain (%)	—	14.0	14.0	4.5
<b>Durability</b>				
Tear Strength, lbs (w x f)	≥ 5 lbs	14 x 16	14.1 x 14.1	10 x 8
<b>Laundry Shrinkage (%)</b>				
5X Wash	≤ 5%	≤ 3	≤ 3	≤ 5
<b>Heat and Thermal Shrinkage % (w x f)</b>				
	≤ 10%	1.2 x 0.8	1.0 x 0.8	1.3 x 1.3
<b>Total Heat Loss (THL) (min)</b>				
	≥ 450	735.6	707.2	690

Property	PBI Gold®	PBI Gold®	Nomex®
<b>Knit Composition</b>	40% PBI/60% Kevlar	40% PBI/60% Kevlar	100% Nomex
<b>Weight (osy)</b>	4.5	6.0	6.61
<b>Thermal Protective Performance (TPP)</b>	11.1	13.9	10.7
<b>Flame Resistance</b>			
Char Length (in)	0.4	0.2	2.0
Afterflame (sec)	0	0	0
<b>Total Heat Loss (THL)</b>	664	631	N/A
<b>Heat and Thermal Shrinkage (%)</b>	1.0 %	1.0 %	2.3 %
<b>Burst Strength (lbs)</b>	122.7	166.5	160.7
<b>Laundry Shrinkage (%)</b>	2-4	2.3	2.0



9800 Southern Pine Blvd Suite D / Charlotte, NC 28273 USA  
800-858-2467 / T:704-554-3378 / F:704-554-3101  
www.pbigold.com



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