



pbi  **TRIGUARD™**



**COMFORT.
DURABILITY.
PROTECTION.**

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



HEAT! FLASH FIRE! ARC FLASH!

What's your flame resistant clothing worth?

In a word, it's priceless. However, everyone must take into account the fabric's general use and acceptability in real world applications. It must protect, yet be comfortable and durable, as well as affordable. PBI Performance Products has created an innovative high performance, 3-fiber blend of PBI, high-strength aramid, and Lenzing FR®, which effectively addresses all these considerations – PBI TriGuard. For superior protection, comfort, and durability, it's the new standard in value and performance.

PBI TriGuard, from PBI Performance Products, sets a new standard for lightweight flame resistant protective fabric...this advanced breed is the right choice to meet the demands of most any environment. Is it right for you?

Proven Performance



PBI fabrics have been protecting firefighters around the world for more than 20 years. It has been shown to be a rugged, high performance material that provides

remarkable protection against high heat and flame, yet is so comfortable it can be easily worn for extended periods even during demanding physical activity. Now, this advanced protection has been engineered for the work you do.

Comfort Counts



clothing increases stress, diminishes concentration, productivity and efficiency. PBI TriGuard is lightweight, soft and flexible, and provides significantly more moisture absorbency than other competing materials. Engineered to wear like cotton, PBI TriGuard is "breathable" and allows air to circulate around the body. And, at weights lighter than FR Cotton and Nomex®, PBI TriGuard minimizes the risk of heat stress related injuries, letting you act and react more precisely with greater safety. PBI TriGuard provides greater thermal protection and greater comfort in a single fabric, and, it does it at a most affordable price. Reconciling on-line safety with bottom-line reality is never easy. But today, almost every environment must find that balance. PBI TriGuard makes it right – lightweight comfort and heavyweight protection.

Rugged Durability



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. Unlike chemically treated garments, the protective qualities of PBI TriGuard are inherent in the fabric, not applied to it. Protection will not wear off or wash out. 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 maintains fabric strength job after job. The secret to this amazingly functional, exceptionally comfortable and extremely durable fabric is the technologically advanced blend of PBI, micro-aramid and FR Lenzing 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 the right blend of enduring protection and lasting value.



PBI TRIGUARD⁽¹²⁾

Covering the Spectrum
on Personal Protection.

Lifecycle/Wearlife

Federal Vertical Flame Test ASTM 6413 – PBI TriGuard has a char length one-quarter that of Nomex IIIA® and FR cotton. No after-flame even with two 12-second burns. Remains supple after exposure to flame and high temperature.

Chemical Resistance – PBI TriGuard retains more than 85% of its original tensile strength even after 10 hours of contact with hydrochloric acid, sodium hydroxide, acetone, or gasoline.

Moisture Regain – PBI TriGuard is highly absorptive. With a moisture regain of 7%, the PBI TriGuard blend will wick perspiration 58% faster than typical Nomex IIIA® fabric.

Wear Trials – PBI TriGuard fabrics were judged to be as soft and comfortable as cotton.

SEE CHART ON BACK FOR COMPLETE PROPERTIES DATA

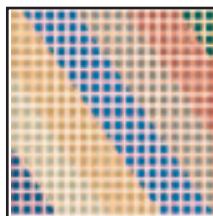
Powerful Protection



In many professions flash fire is an ever-present danger. The unmatched thermal protection of PBI TriGuard maximizes personal fire safety by protecting against

the heat and flame of fire and flashover. PBI TriGuard will not burn, melt, drip, shrink, crack or embrittle during or after thermal exposure, and provides superior resistance to tearing and breakopen even after repeated use and laundering. Not only does PBI TriGuard help to protect against fire related injuries, it can also contribute to the elimination of possible ignition sources in volatile environments. PBI TriGuard has excellent moisture regain and effectively dissipates the buildup of static charges. The electrical conductance of PBI TriGuard fabric is similar to 100% untreated cotton. PBI TriGuard offers excellent chemical resistance, resisting inorganic chemical exposure and retaining fabric integrity when exposed to most acids, bases and petroleum distillates. When you add it all up, PBI TriGuard is right on in protection.

Colors and Low-Cost Care



Since the protective qualities of PBI TriGuard are inherent in the fabric, and not applied to it, the fabric can be dyed. This gives you the advantage of

providing safety clothing in an array of colors for most any task. PBI TriGuard fabrics are available in a range of standard colors including dark blue, olive, orange and red, natural tan and yellow. Unlike traditional flame resistant protective fabrics, PBI TriGuard garments do not need special cleaning. They can be easily machine washed and dried (see back page for care and cleaning instructions). Their resistance to flame and heat exposure, chemical attack, and static build-up are inherent in the fiber and are not affected by laundering. So, no matter what color you choose, the right color of protection for you is PBI TriGuard.

Lasting Value



What's flame resistant clothing worth? In a word, it's priceless. However, companies, agencies, and departments must take into

account its use and acceptability in real world applications. The fabric must protect, but be durable, comfortable and affordable as well. PBI TriGuard from PBI Performance Products effectively addresses all these considerations. It stands up to repeated use and is as comfortable to wear as cotton, and more protective than Nomex. Its longer wear-life and easy cleaning mean garments do not need to be replaced as often. PBI TriGuard is your assurance that you've covered the spectrum when it comes to personal protection. Anytime, anywhere, PBI TriGuard, it's right for you.

Garments made with PBI aramid fabrics are the ultimate in premium protective apparel.

Flame resistance is inherent in the fibers, and therefore is not affected by washing or dry cleaning. As with any garment, proper care and cleaning helps to maintain appearance and utility. The following general guidelines will help maximize the life of PBI blended protective garments.

Industrial Laundering and Drying

To preserve durability and protect against shrinkage, garments should be washed in warm water (no more than 105°F (40°C)). Repeated washings in hot water, especially water that is highly alkaline (pH of 6-8 or greater) can reduce the garment's useful life. Never bleach any FR garment. Wash them separately from other garments to prevent contamination with lint or other flammable fibers. Flammable contaminants, such as grease, oil, or tar may require precleaning with a solvent before washing. Labels, emblems and trim should be checked for color fastness before adopting a washing regimen.

When tumble drying PBI garments, the basket temperature should not exceed 105°F (40°C). Garments should not be over dried or left in a hot dryer basket at the end of the drying cycle. To minimize wrinkles, remove and hang immediately after drying, or tumble without heat to cool garments before hanging.

Home Laundering and Drying

As with industrial laundering, the same warm water temperature guidelines should be observed at home. Set the machine on the permanent-press cycle and use a heavy-duty detergent. Read and follow detergent use instructions carefully. Pretreat greasy stains and collar/cuff lines. If flammable oily stains cannot be removed at home, commercial laundering or dry cleaning is recommended. Do not use chlorine bleach, detergents containing chlorine bleach, or starch. Read and follow the manufacturer's instructions if using other laundry aids. Wash PBI garments separately from other clothing.

Tumble dry using permanent press cycle or a medium temperature setting. Use the cool-down cycle and remove garments as soon as the tumbler stops. Do not over dry the garments. Never line dry garments in direct sunlight. Use a warm iron if pressing is desired.

Dry Cleaning and Storage

PBI garments may be dry cleaned. Virgin solvent is recommended to prevent contaminating the garment with flammable materials that may be present in non-virgin solvents.

PBI garments should never be stored in direct sunlight. Storage in closed lockers, closets or drawers is recommended to minimize fading that can result from extended ultra-violet exposure.



| PBI TriGuard Properties | | | | |
|--------------------------------|---|---|---------------------|---|
| Nominal Weights | 4.5 oz/yd ² (165 gm/m ²) | 5.3 oz/yd ² (170 gm/m ²) | | 6.0 oz/yd ² (205 gm/m ²) |
| Construction | Twill | Ripstop with durable water repellent finish | Twill | Twill |
| Flame Resistance | ***** | ***** | ***** | ***** |
| Thermal Protection | *** | **** | **** | ***** |
| Comfort | ***** | ***** | ***** | ***** |
| Moisture Regain (%) | 7 - 7.5 | 7 - 7.5 | 7 - 7.5 | 7 - 7.5 |
| Durability | *** | **** | **** | ***** |
| Standards | | | | |
| NFPA 2112 | X | | X | |
| 70E | X (Level 1) | | X (Level 2) | |
| 1951 | X | X | | |
| 1977 | X | X | | |
| 1999 | X | X | | |
| EN 531 | | | X (Class A, B1, C1) | |
| 1149-3 | | | X | |
| 50354 | | | X (Class 1 & 2) | |
| SFI 3.2A/1 | X | X | X | X |
| 3.2A/3 | X | X | X | X |
| 3.2A/5 | | X | X | X |

*** Good Performance
 **** Very Good Performance
 ***** Excellent Performance

NFPA 2112 – Standard on Flame Resistant Garments for Protection of Industrial Personnel Against Flash Fire
 NFPA 70E – Standard for Electrical Safety Requirements for Employee Workplaces

NFPA 1951 – Standard on Protective Ensemble for USAR Applications
 NFPA 1977 – Standard on Protective Clothing and Equipment for Wildland Fire Fighting
 NFPA 1999 – Standard on Protective Clothing for Emergency Medical Operations
 EN 531 – Protective Clothing for Workers Exposed to Heat
 EN 1149 – Protective Clothing, Electrostatic properties
 ENV 50354 – Protective Clothing: Protection Against Electric Arc
 SFI 3.2A Specifications – Standard on Performance Capabilities for Driver Suits



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