



# Care & Cleaning Information for Bulwark Flame Resistant High Visibility Garments

Bulwark flame resistant (FR) high visibility garments are made from an inherently FR blend of synthetic and natural fiber. These garments must be laundered separately at temperatures not to exceed 140°F (60°C) and may also be dry cleaned.

Flame resistant garments should be removed immediately and replaced with clean FR apparel if they become fouled with flammable materials.

## INDUSTRIAL LAUNDRY

- **Wash separately from other garments to avoid damaging the luminescent effect.**
- Flame resistant apparel should be washed using soft water (less than 4.0 grains). Hard water adversely affects cleaning, resulting in increased detergent usage. Hard water contains mineral salts that can form insoluble deposits on the surface of fabrics. Sufficient buildup can negate the flame resistant characteristics of the garment, and may serve as fuel if garments are exposed to an ignition source.
- It is important that formulas are developed using detergents and wash temperatures (up to 140°F) adequate to thoroughly clean all contaminants from garments.
- Use non-ionic formulas. Do not use natural soaps (anionic or tallow soap). Soft water is recommended. Hard water precipitates soaps and contains calcium and magnesium salts. These can build up on the fiber surfaces, coating the fabric and masking luminescent or FR properties.
- **Chlorine bleach (sodium hypochlorite) must be avoided.** Repeated exposure to bleach can destroy the luminescent effect.
- Starch, fabric softener, and other laundry additives can coat the fiber and mask the FR performance or serve as fuel in case of combustion. Therefore their use is not recommended. Garments should be soured to a pH between 5.5 and 6.5.
- If garments are heavily soiled with particulate or abrasive soils, a flush at 105°F (40°C) at the beginning of the cycle will help reduce abrasion in the wash wheel. Wash formulas and load sizes should be set up to minimize redeposition and fabric abrasion.
- Use a short extract time to prevent setting wrinkles.
- Do not over dry. Condition at a stack setting of 165°F so fabric temperature measured in the basket does not exceed 280°F.
- Tunnel finishing will improve appearance. Tunnel temperature must not exceed 280°F on the fabric.
- Proper cool down to 100°F or less in conditioning is essential for best appearance.
- If desired, garments may be pressed using a short cycle. Do not exceed a fabric temperature of 280°F under the press head.

## HOME WASH

- Wash separately in a Normal or Cotton cycle at any water temperature up to a maximum of 140°F (60°C). Use any typical home laundry detergent. Do not use soap (tallow soap containing animal fats).
- **Do not use chlorine bleach or liquid non-chlorine bleach.**
- **Turn garments inside out before wash to reduce streaking from abrasion. Fill the washer no more than 2/3 full and use high water level.**
- It is important that all soils and other contaminants are completely removed from garments during the wash process. This may require the use of stain removal products, such as *Shout®*, *Spray 'n Wash®*, or *Zout®*; or presoaking garments prior to washing. The use of hot water can often make detergents more effective in the removal of soils. If all contaminants cannot be removed in home care, garments should be dry cleaned.
- The use of conditioned or soft water can help improve removal of contaminants from garments. Hard water precipitates soaps and can result in the build-up of calcium and magnesium salts. These can serve as fuel in the event they are exposed to a source of ignition.
- Starch, fabric softeners, and other laundry additives are not recommended because they can coat fibers and mask FR performance, or serve as fuel in case of garment ignition.
- Do not over dry garments. If desired, you may press with an iron on the Permanent Press/Low setting.

## DRY CLEAN

- Either perchloroethylene or petroleum solvent may be used.

## REPAIR & MENDING

- Minor repairs that do not affect the integrity of the garment may be made with like materials by either heat sealing or sewing on patches or darning small holes.

*The information in this bulletin is based on the results of testing in our laboratory and information from the fabric vendor. It is provided for your guidance and knowledge. As of the publication date, this bulletin contains up to date information on care and cleaning. Please visit our website at [www.bulwark.com](http://www.bulwark.com) for the latest information.*