

FLAME RESISTANT CLOTHING

Unique apparel that is not only fire resistant but also moisture wicking and odor-preventing

Counter-Fire® Apparel

Counter-Fire® apparel originated in response to the military's need for flame-resistant base layer clothing. Designed to protect the body and skin where exposure to flash fires in combat missions in the Middle East were a probability, the field trials of Counter-Fire® were expedited when the United States Marine Corp. banned all apparel containing synthetic melt/drip fibers following incidents where soldiers were severely injured due to melt-drip. Cotton fabric, when exposed to flame, will char instead of burn and it does not melt. The drawback to cotton, however, is that it holds moisture and does not dry quickly. Synthetic fibers



such as polyester, polypropylene, and nylon perform well in wicking moisture, but will melt and drip when exposed to heat or flame. Counter-Fire® is unique in that it is the only filament fabric that is both flame resistant and will wick moisture. It feels and performs like your favorite athletic garment.

Counter-Fire® gear can be worn comfortably as a base layer under fire fighters' turnout gear, utility workers' uniforms, petrochemical workers' coveralls, and racecar drivers' suits. By getting moisture away from the body into the next layer of clothing or quickly dissipating into the air, Counter-Fire® is essential for both comfort and performance, without sacrificing protection where it counts.

ASTM & NFPA Compliant

Counter-Fire® apparel passes the ASTM 6413 Fabric Flammability Test. The fabric is exposed to a 12-sec. vertical flame and must self-extinguish within 2 seconds of flame removal and the char length must be <6 inches. Counter-Fire® fabrics self-extinguish in <0.4 seconds, as close to zero sec as can be measured. The fabric is also ASTM 1506-2 compliant, even after 100 industrial washes, far surpassing the requirement of 25 washes. This method tests the (non-)flammability of textiles exposed to a momentary electrical arc, as might occur with electrical workers. The fabric



As shown above, Counter-Fire® clothing has much shorter char length when exposed to a flame compared to competitors flame-retardent materials.

also meets Category 2 of the NFPA 70E Arc Resistance Standard.

Comfortable Shirt and Seam Construction

Counter-Fire® clothing is constructed from Pro-Fil_{FR}® fabric that is treated with Silpure®. The seams are flat locked to reduce abrasion and are manufactured from Nomex® thread which will become even softer after the first wash. The design of the garment is very technical and offers the wearer less seam abrasion than a conventionally designed T-shirt. The front two shoulder seams are dropped to reduce abrasion on the wearer's shoulders due to packs and load carrying vests. There is a side panel insert to eliminate any seams under the arm which is another typical point of abrasion.

Pro-Fil_{FR}® Fabric

Pro-Fil_{FR}® is a flame-resistant, moisture-wicking fabric that won't melt or drip. The flame resistance is created by combining filament viscose rayon yarn and a durable flame-resistant finish that won't wash out. The flame resistance is guaranteed for the usable life of the garment provided the



manufacturer's care instructions are followed. Pro-Fil_{FR}[®] is treated with Silpure[®] to eliminate odor causing bacteria. Other benefits include low thermal shrinkage, UV resistance, and a high level of wicking.

Silpure[®]

Silver is a natural anti-microbial agent that kills odor-causing bacteria. It is non-toxic to humans but toxic to such microorganisms. Silpure[®] is a silver-based finish used to treat Counter-Fire[®] base-layer clothing to keep a fresher smell. Such treatments have proved successful in technical athletic gear, including that used by mountaineers who go on extended expeditions where frequent clothing changes are not possible.

Summary

In summary, Counter-Fire[®] gear:

- Is flame resistant!
- Will not melt, drip or fuse to the skin under extremely high temperatures.
- Has moisture control technology to keep you dry and comfortable.
- Contains Silpure[®], a silver based antimicrobial finish to destroy odor causing bacteria.
- Has Nomex[®] seams that are flatlocked for comfort.
- Has been tested and approved for wear by the United States Army.