

## isodri® Protective Systems

isodri® — a  
proven solution to  
the problems of  
wet gear

### What is isodri®?

isodri® is a system of components that works together to guard against the proven problems of wet turnout gear. All isodri® Protective Systems are engineered to reduce the water and, therefore, the heat storage capacity of your turnouts. Each and every layer delivers superior water resistance and remarkably faster drying time — from the outer shell to the moisture barrier to the thermal barrier. Even the wristlets are measurably drier.

### Why is wet gear bad?

Water adds lots of weight to your turnouts, increasing stress and reducing stamina. When water from sweat, hose streams, or rain is sucked into your gear, it can displace the insulating air in your thermal liner. Heated water is volatile and can release explosive energy in the form of dangerous steam. But water can (and frequently does) cause burn injuries without warning at temperatures well below steam conditions.

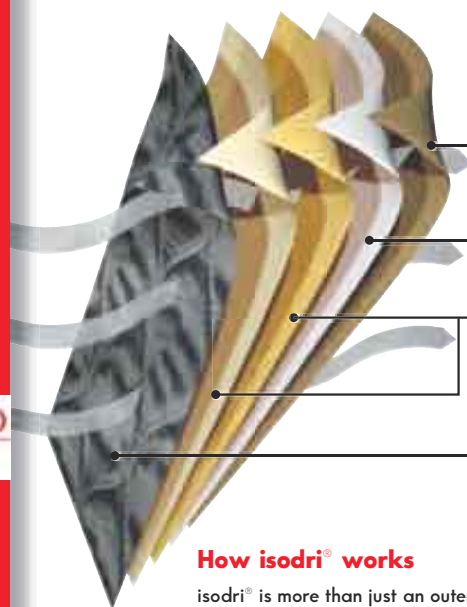
isodri® apertured thermal liners promote higher air permeability than other systems and complement state-of-the-art moisture barriers like the CROSSTECH® moisture barrier. isodri® outer shells are available in a wide range of fabrics. They come with Teflon® F/PPE to shed water and promote rapid drying of the entire system.

### isodri® — count on it

There's even more to isodri® than dry! Each set of isodri® gear is engineered to deliver truly exceptional abrasion resistance, tear strength, color consistency, and overall wear life value.

### isodri® components

isodri® Protective Systems are available with a wide variety of components, including the latest Fusion™, PBI® Gold Plus Matrix™, and Millenia™ outer shells; Glide™ 2L AraFlo® E-89™ thermal liners; and your choice of CROSSTECH® or Gore RT7100™ Moisture Barrier.



PBI® Gold Plus Matrix™, Fusion™, and Millenia™ outer shells have patented Teflon® F/PPE finish to deliver superior water resistance.

CROSSTECH® or Gore RT7100™ Moisture Barrier allows water vapor to escape, but keeps liquid out.

Two layers (2.3 oz/yd<sup>2</sup> and 1.5 oz/yd<sup>2</sup> apertured) of Teflon®-treated Nomex® E-89™.

Glide™ face cloth wicks perspiration and dries quickly.

### How isodri® works

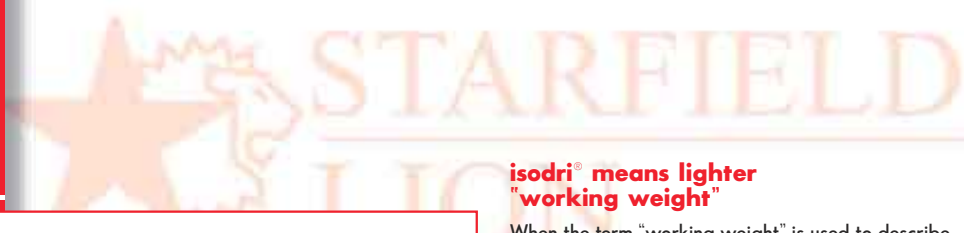
isodri® is more than just an outer shell that resists water penetration. It is a complete system of components (outer shell, moisture barrier, thermal barrier, and wristlets) that works together to reduce the water absorbed by your bunker gear and the dangers that water presents.



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**isodri®  
 Protective  
 Systems**



**isodri® means lighter  
 "working weight"**

When the term "working weight" is used to describe garment characteristics, it is used to differentiate between the weight of brand new garments (fresh out of the box) and the actual weight of garments being worn at the scene. The main difference between "new" weight measurements and "working" weight measurements is the amount of excess water being stored in the outer shell and thermal barrier.

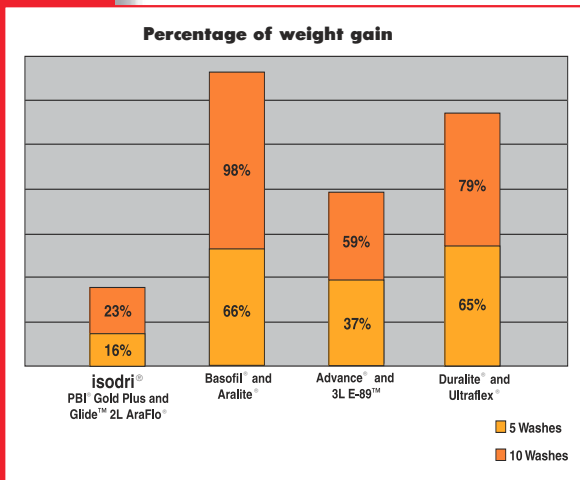
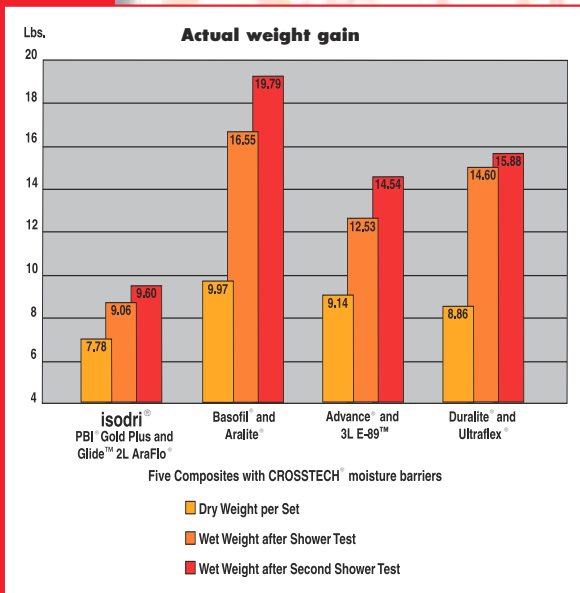
The best way to evaluate the differences between garments is to subject them to wear trials under adverse conditions. The wearer who actually fights fires will be able to tell approximately how much outside water and sweat is being hauled around from call to call.

The charts to the left indicate the minimum range of differences between the new, dry weights and wet, working weights of several representative turnout assemblies.

An independent third party selected different combinations of outer shells and thermal barriers. New sets of turnout coats and bunker pants were purchased from several manufacturers and submitted to an independent, certified laboratory with the capability of performing NFPA 1971 shower testing. Each set of gear was weighed (new weight), then washed and dried five times according to the preconditioning requirements of NFPA 1971. Each set was then subjected to the 20-minute shower test as required for NFPA certification (to replicate rain or hose water, no surfactant was used). Following the shower test, each set was weighed. Each set gained weight from the water. The increases ranged from a modest 16% weight gain to a significant 66% jump in working weight.

Each set of gear was subjected to a second round of washing and drying, then shower tested and weighed again. After ten launderings, the differences were even more astonishing. The set of gear made entirely with isodri® materials gained only 23% in water weight, while all the other combinations suffered dramatic increases. Not only did one set weigh the heaviest as "new" gear, it almost doubled in weight after the shower regimen.

Results may vary from one fabric composite to another and from one style of garment to the next, but it is clear that isodri® textile technology is head and shoulders above all others when it comes to retaining a working weight you can work in. Test an isodri® system yourself. Take a load off!



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