# Kappler<sup>®</sup>

## FRONTLINE<sup>®</sup> Apparel

# **FRONTLINE® 300**

Frontline 300 is ideal for petrochemical line break situations. This innovative garment was developed with detailed input from petrochemical Safety Officers. The result is a single-fabric solution for combined chemical-flash fire protection.

Frontline 300 also offers radiant heat protection far superior to other so-called chemical/flash garments. Incorporating comparable protection to Kappler's Zytron<sup>®</sup> 300 chemical apparel, Frontline 300 provides excellent holdout for the most common petrochemical hazards.

From a design standpoint, an ensemble of hood, jacket and bib pants has proven to be the most versatile garment. The hood and jacket can be removed when not in the hot zone, thereby allowing the individual to ventilate. As with all Kappler apparel, this ensemble is a multi-use, single exposure garment (as is the Frontline 300 coverall).

#### FEATURES AND BENEFITS

- > Ensemble garment for excellent versatility
- › Hood includes large, expanded-view face shield
- > Seams are sewn and then heat-sealed/taped

#### APPLICATIONS

- Petrochemical operations
- Line maintenance
- Tank cleaning
- Refueling situations

#### **AVAILABLE STYLES**

- Jacket F3H675: Zip front, raglan sleeve jacket, double storm flaps with FR hook & loop closure, collar, and cone inserts at sleeves.
- **Bib Trouser F3H660:** Bib trouser with adjustable webbing straps with snap-lock closure.
- > Hood F3H750: Flat back, seams are sewn and then heat-sealed/taped.
- Ensemble F3H630: Includes jacket, bib trouser and hood.
- Coverall F3H429: Special-design hood, extended zipper closure, cone sleeve inserts, double storm flap. CE marked Type 3.

Frontline garments are designed for chemical flash fire protection FOR ESCAPE ONLY in the event of a chemical flash fire.



#### ChemScan<sup>™</sup> labels – another Kappler innovation

Just scan the label with your mobile phone's QR reader for immediate access to a complete list of chemicals tested against your garment's protective fabric. Quick, accurate and only from Kappler – another industry first.



# FRONTLINE<sup>®</sup>

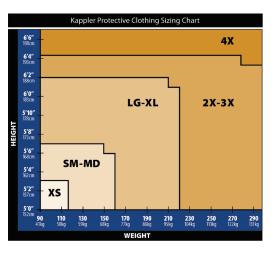
## **ASTM F1001 Chemical Test Battery**

Chemical	Breakthrough Time (normalized)	
Acetone	>480	
Acetonitrile	>480	
Carbon Disulfide	>480	
Dichloromethane	10	
Diethylamine	>480	
Dimethylformamide	>480	
Ethyl Acetate	>480	
n - Hexane	>480	
Methyl Alcohol	>480	
Nitrobenzene	>480	
Sodium Hydroxide	>480	
Sulfuric Acid	>480	
Tetrachloroethylene	>480	
Tetrahydrofuran	>480	
Toluene	>480	
GASES		
Ammonia Gas	>480	
1,3 Butadiene Gas	>480	
Chlorine Gas	>480	
Ethylene Oxide Gas	>480	
Other Chemicals Tested		
Benzene	>480	
Diesel Fuel	>480	
Diethylethanolamine	>480	
Gasoline	>480	
Hydrofluoric acid (48%)	>480	
Kerosene	>480	
Methanol	>480	
For complete list of chemicals tested, visit kappler.com		



### Typical Physical Properties Measured per ASTM D751, D3787 and F1358

Test Method	Results - Ibs/N
Grab Tensile Strength MD*	134 / 592
Grab Tensile Strength CD*	125 / 552.5
Tear Resistance Trapezoid Method MD*	13.7 / 60.6
Tear Resistance Trapezoid Method CD*	10.7 / 47.3
Ball Burst	123 / 543.7
Flammability Resistance	Pass
MD: Machine Direction *CD: Cross Direction	



Frontline® 300 has been tested for thermal protective performance (TPP) in accordance with ISO 17492, Clothing for Protection Against Heat and Flame.

Frontline 300 showed a TPP value of 16.

Frontline 300 meets the requirements for flame resistance in accordance with ASTM F1358.

Note: Sources for all chemical test data are independent laboratories. All tests were performed under laboratory conditions and not under actual use conditions. Tests were performed on material samples, not actual garments. All chemicals tested at 95% and 75° F except Sodium Hydroxide, tested at 50%.

WARNING: This information is based on technical data that Kappler believes to be reliable. It is subject to revision as additional knowledge and experience are gained. The website will contain Kappler's most up-to-date product information, and customers who receive pamphlets, brochures or other literature should be aware that such "hard copy" information may not be as current as the information on Kappler's website. Customers also should recognize that there are uses, environments and chemicals for which Kappler products, garments and/or fabrics are unsuitable. It is the responsibility of the user to review available data and verify that the product, garment and/or fabrics is appropriate for the intended use and meets all specified government and/or industry standards. Also, the customer should be information on the website to understand the user. And limitations – on ALL products, garments and fabrics which Kappler makes available. **CAUTION:** Do not use for fire protection. Avoid open flame or intense heat.

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