

CAT : Chemical Active Textile Garment

Breathable technology for CBRN protective gear that prevents and neutralizes chemical agent penetration

Stedfast's patented **Chemical Active Textile** technology is a moisture vapor permeable (breathable) chemical warfare resistant membrane. The result of Stedfast's research into CAT technology makes it possible to increase the protection factor of a breathable material with no effect to its comfort.

CAT technology was developed to meet the requirements of the National Fire Protection Association NFPA 1994 : Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents.

A garment made with CAT can be used as a regular service garment and provide sufficient protection in a contaminated environment.

Chemical Active Textile suit has several advantages compared to conventional carbon filtered garments by :

- Longer service life, indefinite shelf life
- Lighter weight, less fatigue
- Increased durability
- Neutralizes chemical warfare agents
- Single skin system design
- No risk of saturation
- Breathable
- Improved ergonomics

End use applications for the CAT technology incorporated in specific garment design :

- Police and tactical response units
- Security and crowd control at high risk and public event
- Decontamination line operations
- Evacuation use out of contamination zone
- Emergency medical technician
- Hospital facilities receiving victims from CBRN events
- Military special operations

Stedfast CAT textiles is designed to meet the requirements specified in NFPA 1994-2007 edition : Standard on Protective Ensembles for Chemical/Biological Terrorism Incidents, Section 7.3, Class 3 Ensembles, and Section 8.10 Chemical Penetration Resistance Test to Mustard Gas.



Property	Requirements	Results
Standard Test Method for Permeation of Liquids and Gases through Protective Clothing Materials under Conditions of Continuous Contact	ASTM F 739 Cumulative permeation within 60 minutes	Meets and succeeds NFPA 1994
Distilled Mustard (HD)	< 4.0 µg/cm ²	Pass
Soman (GD)	< 1.25 µg/cm ²	Pass
V-Agent (VX)	< 1.25 µg/cm ²	Pass
Sarin (GB)	< 6.0 µg/cm ²	Pass
Dimethylsulfate (DMS)	< 6.0 µg/cm ²	Pass
Ammonia	< 6.0 µg/cm ²	Pass
Chlorine	< 6.0 µg/cm ²	Pass
Acrolein	< 6.0 µg/cm ²	Pass
Acrylonitrile	< 6.0 µg/cm ²	Pass

Property	Method	Result
Resistance to Synthetic Blood	ASTM F 1670	No penetration
Resistance to Viral Penetration	ASTM F 1671	No penetration
Resistance to Fungal Growth	AATCC 30	No growth
Resistance to Bacterial Growth	AATCC 147	No growth

