



**SARATOGA®**

Unparalleled Protection.



The *ONLY* chemical protective overgarments approved by DoD for all US Joint Forces.

**THE MOST TESTED AND TRUSTED  
TECHNOLOGY IN THE WORLD.**



**TEXSHIELD**  
CBRN PROTECTION



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**COMPANY AND TECHNOLOGY:**

- Tex-Shield, Inc., is the exclusive U.S. licensee and manufacturer of the SARATOGA® technology, which is the world leader in protection against chemical warfare agents.
- Tex-Shield's protective materials and garments are produced according to extremely high standards to meet very stringent requirements for protection in chemical warfare environments.



- The SARATOGA® technology is a proprietary method of adhering highly specialized activated carbon spheres to material substrates; this state-of-the-art technology provides superior chemical warfare protection with less physiological burden than other technologies.
- To our knowledge, we are also the only producer of chemical protective materials for first responders with a rigorous production lot testing program using live chemical warfare agents.
- Testing with live chemical warfare agents at world-renowned independent test facilities continuously validates the reliability of Tex-Shield's SARATOGA® fabrics.
- Tex-Shield's live agent testing program has been conducted not only once, or only periodically, or only with simulants; every production lot of SARATOGA® fabric used in protective garments is tested with live chemical warfare agents by an independent laboratory.
- Headquartered in Washington, DC, Tex-Shield has a tradition of innovation and excellence resulting in a unique combination of advanced filtration and adsorption technologies, state-of-the-art design and manufacturing capabilities, and successful practical expertise, developed over more than fifteen years.



*Outfitting our Americas Heroes with unparalleled CBRN protection...*

## HAMMER Suit®

The **SARATOGA HAMMER Suit®** is a lightweight, two-piece overgarment consisting of a coat with integral hood and separate trousers. The suit incorporates a two-layer fabric system consisting of a proprietary liquid repellent nylon/cotton outer shell fabric and a SARATOGA® carbon sphere liner.

### HAMMER Suit® Program History

The SARATOGA HAMMER Suit® was developed at the request of a federal law enforcement agency familiar with the superior performance of the SARATOGA® JSLIST Overgarment – the only chemical protective overgarment qualified for use by the U.S. Department of Defense.

It is produced in the same battle-tested, two-piece configuration as the JSLIST suit, but in navy blue color, with hook and loop fastener tape on the chest and sleeve shoulders for the placement of department identification patches. It is also produced as a one-piece coverall to meet the special needs of some first responders.

Since its introduction in 1998, the SARATOGA HAMMER Suit® has been widely accepted by U.S. federal, state and local agencies to meet the needs of first responders for protection from chemical warfare agents. It was worn by the international weapons inspectors in Iraq, and is the most highly regarded suit of its kind around the world.

The SARATOGA HAMMER Suit® meets or exceeds the level of protection from chemical warfare agents specified in MIL-C-29462. Product testing with live chemical warfare agents at world-renowned independent test facilities validates the reliability of the SARATOGA® fabric.



### HAMMER® Suit Attributes

- Lightweight
- Breathable
- Low heat stress
- Excellent durability
- Liquid Repellent
- Launderable
- Extended shelf-life
- 24 hour wear-time after contamination



## JSLIST SUIT

The **SARATOGA® JSLIST Suit** is a two-piece, lightweight overgarment consisting of a coat with integral hood and separate trousers. The suit incorporates a two-layer fabric system consisting of a proprietary liquid repellent nylon/cotton outer shell fabric and a SARATOGA® carbon sphere liner. The two-layer system provides protection against all classes of chemical warfare vapors, liquids, and aerosols. It is available in woodland or desert camouflage.

### JSLIST Program History

Testing for the Joint Service Lightweight Integrated Suit Technology (JSLIST) was conducted in two phases, and resulted in the selection of the only material acceptable for use in the Department of Defense's chemical defense overgarments.

#### Phase I:

57 different fabric combinations from 13 companies were tested for: chemical agent penetration; aerosol penetration; heat stress; launderability; wear tests; suit design evaluation; physical properties; flame resistance; user size and fit. Of the 57 material candidates, only 5 qualified for phase II: Testing under actual battlefield conditions.

#### Phase II:

The remaining 5 material candidates were further tested at 10 worldwide field locations using mission-oriented scenarios and individual user tasks. Arctic, tropic, and desert environmental conditions were represented during the tests. The wear periods were 7, 15, 30, and 45 days, and suits were laundered up to 6 times.

### Results:

**Only one material combination was found to meet all program requirements—the SARATOGA® JSLIST Overgarment.**



- The only suits worn into battle by US troops in Operation Iraqi Freedom
- The only technology to meet the requirements of the Department of Defense in three consecutive, multi-year qualification programs
- Meets or exceeds the requirements of MIL-DTL-32102A

#### JSLIST Suit Attributes

- Lightweight
- Breathable
- Low heat stress
- Excellent durability
- Liquid Repellent
- Launderable
- Extended shelf-life
- 24 hour wear-time after contamination

**The unique Saratoga® carbon bead liner material offers US troops “unparalleled protection against chemical and biological agents.”**

-Office of the Deputy Secretary of Defense for Industrial Policy (January 2004)

## JPACE SUIT

The SARATOGA® JPACE (Joint Protective Aircrew Ensemble) coverall is a permeable flame resistant garment providing protection against chemical warfare liquids and vapors. The JPACE coverall is approved for all US Department of Defense rotary and fixed wing aviators. After an extensive, competitive test and evaluation, the SARATOGA® carbon sphere technology is the only material system approved for use in the JPACE coverall.

The SARATOGA® JPACE material system has been engineered to provide the same level of chemical protection for the aviation community that the SARATOGA® JSLIST overgarment provides for the US ground forces. The material system attributes such as permeability, flame resistance, launderability, and chemical protection produce a garment meeting aircrew operational requirements.

### JPACE Garment Attributes

- Vapor, liquid, and aerosol chemical warfare protection
- Reduced heat stress
- Extended service/wear life
- Compatibility with all current flight equipment and aircraft
- Male and female configurations
- Integration with cooling apparatus
- Advanced closure system for glove and boot interface

The JPACE coverall is a two-layer material system available in sage green and camouflage print. Conforming to US Department of Defense requirements, JPACE provides 24 hours of chemical protection after 30 days wear and 4 launderings. It is oil and water repellent, inherently static resistant, durable, and flame resistant. The permeable material system minimizes heat stress, improving operational effectiveness.

The SARATOGA® JPACE coverall is the most tested aircrew garment in the world. Full rate production begins in 2007.

The SARATOGA® CWU-66/P chemical warfare protective coverall is a one-layer carbon sphere laminate meeting the requirements of US Air Force fixed wing aircrews. Due to the high air permeability of the garment, it is comfortable to wear for extended flight durations in a contaminated environment.

The CWU-66/P resembles a standard flight coverall and conforms to the Department of Defense performance specification 9841812. It provides 24 hours of chemical protection after 30 days wear and 10 launderings. Static and flame resistance are inherent properties of materials used in the CWU-66/P and are durable for the life of the garment. The CWU-66/P is available in sage green and has been successfully battle-tested in Operation Iraqi Freedom and Desert Storm.



**SIZE CHARTS:**

**JSLIST/HAMMER® Coat Size Selection Chart**

HEIGHT (INCHES)	78		M/L	L/L	XL/L	XXL/L	XXXL/L																														
	77																																				
	76																																				
	75																																				
	74																																				
	73																																				
	72		M/R	L/R	XL/R																																
	71																																				
	70																																				
	69																																				
	68																																				
	67	S/S																																			
	66																																				
	65																																				
64																																					
63																																					
62																																					
61	S/XS	M/S																																			
60																																					
59																																					
58																																					
57																																					
		31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
		CHEST CIRCUMFERENCE (INCHES)																																			

**JSLIST/HAMMER® Trousler Size Selection Chart**

INSEAM (INCHES)	38		M/L	L/L	XL/L	XXL/L	XXXL/L																																
	37																																						
	36																																						
	35																																						
	34																																						
	33		M/R	L/R	XL/R																																		
	32																																						
	31																																						
	30	S/S	M/S																																				
	29																																						
	28																																						
	27																																						
	26	S/XS																																					
	25																																						
		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
		WAIST CIRCUMFERENCE (INCHES)																																					

- |             |                         |                           |                                      |
|-------------|-------------------------|---------------------------|--------------------------------------|
| <b>SIZE</b> | S/XS: small extra short | M/L: medium long          | XL/L: extra large long               |
|             | S/S: small short        | L/R: large regular        | XXL/L: extra extra large long        |
|             | M/S: medium short       | L/L: large long           | XXXL/L: extra extra extra large long |
|             | M/R: medium regular     | XL/R: extra large regular |                                      |

**SARATOGA® JPACE Coverall Size Selection Chart**

JPACE Male

SIZE	WEIGHT (LBS)
34	<145
36	145 – 160
38	160 – 185
40	185 – 200
42	200 – 220
44	220 – 240
46	240 – 260
48	260 – 280
50	>280

Sizes	Height
34 - 46	Short < 68 inches
34 - 48	Regular 68 – 72 inches
36 - 48	Long > 72 inches

JPACE Female

SIZE	WEIGHT (LBS)
34	<145
36	145 – 160
38	160 – 185
40	185 – 200
42	200 – 220
44	220 – 240
46	240 – 260
48	260 – 280
50	>280

Sizes	Height
34 - 46	Short < 68 inches
34 - 48	Regular 68 – 72 inches
36 - 48	Long > 72 inches