

Light Blue Spruce Red Orange Tan Yellow Black Natural Dark Navy Fire Service Navy Royal Blue

PHYSICAL PROPERTIES

	Weight (+ or - 5%) oz (sq yd) grams (sq meter)	4.5 oz (sq yd)	6.0 oz (sq yd)	6.8 oz (sq yd)	7.5 oz (sq yd)	ASTM F1891 Requirements	NFPA 2112 Requirements
		153g (sq meter)	203g (sq meter)	231g (sq meter)	254g (sq meter)		
	Weave	Plain	Plain	Twill	Plain		
Standard Colors (other colors available upon request)		●●●●	●●●●	●●	●		
Thickness (inches)		0.020	0.020	0.022	0.022		
Construction (warp [w] x fill [f])		66 x 43	67 x 44	89 x 64	50 x 54		
Vertical Flammability ASTM D 6413-99							
After 100x Launderings							
Char Length (inches [w x f])		2.8 x 2.8	2.4 x 2.4	2.5 x 2.5	2.3 x 2.3	4.0 max.	4.0 max.
After Flame (seconds [w x f])		0.0 x 0.0	0.0 x 0.0	0.0 x 0.0	0.0 x 0.0	2.0 max.	2.0 max.
Thermal Protective Performance (cal/cm²) NFPA 2112		10.0	12.0	14.0	14.0	6.0 min. (w/ spacer) 3.0 min. (no spacer)	6.0 min. (w/ spacer) 3.0 min. (no spacer)
Flash Fire Exposure (Manikin Test) ASTM F 1930 (% body burn [2.0 cal/cm² • sec] at 3 seconds)		pass	pass	pass	pass	50:0 max.	60:0 max.
ARC Thermal Performance ATPV (cal/cm²) ASTM F 1959 After Flame @ 10 cal (seconds)		4.6 - 4.8 < 1.0	5.7 - 5.9 < 1.0	6.5 - 7.0 < 1.0	6.6 - 6.9 < 1.0		
Tensile Strength (lbs [w x f]) ASTM D 5034		170 x 100	240 x 150	260 x 180	260 x 240		
Elmendorf Tear Strength (lbs [w x f]) ASTM D 1424		10 x 7	12 x 8	12 x 8	16 x 13		
Dimensional Stability AATCC 135 3-IV, Aiii (both directions)		≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0		
Air Permeability (ft³/ft²/minutes) ASTM D 737		210	80	25	60		
Washing Colorfastness 140°F Industrial Wash, 160°F Max Stack Dry [25x]		*4 *4	*4 *4	*4 *4	*4 *4		
Colorfastness to Xenon Light (20 hours) AATCC 16		*3-4	*3-4	*3-4	*3-4		
Crocking AATCC 8							
Wet		*3-4 - All Colors	*3-4 - All Colors	*3-4 - All Colors	*3-4 - All Colors		
Dry		*5 - All Colors	*5 - All Colors	*5 - All Colors	*5 - All Colors		
Wicking (distance in seconds) (1" strip, tap water)							
0.5 inches	3	3	6	3			
1.0 inches	13	10	14	12			
1.5 inches	34	27	37	34			
2.0 inches	62	58	79	70			
Theoretical Moisture Regain (%)		4.5	4.5	4.5	4.5		
Pilling Resistance ASTM D 3512							
30 minutes	*4	*4	*4	*3			
60 minutes	*5	*5	*5	*4			
90 minutes	*5	*5	*5	*5			
120 minutes	*5	*5	*5	*5			
Heat Resistance (500°F, 5 minutes) After 100 Industrial Launderings		pass	pass	pass	pass	shall not melt, drip, separate or ignite	shall not melt, drip, separate or ignite
Thermal Shrinkage Resistance (%[500°F, 5 minutes]) After 100 Industrial Launderings		< 2.0	< 2.0	< 2.0	< 2.0	10.0 maximum	10.0 maximum
Appearance of Fabric AATCC 124 After 50 Home Launderings		*4	*4	*4	*4		

Ratings: *5 - Best, *3 - Acceptable, *1 - Poor



Finishing and Non-woven are ISO-9001 Certified Facilities.

LAUNDERING: Garments made with FREESTYLE™ fabrics are easily maintained by home or industrial laundering. For detailed laundering specifications, please contact TENCATE at (800) 241-8630.

SUNLIGHT/UV EXPOSURE ADVISORY: Prolonged sunlight and UV exposure can be damaging to aramid and PBO fibers. Both natural (undyed) and dyed aramid and PBO fibers will fade or change color with exposure to sunlight or other UV sources. The thermal performance is not affected, but long term or repeated exposures will cause the fabric to gradually weaken. Garments should be stored so that they are protected from sunlight, including windows and bay doors, to maximize wear life. SOUTHERN MILLS, Inc. OFFERS NO WARRANTIES, IMPLIED OR OTHERWISE, FOR COLOR CHANGE OR FABRIC DAMAGE DUE TO UV EXPOSURE.

To the best of our knowledge, the information contained herein is accurate. However, SOUTHERN MILLS, Inc. assumes no liability whatsoever for the accuracy or completeness of the information contained herein. Users of any substance must satisfy themselves by independent investigation that the material can be used safely. We have described certain hazards, but we cannot guarantee that these are the only hazards.

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TenCate Protective Fabrics
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TENCATE

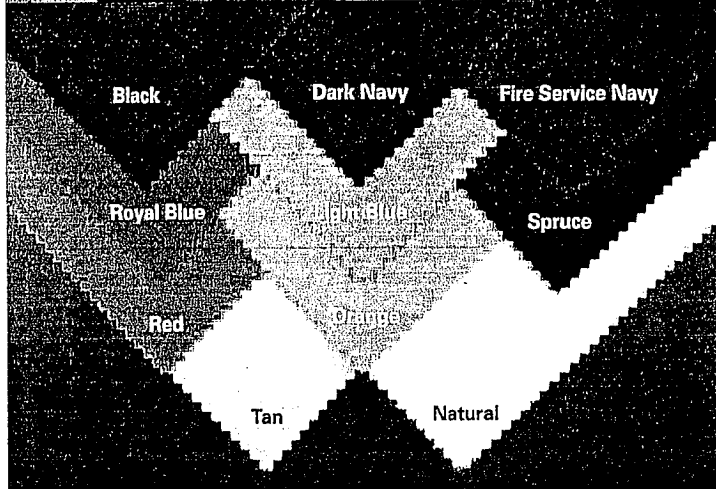
Freestyle™

INDUSTRIAL SAFETY

FREESTYLE™ fabrics are perfect for head-to-toe protection against flash fire, electric arc and other dangerous conditions. Lightweight, breathable fabrics made of Nomex® combine unsurpassed flame resistance and exceptional durability wash after wash for the ultimate in comfort and durability.

- **NFPA 2112 compliant** – meets and exceeds standard for protection against flash fire.
- **Proven Nomex performance** – flame-resistant protection for a broad range of high-risk industries.
- **Exceptional value** – perfect fit for electric and gas utilities, fire service stationwear, petroleum refineries, chemical, racing or military.
- **Unbeatable durability** – retains professional look even after rugged use.
- **Easy care comfort** – proprietary wicking finish. Stays soft, keeps you cool and dry.

FREESTYLE delivers peace of mind when lives are on the line. Only by TenCate.



Style 376

Aramid military apparel

PHYSICAL PROPERTIES		Style 376	Mil-C-83429B Type II Class 6 Requirements
Yarns per inch (warp x fill)	FTMS 191A-5050	72 x 54	70 x 47 min
Breaking Strength (lbs) (warp x fill)	ASTM D 5034	200 x 130	180 x 100
Tearing Strength (lbs) (warp x fill)	ASTM D 1424	15 x 12	12 x 8
Fabric Break Open (sec)	Mil-C-83429B	>30	>30
Air Permeability (cu. Ft/min)	FTMS 191A-5450	110	25-160
Flame Resistance (warp x fill)	FTMS 191A-5903		
after flame (sec)		0 x 0	2:0 max
after glow (sec)		0:9 x 0:9	25:0 max
char length (inches)		2:0 x 2:0	4:0 max
pH	FTMS 191A-2811	6.7	4.0-8.0
Dimensional Stability (warp x fill) after 15 launderings	FTMS 191A-5556 (mobile)	<4:0 x <1:5	<4:0 x <1:5
Seam Efficiency (%)	FTMS 191A-5110	100	>80

PHYSICAL PROPERTIES		Style 376	Currently available product ratings
Pilling	ASTM D3512-82		
30 minutes		5	3
60 minutes		4-5	3
90 minutes		4-5	2
120 minutes		4	2

**COMPOSITION: 92% NOMEX®
5% KEVLAR®
3% P-140**

WEIGHT: 4.7 oz (sq yd)

FABRIC CONSTRUCTION: Plain Weave

COLOR: Tan, Sage

END USE: Battle Dress Uniforms



Plant Ray is a ISO 9001:2000
Certified Facility



LAUNDERING: Garments made with STYLE 376 fabrics are easily maintained by home or industrial laundering. For detailed laundering specifications, please contact SOUTHERN MILLS at (800) 241-8630.

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Style 376

Aramid military apparel

MILITARY

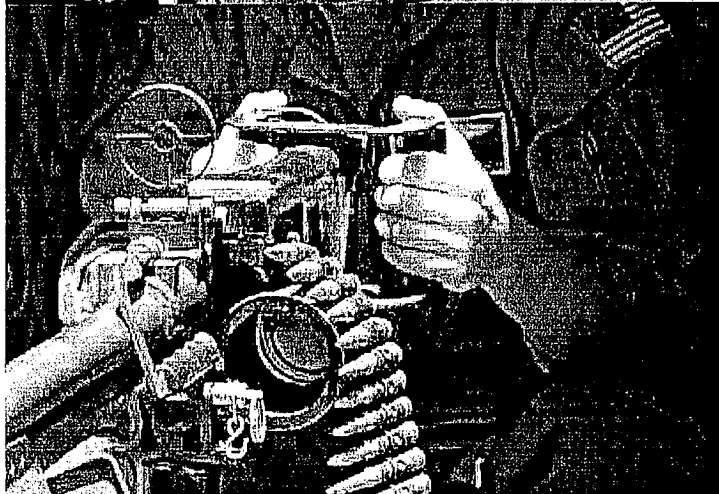
Style 376 high-tech fabric offers significant advantages thanks to its superior performance in:

- **Comfort** – Increased air permeability provides improved breathability and comfort.
- **Durability** – Increased abrasion resistance assures better fabric performance under rugged conditions.
- **Appearance** – Reduced pilling improves the overall appearance. Higher flexural rigidity delivers improved performance through a firmer hand, better drape of the garment, and by helping the garment maintain its shape.
- **MIL-C-83429B compliant for physical requirements**

Available colors: tan and sage

Applications: 27/P

- CVC Coveralls
- 66P Chem Defense
- IABDU (Army)
- Anti-G Suits



TAN

SAGE

TENCATE
Advance™

ADVANCE™ offers proven performance in an amazingly affordable outer shell fabric. Its special construction, engineered from a blend of DuPont™ KEVLAR® and NOMEX® brand fibers, provides high strength, durability and thermal protection.

FIBER BLEND: 60% KEVLAR®
40% NOMEX®
WEIGHT: 7.0 oz (sq yd)
WEAVE: Rip-Stop
COLORS: Black, Navy, Gold, Yellow, Khaki
FINISH: SUPER SHELLTITE™,
SHELLTITE™
END USE: Turnout Gear Outer Shells

- **Outstanding thermal protection** – Exceptional thermal integrity allows the use of lightweight liners for added comfort, flexibility and performance without compromising thermal protection.
- **Proven durability** – Built-in protection of fiber blend and rip-stop weave provides strength and flexibility even after extreme thermal exposure.
- **Long-lasting dependability** – Proven track record in the field.
- **Highly affordable** – Hardworking outer shell at a great price.

ADVANCE delivers peace of mind when lives are on the line. Only by TenCate SouthernMills.

PHYSICAL PROPERTIES	ADVANCE™	NFPA 1971-2007 Edition Requirements
Trapezoidal Tear Strength (lbs) Initial (warp x fill) After 5 launderings (warp x fill)	ASTM D 5587 40 x 35 35 x 30	22.0 min
Tensile Strength (lbs) Initial (warp x fill) After 10 launderings (warp x fill)	ASTM D 5034 320 x 280 270 x 250	140.0 min
Thermal Protective Performance (cal/cm²) TPP with Crosstech® Type 2c, CALDURA® SILVER NP	NFPA 1971-2007 40 - 43	35.0 min
Tensile Strength (lbs) after 17.5-second TPP Exposure (2.0 cal/cm²•sec) (warp x fill)	15 x 10	
Water Absorption Resistance (%) Initial After 5 launderings	AATCC 42 < 3.0 < 10.0	30.0 max
Vertical Flammability Char Length in inches (warp x fill) (Initial) Char Length in inches (warp x fill) (After 5 launderings) After Flame in seconds (warp x fill)	ASTM D 6413 0.6 x 0.6 0.5 x 0.5 0.0 x 0.0	4.0 max 2.0 max
Laundry Shrinkage (%) After 5 launderings (cotton sturdy cycle) (warp x fill)	AATCC 135 < 5.0 x < 5.0	5.0 max
Thermal Shrinkage (%) 500°F at 5 minutes After 5 launderings	NFPA 1971-2007 < 0.5 < 1.0	10.0 max



The Most Trusted Name In Protective Fabrics.

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