

**TenCate Protective Fabrics
Pioneer™ with ENFORCE™ Technology
Data Sheet**

GENERAL ATTRIBUTES

Nominal Weight.....6.6 osy (225 gsm)
Construction.....Woven (Twill)
Colors.....Khaki, Dark Gold, Light Gold, Black, Yellow & Spruce Green
Special Feature.....ENFORCE™ Technology
Made in America.....Yes
Fiber Content.....DuPont™ Nomex® & DuPont™ Kevlar®
Finish.....Super Shelltite™
Certification(s).....NFPA 1971 (2013 & 2018 editions),
NFPA 1977 and NFPA 1951 (Rescue & Recovery)

FLAME RESISTANCE

Thermal Protective Performance (NFPA 1971)

Quantum3D® SL2 & Gore® Crosstech® Black.....41 - 43
Caldura® ELITE with Nomex® Nano & Gore® Crosstech® Black.....35 - 37
Caldura® ELITE SL2 & Gore® Crosstech® Black.....40 - 42
Caldura® ELITE SL2 & Stedair® Gold.....36 - 38
Defender® M SL2 & Stedfast Stedair® 3000.....44 - 46
Defender® M SL2 & Gore® Crosstech® 3-Layer.....44 - 46
Defender® M NP & Gore® RT7100.....45 - 47

Total Heat Loss (NFPA 1971)

Quantum3D® SL2 & Gore® Crosstech® Black.....250 - 270
Caldura® ELITE with Nomex® Nano & Gore® Crosstech® Black.....300 - 320
Caldura® ELITE SL2 & Gore® Crosstech® Black.....270 - 290
Caldura® ELITE SL2 & Stedair® Gold.....280 - 300
Defender® M SL2 & Stedfast Stedair® 3000.....220 - 240
Defender® M SL2 & Gore® Crosstech® 3-Layer.....220 - 240
Defender® M NP & Gore® RT7100.....230 - 250

Vertical Flame: After Flame (NFPA 1971, warp x fill)

Initial.....0 x 0 sec
After Wash (5x).....0 x 0 sec

Vertical Flame: Char Length (NFPA 1971, warp x fill)

Initial.....0.5 x 0.5 inches (13 x 13 mm)
After Wash (5x).....0.4 x 0.4 inches (10 x 10 mm)

Thermal Shrinkage (NFPA 1971)

Before Wash.....< 1.0 percent
After Wash (5X).....< 1.0 percent

Flame Spread (ISO 15028 Procedure A&B)No after flame

Heat Resistance (NFPA 1971)Pass

PHYSICAL TESTING

Trapezoidal Tear (NFPA 1971, warp x fill)

Initial.....45 x 45 lbf (200 x 200 N)
5x after wash.....45 x 45 lbf (200 x 200 N)

Tensile Strength (NFPA 1971, warp x fill)

Initial.....350 x 350 lbf (1,555 x 1,555 N)
10x after wash.....350 x 350 lbf (1,555 x 1,555 N)

Taber Abrasion (ASTM 03384).....3,000 cycles

(continued)

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COMFORT

Flexibility (Shirley Stiffness Test, ASTM D 1388)

Initial.....1,599
After Wash (5X).....819

Lower is better. Average 7.2 osy traditional ripstop outer shell earns more than 4,000 in initial stiffness testing and about 1,000 after five launderings. Compared to TenCate Advance™, Pioneer™ is more than 2½ times more flexible.

Water Absorption (AATCC 42)

Initial.....< 5.0 percent
After Wash (5X).....< 7.0 percent

COMPOSITES SUMMARY

Breathability Performance

- Caldura® ELITE with Nomex® Nano & Gore® Crosstech® Black

Balanced Performance

- Quantum3D® SL2 & Gore® Crosstech® Black
- Caldura® ELITE SL2 & Gore® Crosstech® Black
- Caldura® ELITE SL2 & Stedair® Gold

Thermal Performance

- Defender® M SL2 & Gore® Crosstech® 3-Layer
- Defender® M SL2 & Stedfast Stedair® 3000
- Defender® M NP & Gore® RT7100

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