



Style 0451 UltraSoft® 9oz Twill

MPG S000100451

Fiber Content: 88% Cotton / 12 % High Tenacity Nylon

3x1 LH Twill	Process Average	Specs	Test Method
Weight	9.9 oz/yd	9.7 oz/yd ² (+/-5%)	ASTM D3776
Width (overall/cuttable)	65.0"/64.0"	> 63.0" cuttable	ASTM D3774
Tear Strength (lbs W x F)	10.1 x 11.3	> 8.0 x >8.0	ASTM D1424 (ISO 13937)
Tensile Strength (lbs W x F)	135 x 101	> 120 x > 90	ASTM D5034
Laundry Shrinkage (W x F) after 5 wash	1.8% x 1.1%	< 3.0% x < 3.0%	ASTM 1506 AATCC 135-3, IV, Aiii
Laundry Shrinkage IL (W x F) after 10 wash	2.0% x 0.8%	< 3.5% x < 3.5%	NFPA 2112 wash method
Vertical Flame, in. (W x F)	2.8" x 2.8"	≤ 4.0" x ≤ 4.0"	ASTM D6413
Vertical Flame, in. (W x F) After 100 IL	3.0" x 3.1"	≤ 4.0" x ≤ 4.0"	ASTM D6413 NFPA 2112 (wash)
Arc Rating ATPV, (cal/cm ²)	12	≥ 12	ASTM F1959
Thermal Manikin, original UL test, Dec 13, 2011	13.4%	< 50%	ASTM 1930
Thermal Manikin, Updated 3 rd party test, Oct 9, 2012	8.3%	< 50%	ASTM 1930

UL® certified to NFPA 2112 and NFPA 1977 

Arc Rated according to ASTM F1506 for NFPA 70E as Arc Flash PPE Category 2.

Note: "Process Averages" are historical averages; actual results may vary by lot (but will meet the min. "Specs.") Manikin testing at University of Alberta.

Guaranteed flame resistance for the life of the garment (when washed according to care instructions).

These fabrics are innovative, flame resistant materials intended to be used in garments that supplement personal protective equipment and are engineered to self-extinguish when the source of ignition is removed. They may be used as a layer of, but are not intended for use as the primary protection in, firefighting garments or other products subject to repeated or extended exposure to heat or flame (unless explicitly certified in writing to meet the relevant regulations for use in such firefighting garments). As each customer's use of our product may be different, information we provide, including without limitation, recommendations, test results, samples, care/labeling/processing instructions or marketing advice, is provided in good faith but without warranty and without accepting any responsibility/liability. All sales are exclusively subject to our standard terms of sale posted at www.milliken.com/terms (all additional/different terms are rejected) unless explicitly agreed otherwise in a signed writing.

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