



**PROTECTIVE FABRICS  
TECHNICAL SPECIFICATIONS  
SYNERGY® UL 4531 NOMEX® IIIA: PLAIN**

PHYSICAL PROPERTIES	SPRINGFIELD Specifications	AVERAGE PERFORMANCE VALUES	NFPA 1975-04 Requirements	NFPA 2112-07 Requirements	ASTM F1506-02 NFPA 70E-09 Requirements
<b>FIBER CONTENT</b> AATCC 20A	93% NOMEX® 5% KEVLAR® 2% P-140	93% NOMEX® 5% KEVLAR® 2% P-140			
<b>WIDTH (inches)</b> Cuttable	60	60.8			
<b>WEIGHT (oz/yd²)</b> ASTM D3776	4.5±5%	4.5			
<b>YARNS per INCH (warp x fill)</b> Visual	57 x 43 min	62 x 44			
<b>BREAKING STRENGTH (lbs, warp x fill)</b> ASTM D5034	50 x 50 min	172 x 126			30 x 30 min
<b>TEAR STRENGTH (lbs, warp x fill)</b> ASTM D1424	5.0 x 5.0 min	10.4 x 8.0			2.5 x 2.5 min
<b>DIMENSIONAL STABILITY (% , warp x fill)</b> After 5 washes 120°F AATCC 135	3.0 x 3.0 max	1.8 x 1.8			3.0 x 3.0 max
<b>FLAME RESISTANCE (warp x fill)</b> Afterflame (seconds)- Initial After 25 washes 120°F After 100 washes 120°F Char Length (inches)- Initial After 25 washes 120°F After 100 washes 120°F MELT or DRIP ASTM D6413	2 x 2 max 2 x 2 max 2 x 2 max 4 x 4 max 4 x 4 max 4 x 4 max None	0.0 x 0.0 0.0 x 0.0 0.0 x 0.0 2.4 x 2.3 2.5 x 2.5 2.9 x 2.8 None	2 x 2 max  2 x 2 max 6 x 6 max 6 x 6 max None	2 x 2 max  2 x 2 max 4 x 4 max 4 x 4 max None	2 x 2 max 2 x 2 max  6 x 6 max 6 x 6 max  None
<b>THERMAL PROTECTIVE PERFORMANCE (cal/cm²)</b> Initial & After 3 washes 120°F- Contact Initial & After 3 washes 120°F- Spaced	3.0 min 6.0 min	6.7 & 8.2 9.9 & 11.5		3.0 min 6.0 min	
<b>THERMAL SHRINKAGE (% , warp x fill)</b> Initial After 3 washes 120°F After 25 washes 120°F	10 x 10 max 10 x 10 max 10 x 10 max	1.0 x 0.8 0.5 x 0.8 0.4 x 0.5	10 x 10 max  10 x 10 max	10 x 10 max 10 x 10 max	
<b>ARC THERMAL PERFORMANCE VALUE (cal/cm²)</b> ATPV After 3 washes 120°F ASTM F1959	Level 1: 4.0 – 7.9	4.1			Level 1: 4.0 – 7.9
<b>MANIKIN FLASH FIRE EXPOSURE</b> % average predicted body burn ASTM F1930	50 max	46		50 max	
<b>SEAM BREAKING STRENGTH (lbs)</b> Initial  After 25 washes 140°F ASTM D1683	55 min Class I 40 min Class II  55 min Class I 40 min Class II		55 min Class I 40 min Class II  55 min Class I 40 min Class II		
<b>SEAM SLIPPAGE (lbs)</b> ASTM D434	40 min				40 min
<b>COLORFASTNESS- LAUNDERING</b> AATCC 61 IIA- 1 cycle	3 min				3 min
<b>COLORFASTNESS- DRY CLEANING</b> AATCC 132- 1 cycle	3 min				3 min
<b>HEAT RESISTANCE (500°F, 5 minutes)</b>	does not melt, drip, separate or ignite	does not melt, drip, separate or ignite	does not melt, drip, separate or ignite	does not melt, drip, separate or ignite	

Prolonged sunlight and UV exposure can be damaging to the aramid fibers. Both natural and dyed aramid 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 fiber to gradually weaken. Garments should be stored so that they are protected from sunlight to maximize wear life. Springfield LLC offers no warranties, implied or otherwise, for fabric damage or color change due to UV exposure.

To the best of our knowledge, the information contained herein is accurate. However, Springfield LLC 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 cannot guarantee that these are the only hazards.

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