




## 30 Years of Reliable, Affordable Protection

TenCate Defender™ proves that good protection doesn't have to carry a high price tag. This classic Nomex® outer shell fabric continues to build on its strong reputation of reliability by protecting firefighters against extreme temperatures and grueling conditions.

- **Proven economical protection** – Features the proven dependability of Nomex®. Inherently flame resistant, exhibits low flammability and high strength. Will not melt, drip or char at temperatures up to 700°F.
- **Quality at an unbeatable price** – The most economical outer shell fabric on the market. Proven quality, thermal stability and affordable protection.
- **Outstanding selection** of colors, weights and weaves.

TenCate Defender™ delivers peace of mind when lives are on the line.  
*Nothing Beats a TenCate Protective Fabric*



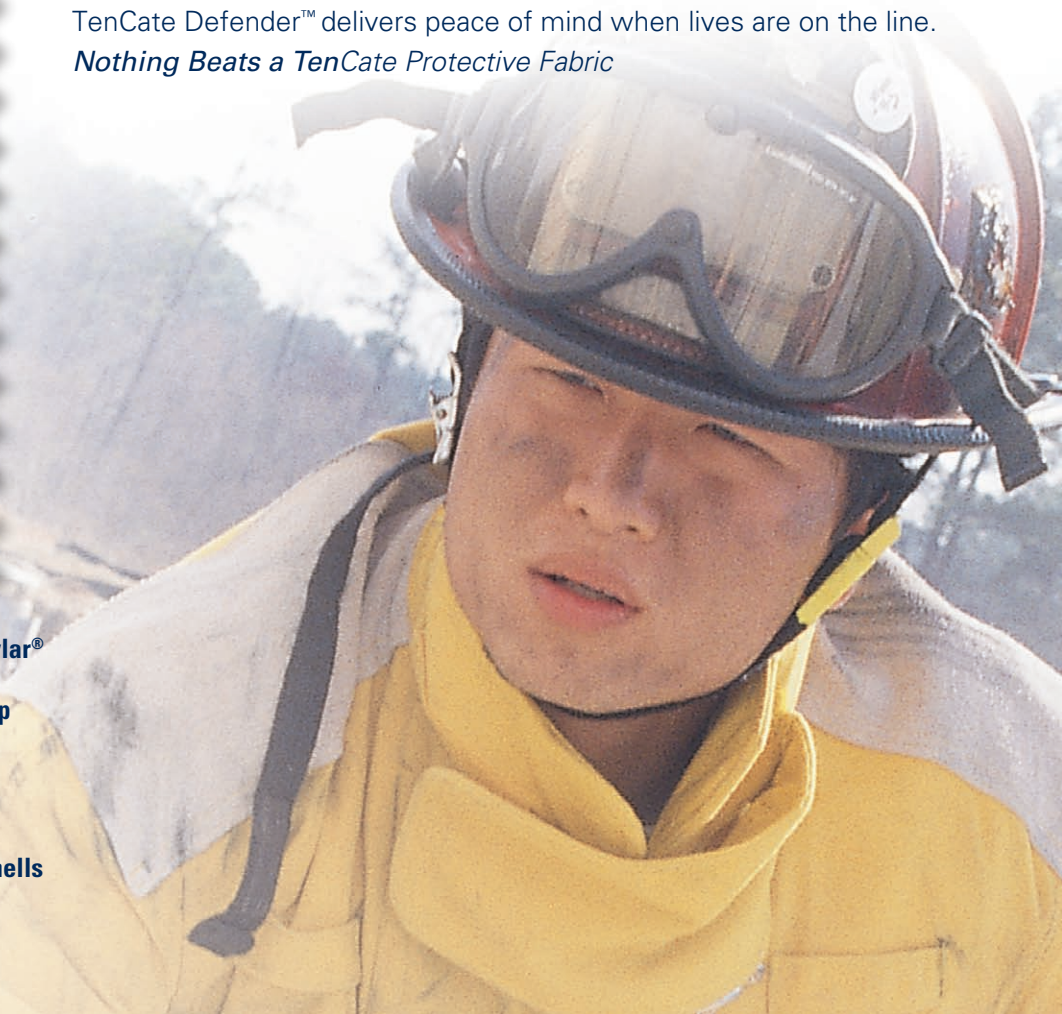
**FIBER BLEND:** 93% Nomex® / 5% Kevlar®  
2% P-140 (anti-static)

**WEIGHT/WEAVE (±5%):** 6.0 oz (sq yd) - Rip Stop  
7.5 oz (sq yd) - Plain

**COLORS:** Black, Yellow, Royal,  
Fire Service Navy

**FINISH:** Shelltite™

**END USE:** Turnout Gear Outer Shells





PHYSICAL PROPERTIES		TenCate Defender™ 600RS	TenCate Defender™ 750	NFPA 1971 Requirements
<b>Trapezoidal Tear Strength (lbs)</b> Initial (warp x fill) After 5 launderings (warp x fill)	<b>ASTM D 5587*</b>	35 x 30 30 x 25	55 x 35 50 x 30	22.0 min
<b>Tensile Strength (lbs)</b> Initial (warp x fill) After 10 launderings (warp x fill)	<b>ASTM D 5034</b>	200 x 180 190 x 180	260 x 230 250 x 220	140.0 min
<b>Water Absorption Resistance (%)</b> Initial After 5 launderings	<b>AATCC 42</b>	< 3.0 < 10.0	< 3.0 < 15.0	30.0 max
<b>Flame Resistance</b> 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)	<b>ASTM D 6413</b>	3.0 x 3.0 3.0 x 3.0 0.0 x 0.0	2.5 x 2.5 2.5 x 2.5 0.0 x 0.0	4.0 max 2.0 max
<b>Laundry Shrinkage (%)</b> After 5 launderings (cotton sturdy cycle) (warp x fill)	<b>AATCC 135</b>	< 5.0 x < 5.0	< 4.0 x < 4.0	5.0 max
<b>Heat and Thermal Shrinkage (%)</b> 500°F at 5 minutes (warp x fill) After 5 launderings (warp x fill)	<b>NFPA 1971</b>	< 2.0 < 2.0	< 2.0 < 2.0	10.0 max

\*NFPA 1971-2007 specifies Trapezoidal Tear Strength measurement according to ASTM D5587 not allowing for specimen slippage.



6501 Mall Blvd. • P.O. Box 289  
Union City, GA 30291  
Phone: 770.969.1000 • Fax: 770.969.6846  
Toll Free: 800.241.8630  
www.TenCateProtectiveFabrics.com

Sunlight/UV Exposure Advisory: Prolonged sunlight and UV exposure can be damaging to aramid fibers. Both natural (undyed) 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 fabric to gradually weaken. Garments should be stored so that they are protected from sunlight, including windows and bay doors, to maximize wear life. TenCate Protective Fabrics 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, TenCate Protective Fabrics 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.

©2010 TenCate Protective Fabrics. TenCate is a trademark of Royal Ten Cate. Defender is a trademark of TenCate Protective Fabrics. Shelltite is a trademark of TenCate Protective Fabrics. Southern Mills, Inc. d/b/a TenCate Protective Fabrics. DuPont, Kevlar and Nomex are trademarks or registered trademarks of DuPont or its affiliates.

Proud Sponsor of:



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

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20130130-MH14719  
**Report Reference** MH14719-20121031  
**Issue Date** 2013-JANUARY-30

**Issued to:** Southern Mills Inc., Dbatec Protective Fabrics  
6501 Mall Blvd  
P. O. Box 289  
Union City, GA 30291



**This is to certify that representative samples of** Component – Outer Shell Fabrics  
See Styles on Page 2 and 3

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2013 Edition and CAN/CGSB 155.1, Standard on Firefighters' Protective Clothing for Protection Against Heat and Flame, 2001 Edition

**Additional Information:** See the UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Recognized Component Marks for the U.S. and Canada should be considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada:  and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.



William R. Carney, Director, North American Certification Programs

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at [www.ul.com/contactus](http://www.ul.com/contactus)



# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20130130-MH14719  
**Report Reference** MH14719-20121031  
**Issue Date** 2013-JANUARY-30

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Model/Style Designation	Weight (oz/yd <sup>2</sup> )	Material Composition	Weave	Finish
Kombat 750	7.5	60% Para-Aramid/40% PBI	Ripstop	Water Repellant Finish
(+++ ) 750	7.5	93% Meta-Aramid/5% Para-Aramid/2% Anti-Stat	Plain	Water Repellant Finish
(+++ ) 600RS	6.0	93% Meta-Aramid/5% Para-Aramid/2% Anti-Stat	Ripstop	Water Repellant Finish
Gemini (#)	7.5	60% Para-Aramid/40% PBI (Kevlar or Twaron as Para-Aramid)	Ripstop	Water Repellant Finish with or without Softer Hand
Advance	7.2	60% Para-Aramid/40% Meta-Aramid (Kevlar or Twaron as Para-Aramid)	Ripstop	Water Repellant Finish with or without Softer Hand
Millenia Light	5.3	60% Para-Aramid/40% PBO	Ripstop	Water Repellant Finish
Millenia XT	7.5	60% Para-Aramid/40% PBO	Ripstop	Water Repellant Finish
Advance PCA	7.2	50% Producer Dyed Para-Aramid/50% Producer Dyed Meta-Aramid	Ripstop	Water Repellant Finish with or without Softer Hand
Advance Ultra	7.5	60% Para-Aramid/20% Meta-Aramid/20% PBO	Ripstop	Water Repellant Finish

(#) – XT may follow the name designation.

(+++ ) – Defender or Brigade may precede the number designation.



William R. Carney, Director, North American Certification Programs  
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at [www.ul.com/contactus](http://www.ul.com/contactus)



# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20130130-MH14719  
**Report Reference** MH14719-20121031  
**Issue Date** 2013-JANUARY-30

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Model/Style Designation	Weight (oz/yd <sup>2</sup> )	Material Composition	Weave	Coating or Finish
Millenia XTL	6.0	60% Para-Aramid/40% PBO	Ripstop	Durable Water Repellant
Gemini XTL (with nega-stat grid)	6.0	60% Para-Aramid/40% PBI Reinforced With A High Strength Filament Grid	Ripstop	Durable Water Repellant
Crusader 790	7.5	60% Para-Aramid/40% Nomex IIIA (93% Meta-Aramid/5% Para-Aramid/2% Anti-Stat)	Ripstop	Water Repellant Finish
(++) 782	7.5	93% Meta-Aramid/5% Para-Aramid/2% Carbon	Twill	Water Repellant Finish

(++) – Defender, OMNI Weave, FreeStyle, Brigade, AtEase, OMNI Soft may precede the number designation.



William R. Carney, Director, North American Certification Programs  
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at [www.ul.com/contactus](http://www.ul.com/contactus)

