TRUSTED AND PROVEN

FR FABRIC SOLUTIONS

WHEN IT COMES TO **FR SAFETY** | WE ARE **ALL IN**

WESTEX® by Milliken

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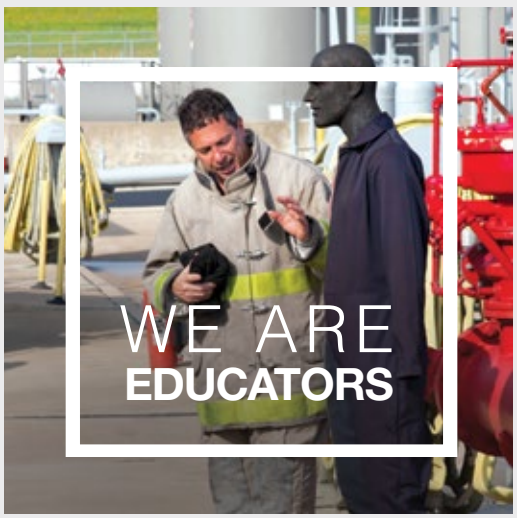


WHEN IT COMES TO **FR SAFETY** | WE ARE **ALL IN**

Our Commitment to FR Worker Safety

At Westex by Milliken, we go all in for worker safety. We are leaders in secondary arc rated (AR) and flame resistant (FR) protection, backed by 150 years of Milliken innovation. We go further than anyone else to ensure workers are protected, comfortable and able to return home safely each night.

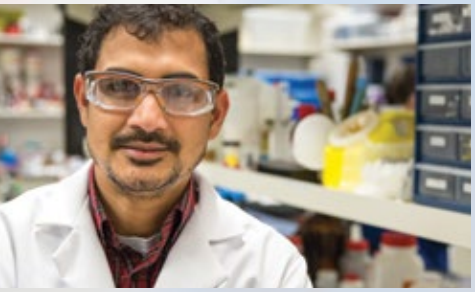
At the heart of our commitment is engineering: scientific expertise and advanced, custom-made equipment that guarantees flame resistance for the life of the garment. Our fabrics don't just meet standards — they are *market proven*, with tens of millions of yards out in the field. Being all in is also about driving innovation — integrating safety and comfort in ways that were once considered impossible. Through our extensive educational outreach, we have helped millions of workers better understand arc flash, flash fire and other thermal hazards. That's what being all in is about: innovation, exceptional engineering and education.

For more information, visit westex.com/fabrics

OVERVIEW

Science is the Key to FR Fabric Technology

There is a great deal of science that goes into making any type of FR fabric. The truth is that manufacturing FR fabrics is complicated, and the fabric is the key part of the garment's AR/FR protection. Make sure that the FR fabric in your garment is manufactured by a credible supplier you trust — your safety depends on it.



At Westex by Milliken, we offer an extensive portfolio of AR/FR fabrics that include various types of fibers, yarns and FR technologies. We guarantee all of our product lines to be flame resistant for the life of the garment. Our team of engineers uses state-of-the-art equipment, advanced proprietary processes and patented technologies to deliver the best possible AR/FR fabrics in the marketplace. We are an industry leader, with our fabrics worn by thousands of workers worldwide, backed by 150 years of Milliken innovation.

AR/FR Product Portfolio

Guaranteed Flame Resistant for the Life of the Garment.

Cotton & Cotton Rich

- Westex UltraSoft®
- Westex UltraSoft AC®
- Westex TrueComfort®
- Westex Indigo™
- Westex Indura®

Aramid

- Westex Synergy® made with DuPont™ Nomex®
- Westex CXP®
- DuPont™ Nomex® Milliken® CXP®

Blends

- DuPont™ Nomex® MHP
- Westex® DH

Specialty

- Westex AllOut™
- Westex Vinex®
- Westex InsulAir™
- Westex Moda-Quilt®
- Thinsulate® INSULATION FR quilted to Westex® UltraSoft®

AR/FR PRODUCT PORTFOLIO

NFPA 70E PPE Categories

- Category 1
- Category 2
- Category 3
- Category 4

Laundry Compatibility

- I — Industrial and Home Laundry
- L — Lite Industrial and Home Laundry
- H — Home Laundry

Westex UltraSoft®

Westex UltraSoft®, our most popular fabric, has a strong reputation for providing an excellent balance of protection, comfort and value. Westex UltraSoft® was first introduced nearly two decades ago and today is specified by name by thousands of end users globally.

Westex UltraSoft® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
0301	7.0 oz. 3x1 Twill	88% Cotton, 12% High Tenacity Nylon	8.7 cal/cm²	Yes (16.1%)	62.5"	7.7 (260)	I	Shirts, Lightweight Coveralls
0341	5.5 oz. 2x1 Twill	88% Cotton, 12% High Tenacity Nylon	6.1 cal/cm²	No	61"	6.5 (220)	I	Lightweight Shirts
0152	5.0 oz. 2x1 Twill	100% Long Staple Cotton	5.6 cal/cm²	No	56"	5.0 (170)	H	Shirts
5568	6.5 oz. 4x1 Twill ANSI 107	88% Cotton, 12% High Tenacity Nylon	9.5 cal/cm²	Yes (41%)	61"	6.5 (220)	L	Shirts
0451	9.0 oz. 3x1 Rugged Twill	88% Cotton, 12% High Tenacity Nylon	12.4 cal/cm²	Yes (8.3%)	63"	9.7 (330)	I	Pants, Jackets, Coveralls, Bib Overalls
0801	13.0 oz. Heavyweight Sateen	88% Cotton, 12% High Tenacity Nylon	21 cal/cm²	No	62"	12.7 (430)	I	Pants, Coveralls
0851	10.0 oz. Sateen	88% Cotton, 12% High Tenacity Nylon	13.5 cal/cm²	No	62"	10.3 (350)	I	Pants, Arc Flash Suits (851 over 851 = 45 ATPV)
0881	8.5 oz. Basketweave	88% Cotton, 12% High Tenacity Nylon	9.8 cal/cm²	Yes (10.4%)	63"	8.5 (288)	I	Pants, Jackets, Coveralls
0961	11.0 oz. Duck	88% Cotton, 12% High Tenacity Nylon	12.7 cal/cm²	Yes (8.8%)	59"	11.0 (372)	I	Pants, Jackets, Bib Overalls
5555	5.5 oz. 2x1 Twill Chambray	88% Cotton, 12% High Tenacity Nylon	6.9 cal/cm²	No	62"	5.5 (186)	I	Shirts
5572	7.7 oz. 3x1 Twill High-Vis ANSI 107	88% Cotton, 12% High Tenacity Nylon	9.2 cal/cm²	Yes (18%)	62.5"	7.7 (260)	I	Lightweight Shirts
0130	6.0 oz. Interlock Knit	88% Cotton, 12% High Tenacity Nylon	10.9 cal/cm²	No	61"	6.5 (220)	H	T-shirts, Henleys, Polos
0131	6.0 oz. Rib Knit	86% Cotton, 12% High Tenacity Nylon, 2% Spandex	12.1 cal/cm²	No	51.5"	6.7 (226)	H	Cuffs, Collars, Balaclavas, Underwear
0180	11.0 oz. Fleece	88% Cotton, 12% High Tenacity Nylon	21.8 cal/cm² (Ebt)	Yes (16.1%)	58"	11.5 (390)	H	Sweatshirts, Hoodies
0181	10.0 oz. Rib Knit	86% Cotton, 12% High Tenacity Nylon, 2% Spandex	24.7 cal/cm²	Yes (trim)	47"	11.0 (373)	H	Cuffs, Collars, Balaclavas, Underwear

Westex UltraSoft AC®

When comfort is the concern, Westex UltraSoft AC® is the top choice. A higher construction and finer yarns than UltraSoft® fabric are combined with our proprietary advanced softening technology to make the Westex UltraSoft AC® fabric the most comfortable fabric on the market.

Westex UltraSoft AC® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
0901	7.0 oz. 3x1 Twill	88% LS Cotton, 12% High Tenacity Nylon	8.3 cal/cm²	Yes (20.5%)	60"	7.5 (254)	I	Shirts, Lightweight Coveralls
0951	9.0 oz. 3x1 Twill	88% LS Cotton, 12% High Tenacity Nylon	11.7 cal/cm²	Yes (13.4%)	61.5"	10.3 (350)	I	Pants, Coveralls

AR/FR PRODUCT PORTFOLIO

Westex TrueComfort®

Designed with homecare laundering in mind, Westex TrueComfort® is an exceptionally comfortable multi-hazard fabric. It provides excellent air permeability and increased mobility over other FR fabrics.

Westex TrueComfort® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
0128	5.5 oz. Interlock Knit	100% Cotton	8.9 cal/cm²	Yes (30.6%)	58.5"	6.2 (210)	H	Henleys, Polos, T-shirts
0129	5.5 oz. Rib Knit	97% Cotton, 3% Spandex	10 cal/cm²	Yes (Trim)	51"	6.7 (226)	H	Cuffs, Collars, Balaclavas, Underwear
4215	6.0 oz. Interlock Knit	100% Cotton	11 cal/cm²	Yes (39.6%)	60"	6.0 (237)	H	Henleys, Polos, T-shirts

Westex Indigo™

Westex Indigo™ is a superior line of FR denim fabrics that combines the look of everyday jeans wear with protective, comfortable and reliable industrial workwear.

Westex Indigo™ Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
0306	12.0 oz. 2x1 Twill Denim	100% Cotton	14 cal/cm²	Yes (11.3%)	62.5"	12.3 (417)	I	Pants, Jackets
0308	14.0 oz. 3x1 Twill Denim	100% Cotton	22 cal/cm²	Yes (9.2%)	65"	14.5 (492)	I	Pants, Jackets
0310	12.0 oz. 3x1 Twill Denim — Top Dye Sulfur	100% Cotton	19 cal/cm²	Yes (6.6%)	63.5"	12.0 (406)	I	Pants, Jackets
0312	12.5 oz. 3x1 Twill Stretch Denim	99% Cotton, 1% Spandex	17 cal/cm²	Yes (7.4%)	62.5"	12.5 (424)	I	Pants, Jackets
0313	13.5 oz. 3x1 Twill Denim	100% Cotton	19 cal/cm²	Yes (6.6%)	65"	13.5 (458)	I	Pants, Jackets
0317	7.5 oz. 2x1 Twill Denim	100% Cotton	8.3 cal/cm²	Yes (14.2%)	60"	7.5 (254)	I	Shirts

Westex Indura®

Westex Indura® was the first cotton fabric engineered to provide guaranteed flame resistance for the life of the garment. First introduced in 1987, Westex Indura® is still popular today for use in jackets and pants in the metals industry, and in coveralls for budget conscious contractors.

Westex Indura® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
0020	7.0 oz. 3x1 Twill	100% Cotton	8.4 cal/cm²	Yes (41.1%)	62"	7.5 (254)	I	Lightweight Coveralls
0030	7.0 oz. 3x1 Twill	100% Cotton	7.7 cal/cm²	Yes (21.5%)	62"	7.5 (254)	I	Shirts
5556	7.5 oz. 3x1 Twill Blue Stripe	100% Cotton	8 cal/cm²	No	67"	7.8 (265)	I	Shirts, Coveralls
0085	9.0 oz. 3x1 Sateen	100% Cotton	11.5 cal/cm²	Yes (11.7%)	59.5"	9.5 (322)	I	Pants, Coveralls, Jackets
0045	9.0 oz. 3x1 Rugged Twill	100% Cotton	10.8 cal/cm²	Yes (9.6%)	60"	9.7 (330)	I	Pants, Coveralls, Jackets
0315	13.0 oz. USS Whipcord	100% Cotton	12.9 cal/cm²	No	63"	13.5 (457)	I	Pants, Jackets

Westex® DH

With its uniquely woven blend, Westex® DH provides outstanding breathability and optimized moisture management to keep the wearer cooler, drier and more comfortable. Westex® DH also retains an excellent after-wash appearance, with a low propensity for pilling.

Westex® DH Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
6800	5.5 oz. 2x1 Twill ANSI 107	48% Tencel, 40% Modacrylic, 12% Aramid	6.6 cal/cm²	Yes (35.3%)	60"	5.5 (186)	I	Lightweight Shirts, Vests
6820	6.5 oz. 2x1 Twill ANSI 107	48% Tencel, 40% Modacrylic, 12% Aramid	8.9 cal/cm²	Yes (16.4%)	60"	6.5 (220)	I	Lightweight Shirts, Coveralls
6860	7.5 oz. 2x1 Twill ANSI 107	48% Tencel, 40% Modacrylic, 12% Aramid	8.8 cal/cm²	Yes (13.5%)	60"	7.5 (254)	I	Shirts, Pants, Coveralls, Jackets
6890	8.5 oz. 2x1 Twill	48% Tencel, 40% Modacrylic, 12% Aramid	8.8 cal/cm²	Yes (8.8%)	60"	8.5 (288)	I	Shirts, Pants, Coveralls, Jackets

AR/FR PRODUCT PORTFOLIO

Westex Synergy® made with DuPont™ Nomex®

Westex Synergy® is made with 100% Nomex® IIIA. Nomex® is an inherent fiber and has been a leader in heat and flame protection for more than 45 years. Nomex® fiber helps FR clothing maintain its size and shape after repeated launderings for a professional appearance.

Westex Synergy® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
6140	4.5 oz. Plain Weave	100% Nomex® IIIA	5.1 cal/cm²	Yes (43.7%)	60"	4.5 (152)	1	Shirts, Lightweight Coveralls
6150	5.0 oz. Plain Weave	100% Nomex® IIIA	5.2 cal/cm²	Yes (37.4%)	60"	5.0 (170)	1	Shirts, Lightweight Coveralls
6160	6.0 oz. Plain Weave	100% Nomex® IIIA	6.0 cal/cm²	Yes (22.4%)	60"	6.0 (202)	1	Pants, Coveralls, Jackets
6460	6.5 oz. 2x1 Twill	100% Nomex® IIIA	6.8 cal/cm²	Yes (19.4%)	60"	6.5 (220)	1	Pants, Coveralls, Jackets
6170	7.5 oz. Plain Weave	100% Nomex® IIIA	7.0 cal/cm²	Yes (15.8%)	60"	7.5 (254)	1	Shells, Pants, Jackets

Westex CXP®

The most comfortable aramid fabric. Westex CXP® is made with 100% Nomex® IIIA and a patented Softouch Technology™ process that provides improved breathability, longer lasting color and a softer hand.

Westex CXP® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
6001	4.5 oz. Plain Weave with Softouch Technology™	100% Nomex® IIIA	5.6 cal/cm²	Yes (33.6%)	60"	4.5 (152)	1	Shirts, Lightweight Coveralls
6000	6.0 oz. Plain Weave with Softouch Technology™	100% Nomex® IIIA	7.2 cal/cm²	Yes (20.2%)	60"	6.0 (202)	1	Shirts, Pants, Coveralls, Jackets

DuPont™ Nomex® CXP®

Nomex® CXP® combines the Softouch Technology™ process with LEAP® technology to provide a soft aramid fabric that protects against both arc flash and flash fire hazards. Nomex® CXP® is the only 100% Nomex® IIIA fabric on the market today that meets NFPA 70E PPE Category 2 protection.

Nomex® CXP® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
6002	6 oz. 2x1 Twill with LEAP Technology	100% Nomex® IIIA	10.2 cal/cm²	Yes (18%)	64"	5.8 (197)	1	Shirts, Coveralls

DuPont™ Nomex® MHP

Dupont™ Nomex® MHP is designed to provide optimal moisture management for enhanced comfort, with exceptional durability for longer lasting garments. Comfort, durability and industry-leading multi-hazard protection — all in one fabric.

DuPont™ Nomex® MHP Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
6700	7.0 oz. 2x1 Twill	34% Aramid, 33% Lyocell, 31% Modacrylic, 2% Antistatic	8.4 cal/cm²	Yes (14%)	60"	7.3 (248)	1	Shirts, Coveralls

AR/FR PRODUCT PORTFOLIO

Westex Vinex®

With a unique ability to shed molten metal aluminum, Westex Vinex® continues to set the standard as the benchmark fabric in today's aluminum industry. Vinex® fabrics have been successfully incorporated into protective clothing programs at major aluminum companies worldwide for nearly three decades. Vinex® provides better wearer comfort than other competitive wool brands.

Westex Vinex® Fabrics

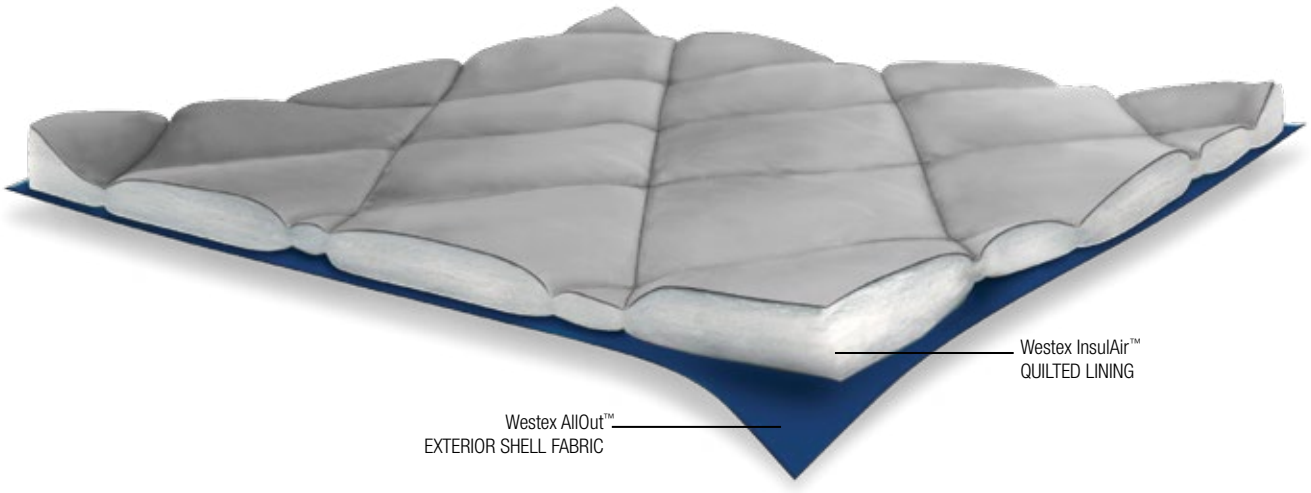
STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
1200	8.5 oz. 2x1 Twill	85% Vinal, 15% Polynosic	8.1 cal/cm²	No	58.5"	8.5 (288)	1	Jackets, Pants, Shirts
1201	6.0 oz. 2x1 Twill	85% Vinal, 15% Polynosic	5.6 cal/cm²	No	59"	6.0 (203)	1	Shirts
1204	11.5 oz. 2x1 Twill	85% Vinal, 15% Polynosic	10.7 cal/cm²	No	59"	11.5 (390)	1	Heavyweight Jackets, Pants

Westex AllOut™

Westex AllOut™ fabrics provide durable water repellency and enhanced wind resistance while maintaining good breathability. AllOut™ fabrics eliminate the need for a non-compliant NFPA 2112 vapor barrier. Westex AllOut™ is great on its own or paired with Westex InsulAir™ lining for excellent outdoor protection in extreme weather.

Westex AllOut™ Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV)	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
0303	8.5 oz. 3x1 Lightweight Twill, Water & Wind Resistant ANSI 107	88% Cotton, 12% High Tenacity Nylon	12 cal/cm²	Yes (7.4%)	62.5"	8.5 (237)	1	Jackets, Bib Overalls, Outerwear
9453	10.5 oz. 3x1 Midweight Twill, Water & Wind Resistant	88% Cotton, 12% High Tenacity Nylon	17 cal/cm²	Yes (7.7%)	65"	10.5 (355)	1	Jackets, Bib Overalls, Outerwear
9883	9.0 oz. Basketweave, Water & Wind Resistant	88% Cotton, 12% High Tenacity Nylon	13 cal/cm²	Yes (11.5%)	64"	9.0 (305)	1	Jackets, Bib Overalls, Outerwear
9963	12.0 oz. Duck, Water & Wind Resistant	88% Cotton, 12% High Tenacity Nylon	20 cal/cm²	Yes (6.8%)	62"	12.0 (407)	1	Jackets, Bib Overalls, Outerwear



Westex InsulAir™

A new line of quilted products made with silica rayon and poly high loft. Westex InsulAir™ offers excellent protection in cold outdoor environments at a great value.

Westex InsulAir™ Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV) †	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	SPEC WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
5400	10.0 oz. Cold Weather Quilted Lining	Face Cloth: Indura® 100% Cotton Batting: 80% Silica Rayon, 20% Polyester	46 cal/cm²	Yes (quilting)	62"	10.0 (339)	I	Outerwear, Insulated Jackets, Insulated Bib Overalls
5401	13.5 oz. Cold Weather Quilted Lining	Face Cloth: Indura® 100% Cotton Batting: 80% Silica Rayon, 20% Polyester	69 cal/cm²	Yes (quilting)	62"	13.5 (458)	I	Outerwear, Insulated Jackets, Insulated Bib Overalls
5403	15.3 oz. Cold Weather Quilted Lining	Face Cloth: Indura® 100% Cotton Batting: 80% Silica Rayon, 20% Polyester	73 cal/cm²	Yes (quilting)	62"	15.3 (520)	I	Outerwear, Insulated Jackets, Insulated Bib Overalls

† Arc rating when paired with Westex AllOut™ S/0303 Other multi-layer system arc ratings available, contact Westex by Milliken for details

Westex Moda-Quilt®

Westex Moda-Quilt® is a value line of quilted products for cold weather.

Westex Moda-Quilt® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV) †	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
0709	12 oz. 6" Box Aramid Thread	Face Cloth: Indura® 100% Cotton Batting: 100% FR Modacrylic	35 cal/cm²	Yes (quilting)	59"	12 (406)	I	Outerwear, Insulated Jackets, Insulated Bib Overalls
0710	10.25 oz. 3" Box Aramid Thread	Face Cloth: Indura® 100% Cotton Batting: 100% FR Modacrylic	31 cal/cm²	Yes (quilting)	59"	10.25 (374)	I	Outerwear, Insulated Jackets, Insulated Bib Overalls
0713	16.5 oz. 3" Box Aramid Thread Double Face	Face Cloth: Indura® 100% Cotton Batting: 100% FR Modacrylic	45 cal/cm²	No	59"	16.5 (559)	I	Outerwear, Insulated Jackets, Insulated Bib Overalls

† Arc rating when paired with Westex UltraSoft® S/0301 Other multi-layer system arc ratings available, contact Westex by Milliken for details

Thinsulate™ INSULATION FR quilted to Westex UltraSoft®

Westex by Milliken teamed up with 3M to develop Thinsulate™ Insulation FR quilted to Westex UltraSoft®. Combining FR protection with lightweight warmth, it is ideal for use in cold outdoor environments — enabling workers to tackle tough jobs in comfort without sacrificing protection.

Thinsulate™ Insulation FR Quilted to Westex UltraSoft® Fabrics

STYLE	DESCRIPTION	CONTENT	ARC RATING (ATPV) †	NFPA 2112 CERTIFIED (ASTM F1930 Body Burn %)	CUTTABLE WIDTH	WEIGHT oz/yd² (g/m²)	LAUNDRY	TYPICAL GARMENT APPLICATIONS
0751	10.0 oz. 120 gram 6" Box Aramid Thread	Face Cloth: UltraSoft® 88% Cotton, 12% High Tenacity Nylon Batting: Thinsulate™ FR by 3M 55% Modacrylic, 30% Aramid, 15% Polyester	33 cal/cm²	Yes (quilting)	59"	10 (339)	I	Cold Weather Insulation
0752	11.0 oz. 150 gram 6" Box Aramid Thread	Face Cloth: UltraSoft® 88% Cotton, 12% High Tenacity Nylon Batting: Thinsulate™ FR by 3M 55% Modacrylic, 30% Aramid, 15% Polyester	38 cal/cm²	Yes (quilting)	59"	11 (372)	I	Cold Weather Insulation
0753	12.5 oz. 200 gram 6" Box Aramid Thread	Face Cloth: UltraSoft® 88% Cotton, 12% High Tenacity Nylon Batting: Thinsulate™ FR by 3M 55% Modacrylic, 30% Aramid, 15% Polyester	43 cal/cm²	Yes (quilting)	59"	12.5 (423)	I	Cold Weather Insulation

† Arc rating when paired with Westex UltraSoft® S/0301 Other multi-layer system arc ratings available, contact Westex by Milliken for details

PROVEN HAZARD PROTECTION

Every day, workers in the electrical maintenance, utility, oil and gas, petrochemical and steel industries work in environments that may expose them to hazards that could cause severe or fatal burn injuries. In the event of a momentary electric arc, flash fire, combustible dust or molten metal splash exposure, everyday non-flame resistant work clothes can ignite and will continue to burn even after the source of ignition has been removed. Government reports note that the majority of severe and fatal burn injuries are due to the individual's clothing igniting and continuing to burn, not by the initial exposure itself. Westex by Milliken AR/FR fabrics are designed to self-extinguish, thus reducing or eliminating the burn injury.

For workers exposed to thermal hazards, the Westex® portfolio of AR/FR fabrics provides both the comfort and the protection that employers have come to trust as their first choice in AR/FR clothing.

Arc Flash

Arc flashes are electrical explosions or discharges that travel through the air between conductors or from a conductor to ground.

In 2014, the National Fire Protection Association (NFPA) published the current edition (2015 edition) of the NFPA 70E Standard that has become a "recognized industry practice" by the Occupational Safety and Health Administration (OSHA). To comply with NFPA 70E, employees working on or near energized electrical equipment must wear AR/FR clothing that meets ASTM F1506. ASTM F1506 was developed to give minimum performance specifications for protective clothing used by workers exposed to the risk of electrical arc flash. Important requirements of this specification are that the fabric used in garments is flame resistant and has been tested to ASTM F1959 to receive an Arc Rating.

The National Electrical Safety Code® (NESC) covers utility workers during the installation, operation or maintenance of electric supply, along with communication lines and associated equipment. Employers are required to perform a hazard risk analysis for employees that work on or near energized parts or equipment. If the assessment determines that energies available are over 2 cal/cm², then workers should wear protective clothing (or clothing systems) that have an arc rating equal to or greater than the anticipated level of energy.

Low Visibility

Construction, utility, police, emergency medical services, fire fighters and other workers are routinely exposed to the hazards of low visibility — such as motor vehicles and heavy equipment — while on the job. The ANSI 107 standard sets the performance criteria for high-visibility safety apparel and defines three classes of garments, depending on the level of risk in the work environment. Before the first publication of this standard in 1999, there was no specific guideline for the design and performance of materials for high-visibility safety apparel in the United States. Since then, both private industry and government authorities have recognized the ANSI 107 standard. Westex by Milliken offers multiple high-visibility fabrics certified to ANSI 107.

Flash Fire

A flash fire is a rapidly moving flame front, which, in some cases, may occur in the form of a combustion explosion. Workers in the oil, gas, chemical and petrochemical industries are at a much higher risk for flash fires due to the flammability of these materials.

NFPA 2112 is the industry standard on flame resistant garments for protection of industrial personnel against flash fire. NFPA 2112 provides minimum performance criteria and sets clear guidelines for testing. One requirement of the standard calls for flash fire testing to be conducted at three seconds with a pass/fail criteria of 50 percent total body burn under the testing protocols of ASTM F1930 (Standard Test Method for Evaluation of Flame Resistant Clothing for Protection Against Flash Fire Simulations Using an Instrumented Manikin). For those exposed to a flash fire hazard, having a garment certified to NFPA 2112 is a necessary starting point. However, since all fabrics with less than 50 percent burn can be certified, it is important to know the actual body burn percentage of the ASTM F1930 test.

Combustible Dust

Combustible dust, as defined by OSHA, is a “combustible particulate solid that presents a fire or deflagration hazard when suspended in air or some other oxidizing medium over a range of concentrations, regardless of particle size or shape.” These combustible particles, which are common in industries like food processing, fossil fuel power generation, paper, plastics, textiles, tobacco, pesticides, pharmaceuticals, woodworking and rubber — to name a few — can lead to devastating flash fires, which in turn have led to a number of NFPA Dust Standards to minimize and prevent risks. In 2015, NFPA 652 was published as the “umbrella” standard over all the existing industry-specific dust standards. It provides a set of general requirements for the mitigation of fire and explosion hazards associated with combustible dusts and particulate solids across industries and processes. NFPA 652 also requires workers exposed to a combustible dust hazard to wear FR clothing.

Molten Ferrous Metal Splash

Incidental ferrous metal splash can ignite typical non-flame resistant clothing. The essence of protection from this hazard rests in two critical factors; the fabric must first be flame resistant, and secondly the fabric must be able to shed the molten material from its surface without sticking. When evaluating fabrics for molten metal applications, it is imperative that fabrics be evaluated on site in the form of testing and wear trials. Different work sites handle different alloys, thus a trial with the specific alloy provides the most relevant data.

Note that molten aluminum splash is a different hazard than molten ferrous metal splash. Westex Vinex® is our only product line designed to protect against the unique molten aluminum splash hazard.

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