



PORTWEST[®]

Flame Resistant Range

This industry leading flame resistant range provides multi-standard protection for hazardous environments. These state of the art products are the result of years of experience combined with advanced technology and market research. Commitment to the health, safety and comfort of the wearer can be seen in the wide range of products suitable for all climates and end uses.



A780
195

PS54
215

FR94
96

UFC13
154

5 USA Industry Leading Flame Resistant Fabrics



Araflame™ is an inherently permanent flame resistant aramid fabric. It is extremely flame resistant, lightweight, offers high tensile strength and full antistatic protection.



Bizflame® is a proprietary flame resistant finish which, when applied to fabric, gives excellent flame resistance. The carbon fiber yarns make the garments antistatic.



Bizweld® 100% cotton 9.5oz fabric is completely flame resistant. All Bizweld garments offer excellent flame and molten splash protection for welding, foundries and allied industries.



Modaflame® is an inherently permanent flame resistant fabric. This special blend combines 60% modacrylic fiber with 39% cotton and 1% carbon fiber. Modaflame is extremely comfortable, hardwearing and offers full anti-static protection.



Sealtex® Flame is constructed from a flame resistant, PU coated, polyester fabric 7.5oz. The lightweight and durable Sealtex Flame is designed to offer full protection against adverse weather conditions and flame hazards.

BIZFLAME, BIZWELD, MODAFLAME AND SEALTEX ARE REGISTERED TRADEMARKS OF PORTWEST. ARAFLAME IS A TRADEMARK OF PORTWEST.



FLAME RESISTANT - USA Standards

**NFPA
2112**

NFPA® 2112: 2018

This standard specifies the minimum performance requirements and test methods for flame resistant fabric and components and the design and certification requirements for garments for use in areas at risk from flash fires. Flame resistant fabrics must pass a comprehensive list of thermal tests, including the following:

- ASTM F2700** - Heat Transfer Performance (HTP) Test - This test is a measure of the unsteady state heat transfer properties of garment materials.
- ASTM D6413** - Vertical Flammability (Flame Resistance) Test - This test is used to determine how easily fabrics ignite and continue to burn once ignited.
- Thermal Shrinkage Resistance Test - This test measures a fabric's resistance to

shrinkage when exposed to heat.

•Heat Resistance Test - This test measures how fabrics and components react to the high heat that could occur during a flash fire.

•**ASTM F1930-11** - Thermal Manikin Test - This test provides an overall evaluation of how the fabric performs in a standardized overall design after three-second thermal exposure.

•**FTMS 191A** - Thread Melting Resistance Test - Thread used in flame resistant garments must withstand temperatures of up to 500°F.





**NFPA
70E**

NFPA® 70E: 2018

This standard addresses electrical safety-related work practices for employee workplaces and requires employees working on or near energized parts and equipment to wear flame resistant clothing that meets the requirements of ASTM F1506.

The NFPA 70E standard gives guidance for selecting the appropriate PPE according to the level of risk involved in a particular job. Risk areas are categorized by the expected

level of incident energy in the event of an electric arc. There are four categories, ARC 1 (which is low risk) through 4 (which is high risk and requires FR clothing with a minimum ARC rating of 40cal/cm²). The higher the ARC rating value, the greater the protection.

PPE Category	Clothing description	Required minimum Arc rating of PPE/ cal/cm ²
	CAT/ARC 1: Arc rated FR Shirt and FR Pants or FR Coverall	4
	CAT/ARC 2: Arc rated FR Shirt and FR Pants or FR Coverall	8
	CAT/ARC 3: Arc rated FR Shirt and FR Pants or FR Coverall, and Arc flash suit selected so that the system Arc rating meets the required minimum	25
	CAT/ARC 4: Arc rated FR Shirt and FR Pants or FR Coverall and Arc flash suit selected so that the system Arc rating meets the required minimum	40

**ASTM
F1506-10a**

ASTM® F1506-10A

This performance specification covers the flame resistance of textile materials to be used for wearing apparel for use by electrical workers exposed to momentary electric arc and related hazards

These textile materials must meet the following performance requirements:

- A general requirement that thread and components used in garment

construction shall not contribute to the severity of injuries to the wearer in the event of a momentary electric arc and related thermal exposure. - A set of minimum performance specifications for knit and woven fabrics including strength, colorfastness, flame resistance before and after washing and arc test results.

- Testing for flame resistance in

accordance with ASTM test method D6413 vertical flame test.

- When tested as received in accordance with ASTM test method F1959 arc performance, the fabric may not have more than 5.0 seconds after flame time when tested.

Garments must be labeled with the following: - Tracking code. - Statement that the garments meet the requirements

of F1506. - Manufacturer's name, size information.

- Care instructions and fiber content.
- ARC rating (ATPV) or (EBT).

**ASTM
F1959/F1959M-12**

ASTM® F1959/F1959M-12: 2013

Standard Test Method for Determining the ARC Rating of Materials for Clothing

FABRIC ONLY TEST. This test method is the same as outlined under EN 61482-1-1. Pre treatment may vary.

Laundering of FR Fabrics

The Flame Resistant finish is retained for the normal life cycle of the garment provided that the care instructions are adhered to.

Washing / Drying Procedure:

Pretreatment: If stains are difficult to remove, they can be treated before putting into the washing machine with a liquid detergent applied directly to stains and lightly rubbed. Heavier and stubborn stains should be pretreated with a commercial stain removal product at the earliest opportunity and sufficient time allowed for the pretreatment to penetrate and loosen the stain. Never use chlorine bleach or washing detergents containing bleach as these will reduce the flame resistance properties of the fabric. Fabric softeners, starches and other laundry additives are not recommended as they can mask the flame resistance performance and may also act as a fuel in case of combustion.

Washing: Always wash contaminated workwear separately, do not mix with non workwear. Flame Resistant fabric can usually be washed at high temperatures however it is the components (ie. the reflective tape, badging, etc.) on a finished garment that dictates the maximum washing temperature that the garment can be washed at. Always follow the washing temperature on the garment label. Always wash and dry garments inside out to minimize surface abrasion and help maintain the surface appearance of the fabric. Zippers should be closed during washing.

Load Size: To ensure a more efficient, cleaner wash, avoid overloading the machine so the garments can move freely through the wash and rinse cycles.

Drying: Tumble drying is not usually recommended as the temperature used is often too high and can cause garment shrinkage. It is vital that cotton or cotton mix garments are not over dried. Over drying is the main cause of excessive garment shrinkage. Do not hang in direct sunlight. This can cause fading.

FLAME RESISTANT - European Standards



IEC 61482-2
ATPV or E_{BT50} = xxx cal/cm²
or
Class 1 or Class 2

IEC 61482-2
ATPV or E_{BT50} = xxx cal/cm²
and
Class 1 or Class 2

IEC 61482-2:2009

This standard specifies requirements and test methods applicable to materials and garments for protective clothing against the thermal effects of an electric arc event. Two international test methods have been developed to provide information on the resistance of clothing to the thermal effects of electric arcs. Each method gives different information. To comply with the standard either or both tests must be carried out.

Box Test Method EN61482-1-2.

The fabric/garment is exposed to an electric arc confined in a specific box with a specific electrode arrangement for 0.5 seconds. Class 1 is to a current of 4kA arc, Class 2 is to a current of 7kA arc. Test conditions for class 1 & 2 try to stimulate typical exposure conditions for a short circuit current of 4kA

and 7kA respectively.

Open Arc Method EN61482-1-1. This test method aims to establish the ATPV (Arc Thermal Performance Value) or EBT (Energy Breakopen Threshold) of a fabric. The ATPV is the amount of energy required to cause a 2nd degree burn through the material prior to break-open (50% probability).

The EBT is the amount of energy where the material breaks-open (50% probability). This is normally the upper thermal limit of the fabric where the fibers are damaged and the material loses mechanical strength.

Both ATPV and EBT are expressed in calories per cm². EN 61482-1-1 tests the fabric with an 8kA arc for various incident durations. Workers are assumed to be safe if the ARC rating of their clothes exceeds the

electric arc incident energy calculated in the worst case scenario of a risk assessment.

Garments can be layered to achieve an overall ATPV or EBT Rating. For example a thermal layer may achieve an EBT of 4.3 Cal/cm², and an outer coverall may achieve an ATPV of 13.6Cal/cm². However the combination ATPV/EBT ratings will be greater than the sum of the two single layers, as the air gap between the two layers affords the wearer additional protection.

Another parameter measured during the open arc test is the HAF value (Heat Attenuation Factor) - this describes the amount of heat blocked by the fabric.

ELIM, Incident Energy Limit is a new value

that has been added to the updated version of IEC 61482-1-1, Open Arc test method. This value is the highest incident thermal energy to which the garment can be exposed to without the wearer getting a second-degree burn injury, or the formation of holes in the fabric. The higher the calorific value of the garment or fabric, then the greater the protection for the wearer.



EN ISO 11612: 2015

The performance requirements set out in this international standard are applicable to garments which could be worn for a wide range of end uses, where there is a need for clothing with limited flame spread properties and where the user can be exposed to radiant or convective or contact heat or molten metal splashes.

This test uses standard methods and conditions to predict the performance of fabric/garments in the event of contact with

heat or flames. Garment features such as seams, closures and logos must be tested as well as the fabric. Tests must be carried out on pre-treated components according to the manufacturers care label.

Specific testing is listed below:

- Dimensional change
- Limited flame spread (A1+A2)*
- Convective heat (B) - 3 levels
- Radiant heat (C) - 4 levels
- Molten aluminum splash (D) - 3 levels

- Molten iron splash (E) - 3 levels
- Contact heat (F) - 3 levels (temperature 250 degrees Celsius)
- Heat resistance at a temperature of 180 degrees Celsius.
- Tensile strength (must meet a minimum of 300N) Tear strength (must meet a minimum of 10N)
- Bursting strength
- Seam strength

Garment design requires that coverage

must be provided from the neck to the wrists and to the ankles. Optional testing includes water vapor resistance and manikin testing for overall burn prediction.

*This test must be carried out on fabric and seams.



EN ISO 11611: 2015

This international standard specifies minimum basic safety requirements and test methods for protective clothing for use in welding and allied processes (excluding hand protection).

The international standard specifies two classes with specific performance

requirements.

Class 1 is protection against less hazardous welding techniques and situations, causing lower levels of spatter and radiant heat.

Class 2 is protection against more hazardous welding techniques and situations, causing higher levels of spatter

and radiant heat.

Specific testing is listed below:

- Tensile strength
- Tear strength
- Bursting strength
- Seam strength
- Dimensional change
- Requirements of leather

- Limited flame spread (A1 + A2)
- Molten droplets
- Heat transfer (radiation)
- Electrical resistance



EN 1149: 2018

Protective Clothing - Electrostatic Properties - Part 5. Material Performance and Design Requirements.

This European standard is part of a series of standards for test methods and requirements for electrostatic properties of protective clothing. The standard specifies material and design requirements for garments used as part of a total earthed system, to avoid incendiary discharges. The requirements may not be sufficient in oxygen enriched flammable atmospheres.

This standard is not applicable for protection against mains voltages.

EN 1149 consists of the following parts

- EN 1149-1: Test method for measurement of surface resistivity.
- EN 1149-2: Test method for measurement of the electrical resistance through a material (vertical resistance)

EN 1149-3: Test methods for measurement of charge decay

EN 1149-4: Garment Test (under development)

EN 1149-5: Material performance and design requirements.

Electrostatic dissipative protective clothing shall be able to permanently cover all non-











complying materials during normal use. Conductive parts (zippers, buttons etc) are permitted provided they are covered by the outermost material when in use.











ATEX Directive

The ATEX Directive defines what equipment is permitted in an environment where an explosive atmosphere may exist. Portwest recommends using garments certified to EN 1149 for added protection in an ATEX environment. Portwest garments have not been assessed under the ATEX directive which currently excludes PPE.

Fabric Reference Chart

	STYLES	COMPOSITION	WEIGHT	WEAVE / FINISH	NFPA® 2112	NFPA® 70 E	ASTM F1506-10A	
	UAF73	93% Meta-aramid, 5% Para-aramid, 2% Carbon Fiber	4.5 oz	Plain Weave	✓			
	UFR21	99% Cotton, 1% Carbon Fiber	7 oz	Twill		✓	✓	
	FR94, UFR88, FR89	88% Cotton, 12% Nylon	7 oz	Twill	✓	✓	✓	
	UFR87,	88% Cotton, 12% Nylon	7 oz	Twill	✓	✓	✓	
	FR13	88% Cotton, 12% Nylon	7 oz	Twill				
	UFR97	88% Cotton, 12% Nylon	7oz	Twill	✓	✓	✓	
	FR95, UFR23	88% Cotton, 12% Nylon	7oz	Twill	✓	✓	✓	
	UBIZ1, UBIZ5, BZ31	100% Cotton, FR Finish	9.5 oz	Twill	✓	✓	✓	
	UFR48, UFR49	100% Cotton Duck	10oz	Plain Weave	✓	✓	✓	
	FR54	98% Cotton, 2% Elastane	10oz	Twill	✓	✓	✓	
	FR01, FR02	100% Cotton	7 oz	Interlock Knit				
	FR40	100% Cotton	7oz	Interlock Knit				
	FR33, FR32,	99% Cotton, 1% Carbon Fiber	7 oz	Knit	✓	✓	✓	
	FR39	99% Cotton, 1% Carbon Fiber	7 oz	Knit		✓	✓	
	UFR81,FR09	60% Modacrylic, 39% Cotton, 1% Carbon Fiber	9 oz	Knit				
	UMV21, UFR24	60% Modacrylic, 39% Cotton, 1% Carbon Fiber	5.5oz	Knit		✓	✓	
	FR96	60% Modacrylic, 40% Cotton	8oz	Knit				
	FR17	60% Modacrylic, 40% Cotton	8oz	Knit				
	FR19	60% Modacrylic, 39% cotton, 1% Carbon fiber	6oz	Knit				
	FR75	100% Polyester, Warp Knit	3.5 oz	Knit				
	FR44, FR41, FR43	100% Polyester, FR & Antistatic, PU Coated	7.5 oz	PU Coated				
	US773	98% Polyester, 2% Antistatic Carbon Fiber, Breathable, PU Coated	7.5 oz	PU Coated				
	S783, S771	98% Polyester, 2% Antistatic Carbon Fiber, Breathable, PU Coated	7.5 oz	PU Coated				

	ASTM F1959	ANSI/ISEA 107 - 2015	 EN 1149	 EN ISO 11612	 EN ISO 11611	 IEC 61482-2	 EN ISO 14116	 EN ISO 20471	 EN 13034	 EN 343
	ARC 1 5.9 Cal/cm ²		✓	✓						
	ARC 2 8.2 Cal/cm ²									
	ARC 2 8.2 Cal/cm ²			✓						
	ARC 2 8.2 Cal/cm ²									
	ARC 2 8.2 Cal/cm ²									
	ARC 2 11 Cal/cm ²									
	ARC 2 9 Cal/cm ²	✓								
	ARC 2 11.2 Cal/cm ²			✓	✓					
	ARC 4 45 Cal/cm ²									
	ARC 2 14 Cal/cm ²									
	ARC 2 12 Cal/cm ²			✓						
	ARC 2 12 Cal/cm ²									
	ARC 2 10 Cal/cm ²		✓							
	ARC 2 10 Cal/cm ²									
	ARC 2 16 Cal/cm ²		✓	✓		✓				
	ARC 1 5.1 Cal/cm ²	✓								
	ARC2 9 Cal/cm ²	✓	✓	✓	✓ _W	✓		✓		
	ARC2 9 Cal/cm ²									
	ARC 1 4.3 Cal/cm ²		✓	✓		✓				
		✓					✓	✓		
		✓	✓				✓	✓	✓	✓
		✓	✓				✓	✓	✓	✓
			✓				✓		✓	✓

*NOTE: The term HRC has been replaced by ARC.

ANTI-STATIC ARAFLAME™ FLAME RESISTANT

PLUS

Fabric Information

Araflame Plus is an inherently flame resistant fabric developed for excellence, using innovative technology. The FR properties are permanent and will not diminish with washing.



4.5oz

Fabric Benefits

- ✓ Constructed from 93% Meta-aramid which provides outstanding heat and flame resistance combined with 5% Para-aramid for strength. Araflame Plus is inherently antistatic by incorporating 2% carbon fiber.
- ✓ Araflame Plus has been tested to the highest international standards and outperforms market leading brands in like for like comparison tests.
- ✓ Dyed at high temperatures using advanced technology, Araflame Plus offers outstanding color fastness and excellent shrinkage results.
- ✓ The smooth handle gives the wearer comfort that lasts throughout the day.



UAF73

Araflame NFPA 2112 FR Coverall



ASTM NFPA

ASTM F1959/F1959M-12
ATPV 5.9 CAL/CM² (HAF 63.1%)
NFPA® 2112

EN ISO 11612 A1 + A2, B1, C1, F1
EN 1149 -5

- ARC1
- Permanent flame resistant protection
- Heavy duty flame resistant tape
- Outstanding color fastness and shrinkage results
- Pockets: 2 front, 2 side, 2 back, 1 rule, 1 sleeve
- Lightweight and comfortable

Araflame Plus: 93% Meta-aramid, 5% Para-aramid, 2% Carbon Fiber
4.5oz

Navy, Gray 36"-66"



ANTI-STATIC BIZFLAME® FLAME-RESISTANT

PLUS

Fabric Information

Bizflame Plus has been developed and designed using a highly innovative flame resistant fabric with added antistatic properties. Constructed from 99% cotton and interwoven with 1% carbon fiber.



7oz

Bizflame -
**POWERFUL
PERFORMANCE -**
Remarkable Comfort



UFR21

Super Light Weight FR Antistatic Coverall



ASTM NFPA

ASTM F1959/F1959M-12
ATPV 8.2 CAL/CM² (HAF 75.5%)
ASTM F1506-10A
NFPA® 70E

- ARC2
- Guaranteed flame resistance for life of garment
- Comfortable, lightweight fabric
- Highly durable, flame resistant reflective tape
- Pockets: 2 front, 2 side, 2 rear, 2 knee, 1 sleeve, 1 rule
- Full front, top quality brass zipper



Bizflame Plus: 99% Cotton, 1% Carbon Fiber 7oz
Navy S-4XL, Orange M-3XL



Super Lightweight Comfort - Uncompromising Protection

BIZFLAME[®]

FLAME-RESISTANT

88/12

Fabric Information

Bizflame 88/12 guarantees high performance and maximum comfort. The high cotton content provides an ultra soft hand feel while the high tenacity nylon offers excellent abrasion and tear resistance.



7oz

FR94

Bizflame 88/12 Iona FR Coverall



ASTM NFPA

ASTM F1959/F1959M-12 ATPV 8.2 CAL/CM²
(HAF 69.1%)
ASTM F1506-10A
NFPA[®] 2112
NFPA[®] 70E
 EN ISO 11612 A1+A2, B1, C1

- ARC2
- Dual Hazard protection
- Guaranteed flame resistance for life of garment
- Highly durable, flame resistant reflective tape
- Pockets: 2 front, 2 side, 2 back, 1 sleeve, 1 rule
- Full front, top quality brass zipper

Bizflame 88/12: 88% Cotton, 12% Nylon 3oz
 Navy, Khaki, Gray, Orange, Red, Royal S-6XL
 Tall: Navy, Gray M-3XL

	Reg	Tall
Navy	S-6XL	M-3XL
Orange	S-6XL	
Khaki	S-6XL	
Gray	S-6XL	M-3XL
Red	S-6XL	
Royal	S-6XL	

6XL

8.2
Cal/Cm²

2
ARC



ARC FLASH PPE



PS54 215



PS53 215



PS91 216



A780 195



UFC13 154



EPO2 227

7oz

BIZFLAME
FLAME-RESISTANT

88/12

7oz

New



**DUAL
HAZARD
CERTIFIED**

UFR88 Bizflame 88/12 FR Coverall

UFR87 Bizflame 88/12 Classic FR Coverall



ASTM F1959/F1959M-12 ATPV 8.2 CAL CM² (HAF 69.1%)
ASTM F1506-10A
NFPA® 2112
NFPA® 70E
EN ISO 11612 A1+A2,B1,C1

ASTM F1959/F1959M-12 ATPV 8.2 CAL/CM² (HAF 69.1%)
ASTM F1506-10A
NFPA® 2112
NFPA® 70E

- ARC2
- Pockets: 2 chest with snap flap closure, 2 side, 2 back, 1 rule, 1 sleeve
- Stand up collar
- Action back for comfort

- ARC2
- Pockets: 2 chest, 2 side, 2 back
- Fold down collar

Bizflame 88/12: 88% Cotton, 12% Nylon 7oz Navy M-3XL

Bizflame 88/12: 88% Cotton, 12% Nylon 7oz Navy, S-6XL

8.2
Cal/Cm²

2
ARC

6XL

8.2
Cal/Cm²

2
ARC

Fabric Information

The garments in the Bizweld Flame Resistant range have been specially designed to guarantee comfort, performance and safety whilst providing effective function at all times. This range has been rigorously tested to ensure total compliance with the latest international standards.



9.5oz

VERSATILE FLAME AND WELDING PROTECTION



UBIZ5

Bizweld Iona FR Coverall



ASTM F1959/F1959M-12 ATPV 11.2 CAL/CM² (HAF=80.4%)

ASTM F1506-10A

NFPA® 2112

NFPA® 70E

EN ISO 11612 A1+A2, B1, C1, E2, F1

EN ISO 11611 CLASS 1 A1+A2

- ARC2
- Dual hazard protection
- Protects against radiant, convective and contact heat
- Certified protection against molten metal splash
- Guaranteed flame resistance for life of garment
- Highly durable, flame resistant reflective tape
- Pockets: 2 front, 2 back, 1 concealed cell phone pocket, 2 side, 2 knee, 1 rule



Bizweld: 100% Cotton FR Finish 9.5oz
Reg: Navy S-6XL, Orange M-6XL
Tall: Navy M-3XL



BIZWELD®

FLAME-RESISTANT

9.5oz



UBIZ1

Bizweld FR Coverall



ASTM NFPA

ASTM F1959/F1959M-12 ATPV 11.2 CAL/CM²
(HAF=80.4%)

ASTM F1506-10A

NFPA® 2112

NFPA® 70E

EN ISO 11612 A1+A2, B1, C1, E2, F1

EN ISO 11611 CLASS 1 A1+A2

- ARC2
- Dual hazard protection
- Protects against radiant, convective and contact heat
- Certified protection against molten metal splash
- Guaranteed flame resistance for life of garment
- Pockets: 2 front, 2 back, 1 concealed cell phone pocket, 2 side, 1 rule



Bizweld: 100% Cotton FR Finish 9.5oz
Reg: Navy, Gray S-6XL, Black, Orange M-3XL
Tall: Navy M-5XL

6XL

11.2
Cal/Cm²

2
ARC

	Reg	Tall
Navy	S-6XL	M-5XL
Orange	M-3XL	
Black	M-3XL	
Gray	S-6XL	

Welding Protection GAUNTLETS

See our full range of Welding Gauntlets on page 198



A521
198

A531
199

A540
198

BIZFLAME[®]
FLAME-RESISTANT

DUCK

Fabric Information

Engineered with maximum safety and comfort in mind, Bizflame Duck is a high-performance fabric constructed from 100% Cotton Duck 10oz. Designed to bead away water, the wind resistant properties combined with lightweight insulation ensures the worker is protected from the elements. This unique collection provides exceptional flame resistant protection and is fully compliant to NFPA 70E with ARC4 protection against electric arc.



20.5oz

INSULATED

New



UFR48



UFR48

FR Duck Quilt Lined Jacket



ASTM F1959/F1959M-14E1 ATPV 45 CAL/CM² (HAF 94.2%)
ASTM F1506-10A
NFPA[®] 2112
NFPA[®] 70E



UFR49
101

- ARC4
- Dual hazard protection
- Durable water repellent fabric
- Quilt lined hood
- Full quilt lined body and sleeves
- Pockets: 2 front, 2 internal
- Brass flame resistant front zipper

UFC13
154

Bizflame Duck: 100% Cotton Duck 10oz
100% Flame Retardant Cotton 7.5oz
90% Modacrylic, 10% Aramid 3oz
Brown S-5XL



BIZFLAME[®]
FLAME-RESISTANT

DUCK

Outstanding
Electric Arc
Protection

PSS4
215

PS91
216



4
ARC

20.5oz

INSULATED

**UNCOMPROMISING
INSULATED
PROTECTION**



New



UFR49

FR Duck Quilt Lined Bib Overall



ASTM F1959/F1959M-14E1 ATPV 45 CAL/CM² (HAF 94.2%)

ASTM F1506-10A

NFPA[®] 2112

NFPA[®] 70E

- ARC4
- Dual hazard protection
- Durable water repellent fabric
- Fully quilt lined
- Pockets: 1 upper chest patch with 2 outer, 2 side, 2 back, 1 rule left leg, 1 double rule right leg, 2 knee
- Adjustable straps for a personal fit
- Ankle-to-thigh brass zippers on side legs to accommodate work boots



Bizflame Duck: 100% Cotton Duck 10oz
100% Flame Retardant Cotton 7.5oz
90% Modacrylic, 10% Aramid 3oz
Brown S-5XL

45
Cal/Cm²

4
ARC

5XL

An Uncompromising Blend of Comfort and Protection

Fabric Information

Bizflame Denim is a highly technical fabric constructed from 98% Cotton, 2% Elastane 10oz. The highly durable cotton and dynamic stretch blend provides maximum range of movement in active use. Classically designed for long lasting performance and to allow for a full transition from work to leisure activity.



STRETCH COTTON DENIM FOR MAXIMUM FLEXIBILITY

FR54

FR Stretch Denim Jean

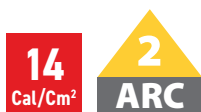


ASTM F1959/F1959M-14E1 ATPV 14 CAL/CM2 (HAF 84.8%)
 ASTM F1506-10A
 NFPA[®] 2112
 NFPA[®] 70E

- ARC2
- Dual hazard protection
- Durable stretch for ease of movement
- Pockets: 2 side, 1 coin, 2 back
- Wide leg hems to fit comfortably over workboots

Bizflame Denim: 98% Cotton, 2% Elastane 10oz
 Reg: Indigo 30"-52"
 Tall: Indigo 32"-48"

TOUGH and **DURABLE** for Demanding Tasks



BIZFLAME[®]

FLAME-RESISTANT

88/12

Fabric Information

Bizflame 88/12 guarantees high performance and maximum comfort. The high cotton content provides an ultra soft hand feel while the high tenacity nylon offers excellent abrasion and tear resistance.

7oz

New



UFR97



A780
195

UFR97

Bizflame 88/12 FR Plaid Shirt

24 2 50 UPF ASTM NFPA

ASTM F1959/F1959M-12 ATPV 11 CAL/CM2 (HAF 79.2%)

ASTM F1506-10A

NFPA® 2112

NFPA® 70E



FR54
102

- ARC2
- Dual hazard protection
- Guaranteed flame resistance for life of garment
- Snap front closure
- Pockets: 2 front chest pockets snap closure
- Lightweight and comfortable
- Adjustable button cuffs
- Shirt tail hem stays tucked in

Bizflame 88/12: 88% Cotton, 12%

Nylon 7oz

Navy S-5XL



UFC13
154

FR89

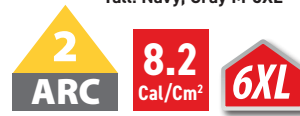
Bizflame 88/12 FR Shirt



ASTM F1959/F1959M-12 ATPV 8.2 CAL/CM²
(HAF 69.1%)
ASTM F1506-10A
NFPA® 2112
NFPA® 70E
 EN ISO 11612 A1 +A2, B1, C1

- ARC2
- Dual hazard protection
- Guaranteed flame resistance for life of garment
- Pockets: 2 front
- Lightweight and comfortable
- Adjustable button cuffs
- Shirt tail hem stays tucked in

Bizflame 88/12: 88% Cotton, 12% Nylon 7oz
Reg: Navy, Gray Khaki S-6XL
Tall: Navy, Gray M-5XL



BZ31

Bizweld FR Cargo Pants



ASTM NFPA
ASTM F1959/F1959M-12 ATPV 11.2 CAL/CM²
(HAF = 80.4%)
ASTM F1506-10A
NFPA® 2112
NFPA® 70E
 EN ISO 11612 A1 +A2, B1, C1, E2, F1
 EN ISO 11611 CLASS 1 A1+A2

- ARC2
- Dual hazard protection
- Guaranteed flame resistance for life of garment
- Pockets: 2 side, 1 leg, 1 concealed cell phone pocket, 2 rear, 1 rule
- Elastic waistband for extra comfort



Bizweld: 100% Cotton FR Finish 9.5oz
Reg: Navy, Gray, Khaki S-6XL
Tall: Navy, Gray M-4XL



HI-VIS FLAME RESISTANT SHIRT

7oz



FR95

Bizflame 88/12 FR Hi-Vis Shirt



ASTM F1959/F1959M-12 ATPV 9 CAL CM/2 (HAF 75.6%)
ANSI/ISEA 107-2015 TYPE R CLASS 3
ASTM F1506-10A
NFPA® 2112
NFPA® 70E

- ARC2
- Dual hazard protection
- Guaranteed flame resistance for life of garment
- Action back
- Pockets: 2 front
- Shirt tail hem stays tucked in

Bizflame 88/12: 88% Cotton, 12% Nylon 7oz
 Yellow S-6XL



FR96 FR Hi-Vis Long Sleeve T-Shirt



8oz

ASTM F1959/F1959M-12 ATPV 9 CAL/CM² (HAF 80.8%)
ANSI/ISEA 107-2015 TYPE R CLASS 3
 EN ISO 11612 A1+A2, B1, C1
 EN ISO 11611 CLASS 1 A1
 IEC 61482-2 IEC 61482-1-2 CLASS 1
 EN 1149 -5
 EN ISO 20471 CLASS 3

- ARC2
- Highly durable, flame resistant reflective tape
- Permanent flame resistant protection
- High cotton content gives great comfort

Modaflame Knit: 60% Modacrylic, 40% Cotton 8oz
 Yellow S-6XL



BIZFLAME[®]

FLAME-RESISTANT

KNIT

Fabric Information

This smooth, high performance interlock knit is made from 100% FR cotton or the new 98% cotton, 2% antistatic option. The fabric offers superior strength and a lightweight feel. Guaranteed flame resistance for the life of the garment ensures value and peace of mind. Bizflame Knit offers outstanding protection against electric arc with a minimum ATPV rating of 10 Cal/cm², this exceeds the requirements for ARC2 clothing.

7oz

7oz



FR01

Bizflame FR Crew Neck



ASTM F1959/F1959M-12 ATPV 12 CAL/CM²
(HAF = 80.8%)

EN ISO 11612 A1 + A2, B1, C1, F1

- ARC2
- Moisture wicking, breathable fabric
- Raglan sleeves for a comfortable fit
- Pockets: 1 front
- Signature contrast stitching

Bizflame Knit: 100% Cotton 7oz
Navy, Gray, Khaki S-6XL

6XL

12
Cal/Cm²

2
ARC

FR02

Bizflame FR Henley



ASTM F1959/F1959M-12 ATPV 12CAL/CM²
(HAF = 80.8%)

EN ISO 11612 A1 + A2, B1, C1, F1

- ARC2
- Moisture wicking, breathable fabric
- Button front opening with placket
- Pockets: 1 front
- Signature contrast stitching

Bizflame Knit: 100% Cotton 7oz
Navy, Gray, Khaki S-6XL

6XL

12
Cal/Cm²

2
ARC



Enjoy the Comfort and Versatility of these Modern and Stylish Long Sleeve Shirts, **OFFERING NFPA[®] 2112 COMPLIANCE WITH CAT2 PROTECTION**



New



New

FR33

FR Antistatic Crew Neck

48 2 50⁺ UPF **ASTM** **NFPA**

ASTM F1959/F1959M-14E1 ATPV 10 CAL/CM2 (HAF 82.3%)

ASTM F1506-10A

NFPA[®] 2112

NFPA[®] 70E

EN 1149 -5

- ARC2
- Antistatic protection
- Rib cuffs
- Concealed chest pocket with pencil stall
- Concealed sleeve pocket

 Bizflame Knit Antistatic: 99% Cotton, 1% Carbon Fiber 7oz Navy, Gray S-5XL

MANUFACTURER DECLARES
 PRODUCT TESTED TO
ASTM F1959

MANUFACTURER DECLARES
 PRODUCT TESTED TO
ASTM F1506-10a

MANUFACTURER DECLARES
 PRODUCT TESTED TO
NFPA 70E

MANUFACTURER DECLARES
 PRODUCT TESTED TO
NFPA 2112

5XL

10
Cal/Cm²

2
ARC

FR32

FR Antistatic Henley

48 2 50⁺ UPF **ASTM** **NFPA**

ASTM F1959/F1959M-14E1 ATPV 10 CAL/CM2 (HAF 82.3%)

ASTM F1506-10A

NFPA[®] 2112

NFPA[®] 70E

EN 1149 -5

- ARC2
- Antistatic protection
- Front placket opening
- Rib cuffs
- Concealed chest pocket with pencil stall
- Concealed sleeve pocket

 Bizflame Knit Antistatic: 99% Cotton, 1% Carbon Fiber 7oz Navy, Gray S-5XL

MANUFACTURER DECLARES
 PRODUCT TESTED TO
ASTM F1959

MANUFACTURER DECLARES
 PRODUCT TESTED TO
ASTM F1506-10a

MANUFACTURER DECLARES
 PRODUCT TESTED TO
NFPA 70E

MANUFACTURER DECLARES
 PRODUCT TESTED TO
NFPA 2112

5XL

10
Cal/Cm²

2
ARC

ANTI-STATIC
MODAFLAME[®]
 FLAME RESISTANT

KNIT

Fabric Information

Constructed from an inherently flame resistant yarn of 60% Modacrylic, 39% Cotton and 1% Carbon Fiber. Tested to meet and surpass the required EN and US Standards, the Modafame™ Knit range is strong, durable and highly innovative.

9oz

9oz

Lightweight



Unbeatable
 Softness
 with Lasting
 Durability



UFR81

FR Zipper Front Hooded Sweatshirt



ASTM F1959/F1959M-12 ATPV 16 CAL/CM² (HAF 86%)

EN ISO 11612 A1, B1, C1, F1
 IEC 61482-2 IEC 6148212 CLASS 1
 EN 1149 5

- ARC2
- Permanent flame resistant protection
- Inherently antistatic
- High cotton content gives great comfort
- Rib knit cuff and hems for snug fit
- Pockets: 2 front



FR09

FR Antistatic Balaclava



ASTM F1959/F1959M-12 ATPV 16 CAL/CM² (HAF 86%)

EN ISO 11612 A1, B1, C1, F1
 IEC 61482-2 IEC 61482-1-2 CLASS 1
 EN 1149 -5

- ARC2
- Permanent flame resistant protection
- Inherently antistatic
- High cotton content gives great comfort
- Retains shape, wear after wear



Modafame Knit: 60% Modacrylic, 39% Cotton, 1% Carbon Fiber 9oz
 Navy M-6XL

6XL **16** Cal/Cm² **2** ARC

Modafame Knit: 60% Modacrylic, 39% Cotton, 1% Carbon Fiber 9oz
 Navy Universal Size

16 Cal/Cm² **2** ARC

ACCESSORIES

16oz



New

9 Cal/Cm² 2 ARC

FR17 FR Knitted Hi-Vis Hat

96 12 ASTM

ASTM F1959/F1959M-12 ATPV 9 CAL/CM2 (HAF 80.8%)



- ARC2
- Designed for warmth and comfort
- Excellent insulation

60% Modacrylic, 40% Cotton 8oz
 Modafire Knit: 60% Modacrylic, 39% Cotton, 1% Carbon Fiber 8oz
 Yellow Universal Size

7oz



New

8.2 Cal/Cm² 2 ARC

FR13 FR 88/12 Baseball Cap

96 12 50+ UPF ASTM

ASTM F1959/F1959M-12 ATPV 8.2 CAL/CM2 (HAF 69.1%)



- ARC2
- FR fabric will not melt, ignite or drip
- Inner elastic for snug fit

Bizflame 88/12: 88% Cotton, 12% Nylon 7oz
 Navy Universal Size

7oz



New

12 Cal/Cm² 2 ARC

FR40 FR Mask

X18 X1 25 ASTM

ASTM F1959/F1959M-12 ATPV 12 CAL/CM2 (HAF 80.8%)



- ARC2
- 1 layer
- Fabric adjustable ties for secure fit
- Individually wrapped inside hygienic polybag
- Retail Box

Bizflame Knit: 100% Cotton 7oz
 Navy Universal Size

6oz



New

4.3 Cal/Cm² 1 ARC

FR19 Flame Resistant Antistatic Neck Tube

100 X2 10 50+ UPF ASTM

ASTM F1959/F1959M-12 ATPV 4.3 CAL/CM2 (HAF 66%)



EN ISO 11612 A1, B1, C1, F1
 IEC 61482-2 IEC 61482-1-2 CLASS 1
 EN 1149 -5

Modafire Knit: 60% Modacrylic, 39% Cotton, 1% Carbon Fiber 6oz
 Navy Universal Size

FR39 FR Neck Shade

200 10 50+ UPF ASTM NFPA

ASTM F1959/F1959M-14E1 ATPV 10 CAL/CM2 (HAF 82.3%)

ASTM F1506-10A

NFPA® 70E

- ARC2
- Lightweight and breathable
- Protects neck and ears from the sun
- 50+ UPF rated fabric to block 98% of UV rays
- Compatible with all Portwest bump caps and hard hats

99% Cotton, 1% Antistatic 7oz
 Gray Universal Size

10 Cal/Cm² 2 ARC



7oz



New

ANTI-STATIC
MODAFLAME[®]
FLAME RESISTANT

KNIT

HI-VIS FLAME RESISTANT VEST

5.5oz



**Increased
Visibility
While
Working**

BIZFLAME[®]
FLAME-RESISTANT

WORK

3.5oz



UMV21

ARC Rated FR Mesh Vest

48 FR ASTM NFPA ANSI

ASTM F1959/F1959M-12
ATPV 5.1 CAL/CM2 (HAF 69%)
ASTM F1506-10A
NFPA[®] 70E
ANSI/ISEA 107-2015 TYPE R CLASS 2

- ARC1
- 2" flame resistant reflective tape
- Flame Resistant modacrylic (5.5oz) mesh
- Inherent flame resistant qualities will not diminish
- Hook and loop closure
- Pockets: 1 internal
- To be worn over ARC rated clothing only

Modaflame Knit: 60% Modacrylic, 39% Cotton,
1% Carbon Fiber 5.5oz
Yellow M-6XL



FR75

Hi-Vis FR Vest

60 CE FR ANSI

ANSI/ISEA 107-2015 TYPE R CLASS 2
EN ISO 20471 CLASS 2
EN ISO 14116 INDEX 1

- 2" flame resistant reflective tape
- Solid polyester treated fabric
- Hook and loop closure
- Dual sizing

Bizflame Work: 100% Polyester, Warp Knitted 3.5oz
Yellow S/M-4XL/5XL



WARNING: This product should not be worn alone or over non-ARC rated apparel.

6XL

5.1 Cal/Cm²

1 ARC

Flame Resistant Tested:
These garments are tested under test method ASTM D6413 which is used to measure the vertical flame resistance of textiles.

5XL

ANTI-STATIC
MODAFLAME[®]
FLAME RESISTANT

KNIT

5.5oz



New



BIZFLAME[®]
FLAME-RESISTANT

88/12

7oz



New

UFR24

Class 3 FR Mesh Vest



ASTM F1959/F1959M-12
ATPV 5.1 CAL/CM2 (HAF 69%)
ASTM F1506-10A
NFPA[®] 70E
ANSI/ISEA 107-2015 TYPE R CLASS 3 TYPE R CLASS 3

- ARC1
- 2" flame resistant reflective tape with contrast material
- Flame resistant modacrylic (5.5oz) mesh
- Inherent flame resistant qualities will not diminish
- Hook and loop closure
- Pockets: 1 internal
- To be worn over ARC rated clothing only

Modaflame Knit: 60% Modacrylic, 39% Cotton, 1% Carbon Fiber
5.5oz
 Yellow M-5XL

UFR23

NFPA 2112 Woven Vest



NFPA ANSI
ASTM F1959/F1959M-12 ATPV 9 CAL/CM2 (HAF 75.6%)
ASTM F1506-10A
NFPA[®] 2112
NFPA[®] 70E
ANSI/ISEA 107-2015 TYPE R CLASS 2 TYPE R CLASS 2

- ARC2
- 2" flame resistant reflective tape
- Hook and loop closure
- Pockets: 1 internal
- To be worn over ARC rated clothing only

Bizflame 88/12: 88% Cotton, 12% Nylon 7oz
 Yellow M-5XL

WARNING: This product should not be worn alone or over non-ARC rated apparel.

5XL

5.1
Cal/Cm²

1
ARC

WARNING: This product should not be worn alone or over non-ARC rated apparel.

5XL

9
Cal/Cm²

2
ARC



HI-VIS

Fabric Information

Constructed from a flame resistant, PU coated, polyester fabric 7.5oz, the lightweight and durable Sealtex Flame is designed to offer full protection against adverse weather conditions and flame hazards.

7.5oz



Maximum Wind, Rain and Flame Protection



Vented back cape with D-ring opening



FR44

Sealtex Flame FR Hi-Vis Coat 50"



ANSI/ISEA 107-2015 TYPE R CLASS 3

- EN ISO 14116 INDEX 1
- EN 1149 -5
- EN ISO 20471 CLASS 3
- EN 13034 TYPE 6
- EN 343 CLASS 3:1



- Flame resistant treated waterproof fabric
- Heat applied flame resistant reflective tape
- Zipper storm flap front closure
- Pack away adjustable hood
- Pockets: 2 lower front, 1 ID window
- Snaps on cuffs for snug fit
- I.D window slot on left chest
- D-ring access under back yoke

Sealtex Flame: 100% Polyester, FR & Antistatic, PU Coated 7.5oz
 Yellow S-6XL

6XL

50" Coat Length for Superb Weather Protection



HI-VIS

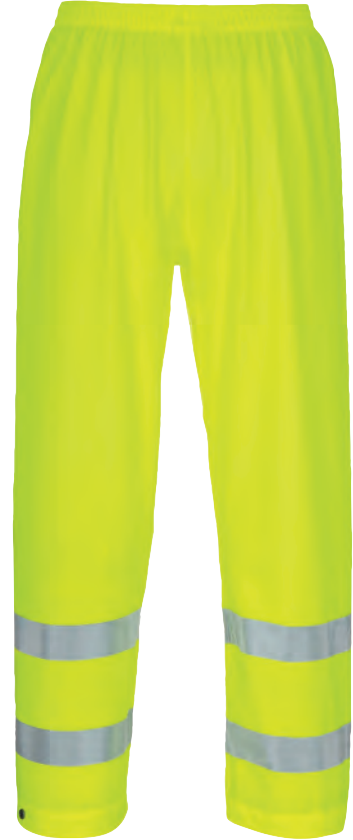
Flame Resistant Tested:

These garments are tested under test method ASTM D6413 which is used to measure the vertical flame resistance of textiles.

7.5oz



7.5oz



FR41

Sealtex Flame FR Hi-Vis Jacket



ANSI

ANSI/ISEA 107-2015 TYPE R CLASS 3

EN ISO 14116 INDEX 1
EN 1149 -5
EN 13034 TYPE 6
EN ISO 20471 CLASS 3
EN 343 CLASS 3:1

- Flame resistant treated waterproof fabric
- Heat applied flame resistant reflective tape
- Zipper storm flap front closure
- Pack away adjustable hood
- Pockets: 2 lower front with flaps
- Snaps on cuffs for snug fit
- Welded waterproof seams

Sealtex Flame: 100% Polyester, FR & Antistatic, PU Coated
7.5oz
 Yellow S-5XL



FR43

Sealtex Flame FR Hi-Vis Pants



ANSI/ISEA 107-2015 CLASS E

EN ISO 14116 INDEX 1
EN 1149 -5
EN 13034 TYPE 6
EN ISO 20471 CLASS 1
EN 343 CLASS 3:1

- Flame resistant treated waterproof fabric
- Heat applied flame resistant reflective tape
- Elasticated waist
- Snaps on hems
- Welded waterproof seams

Sealtex Flame: 100% Polyester, FR & Antistatic, PU Coated 7.5oz
 Yellow S-5XL



ANTI-STATIC BIZFLAME® FLAME-RESISTANT

RAIN

Fabric Information

Bizflame Rain is manufactured from 98% polyester, 2% carbon fiber 7.5oz fabric. It is highly visible, flame resistant, waterproof and breathable and has a durable chemical resistant finish.

15.5oz INSULATED



Stay Safe
with Added
Flame
Resistant
Protection

Top Rated
Insulated
Protection



US773





Bizflame Rain Hi-Vis Antistatic FR Bomber Jacket



ANSI/ISEA 107-2015 TYPE R CLASS 3

EN ISO 14116 INDEX 3
EN 1149 -5
EN 13034 TYPE 6
EN ISO 20471 CLASS 3
EN 343 CLASS 3:1

- Flame resistant treated waterproof fabric
- 2" flame resistant reflective tape
- Zipper front with storm flap
- Breathable fabric with fully sealed seams
- Fully lined insulated jacket
- Pockets: 1 cell phone, 2 side with flaps, 1 internal
- 2 Mic tabs
- Pack away detachable hood

 Bizflame Rain: 98% Polyester, 2% Antistatic Carbon Fiber, Breathable, PU Coated 7.5oz
 100% Cotton Flame Resistant Lining 5oz
 100% Polyester Flame Resistant Filling 3oz
 Yellow M-6XL

6XL

Flame Resistant Tested:

These garments are tested under test method ASTM D6413 which is used to measure the vertical flame resistance of textiles.



Back of jacket

15.5oz INSULATED

12.5oz Breathable

LINED







S783

Bizflame Rain FR Bomber Jacket



EN ISO 14116 INDEX 3
EN 1149 -5
EN 13034 TYPE 6
EN 343 CLASS 3:1

- Flame resistant treated waterproof fabric
- 2" flame resistant reflective tape
- Zipper front with storm flap
- Breathable fabric with fully sealed seams
- Fully lined insulated jacket
- Pockets: 1 cell phone, 2 side with flaps, 1 internal
- 2 Mic tabs
- Pack away detachable hood

 Bizflame Rain: 98% Polyester, 2% Antistatic Carbon Fiber, Breathable, PU Coated 7.5oz
 100% Cotton Flame Resistant Lining 5oz
 100% Polyester Flame Resistant Filling, 3oz
 Navy S-6XL

6XL




S771

Bizflame Rain FR Pants



EN ISO 14116 INDEX 3
EN 1149 -5
EN 13034 TYPE 6
EN 343 CLASS 3:3

- Flame resistant treated waterproof fabric
- 2" flame resistant reflective tape
- Breathable fabric with fully sealed seams
- Elasticated waist
- Adjustable straps with durable buckle closure
- Side zipper leg opening for easy access

 Bizflame Rain: 98% Polyester, 2% Antistatic Carbon Fiber, Breathable, PU Coated 7.5oz
 100% Cotton Flame Resistant Lining 5oz
 Navy S-4XL

4XL

Flame Resistant Tested:

These garments are tested under test method ASTM D6413 which is used to measure the vertical flame resistance of textiles.