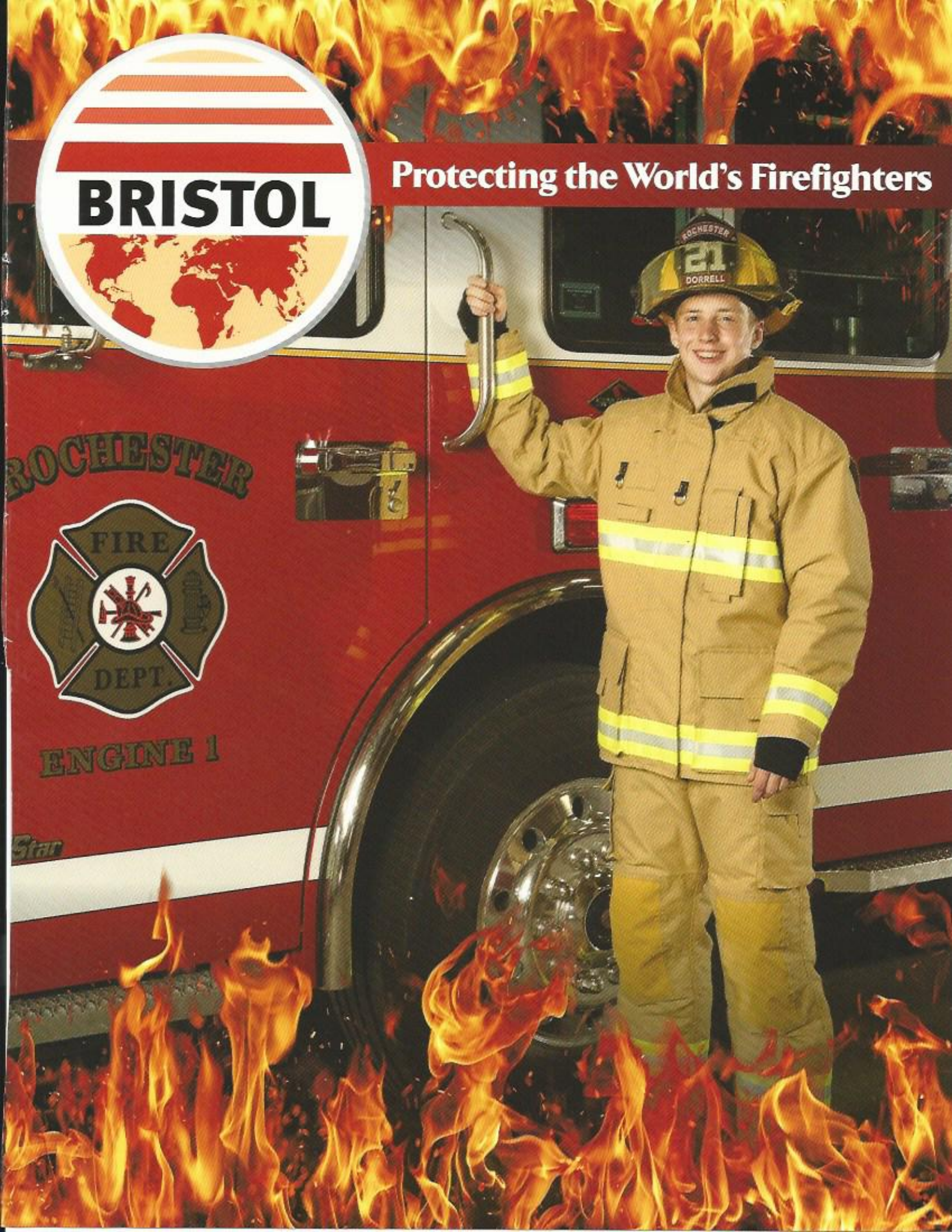




Protecting the World's Firefighters



ROCHESTER



ENGINE 1

Star

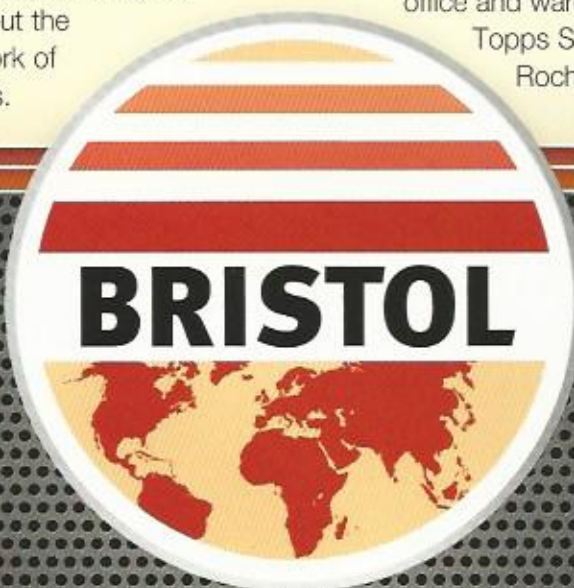
# BRISTOL

## A global force in firefighter protection

Bristol is considered to be the world's leading manufacturer of firefighters' protective clothing. Its products are in use by firefighters in 110 countries around the world, so we can confidently claim to be a global leader in the design, specification and manufacture of firefighter personal protective equipment (PPE). World-class quality products and support services are delivered throughout the world through a network of specialized distributors.

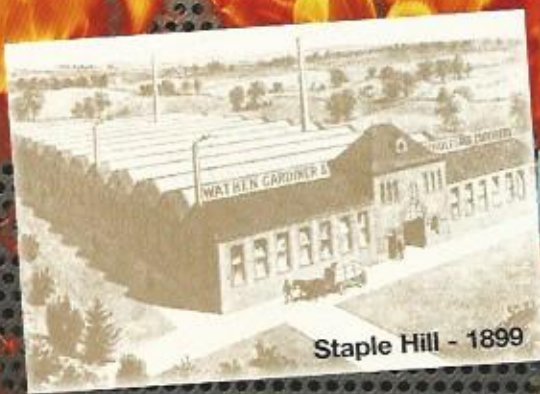
As a world-class manufacturer, optimum design and manufacturing processes are guaranteed by our comprehensive quality assurance procedures. These procedures are assessed and regularly audited by external auditors. They are registered as in conformance with ISO 9001.

In the United States, Bristol shares its office and warehouse facilities with Topps Safety Apparel, Inc. in Rochester, Indiana.



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Staple Hill - 1899



Staple Hill - Today

## A Brief History

Bristol's history stretches back over two centuries. The company was founded in Bristol, England, in 1801 and moved to the building that the company still occupies to this day at Staple Hill in 1899. In the early years, the company was involved in the manufacture of many different types of clothing, and during World War II manufactured quality uniforms for police, coast guard, ambulance personnel and most significantly for future developments, the Bristol Fire Brigade.

## London Fire Brigade

Working with the London Fire Brigade, Bristol developed the first Nomex fire tunics, which were introduced in 1977. Nomex over trousers were developed soon after. Following the adoption of DuPont's Nomex fire tunics/over trousers by London Fire Brigade, demand for the Bristol kit grew rapidly through sales to other UK brigades in the late 1970s and then in the 1980s through sales to fire services throughout the world. London Fire Brigade is a major user of Bristol products and services to this day.



**LFB**  
LONDON FIRE BRIGADE

# CLASSIC COAT

## BC60 Specifications

- Fixed linings provide easy access through the bottom for repair and examination of the outershell and moisture barrier. The moisture barrier membrane can also be inspected through a specially designed inspection port located at the bottom of the lining
- Heavy-duty molded nylon zipper with Nomex zipper tape
- Wide protective overflap that closes with 1½" hook-and-loop tape
- Radio pocket on left breast
- Flashlight holder on right front
- Two microphone loops positioned on left and on right fronts
- Two identification "D" rings, one on the storm flap and one on the right front
- The Drag Rescue Device (DRD) is located beneath a spade-shaped flap at the back of the collar. The DRD is fitted with a hook-and-loop tab that attaches to the underside of the flap for easy access and quick deployment
- Pleated bi-swing back and full shoulder yokes
- The sleeves have underarm bellows and a shaped back sleeve for increased mobility
- Two external bellowed pockets with drain holes. Each bellowed pocket has a "hand warmer" opening behind the pocket. External bellowed pockets close with pocket flaps and hook-and-loop tape
- Pocket flaps have fabric tabs for easy opening with a gloved hand
- Two vertical slash pockets under the storm flap
- 3½" high collar with throat piece and hook-and-loop closure
- 3" reflective "Triple Trim" around chest
- 3" reflective "Triple Trim" around bottom of coat
- 3" reflective "Triple Trim" around forearms
- Knitted wristlets with thumb loop for full protection even when arms are raised above the head
- Internal pocket on lower right front
- Main outerseams are topstitched for extra strength



Drag Rescue Device



Hand warmer opening



See pages 10 & 13  
for optional features & lettering.



## CLASSIC COAT with Removable Liner

### BC21 Specifications

- Removable liner attached to the outershell with snaps down left and right front with hook-and-loop tape at the collar. The moisture barrier can also be inspected through a specially designed inspection port located at the bottom of the lining.
- Heavy-duty molded nylon zipper with Nomex zipper tape
- Wide protective overflap that closes with 1½" hook-and-loop tape
- Radio pocket on left breast
- Flashlight holder on right front
- Two microphone loops positioned on left and on right fronts
- Two identification "D" rings, one on the storm flap and one on the right front
- The Drag Rescue Device (DRD) is located beneath a spade shaped flap at the back of the collar. The DRD is fitted with a hook-and-loop tab that attaches to the underside of the flap for easy access and quick deployment
- Pleated bi-swing back and full shoulder yokes
- The sleeves have underarm bellows and a shaped back sleeve for increased mobility
- Two external belled pockets with drain holes. Each belled pocket has a "hand warmer" opening behind the pocket.
- External belled pockets close with pocket flaps and hook-and-loop tape
- Pocket flaps have fabric tabs for easy opening with a gloved hand
- Two vertical slash pockets under the storm flap
- 3½" high collar with throat piece and hook-and-loop closure
- 3" reflective "Triple Trim" around chest, around bottom of coat, and around forearms
- Knitted wristlets with thumb loop for full protection even when arms are raised above the head
- Internal pocket on lower right front
- Main outerseams are topstitched for extra strength



Drag Rescue Device



Liner attached to the outershell with snaps



NFPA 1971  
2013 Edition

See pages 10 & 13  
for optional features & lettering.



**BRISTOL**

# REINFORCED KNEE TROUSER

## BT61 Specifications

- Heavy-duty molded nylon zipper with Nomex zipper tape
- 2" wide protective overflap closes with 1" hook-and-loop tape
- Two external bellowed cargo pockets with drain holes
- External bellowed pockets close with pocket flaps and hook-and-loop tape
- Pocket flaps have fabric tabs for easy opening with a gloved hand
- Kevlar felt knee reinforcements
- The knees have a shaped design for increased mobility when kneeling or crawling
- Knees have Ara-Shield reinforcement
- Elasticized waistband with side adjusters on both sides
- Removable "H" style suspenders with quick release snaps front and rear
- Yoked back design for increased freedom of movement
- Snaps attach outershell to liner at leg bottoms to facilitate inspection of moisture barrier for repair work
- One internal hip pocket on the right side sewn to the thermal lining inside
- 3" reflective "Triple Trim" around leg bottoms
- Leg bottoms are reinforced with water-resistant material
- Main outseams are topstitched for extra strength



Knee reinforcement with Ara-shield

See pages 10 & 13  
for optional features & lettering.

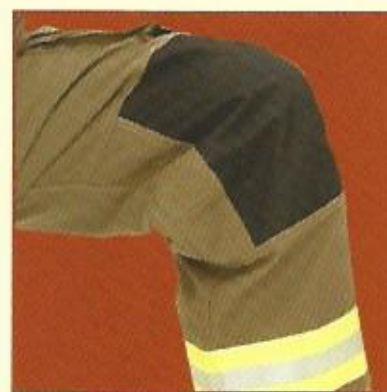




# REINFORCED KNEE TROUSER with Removable Liner

## BT21 Specifications

- Removable liner attached to outershell with snaps around waistband
- Heavy-duty molded nylon zipper with Nomex zipper tape
- 2" wide protective overlap closes with 1" hook-and-loop tape
- Two external bellowed cargo pockets with drain holes
- External bellowed pockets close with pocket flaps and hook-and-loop tape
- Pocket flaps have fabric tabs for easy opening with a gloved hand
- Kevlar felt knee reinforcements
- The knees have a shaped design for increased mobility when kneeling or crawling
- Knees have Ara-Shield reinforcement
- Elasticized waistband with side adjusters on both sides
- Removable "H" style suspenders with quick release snaps front and rear
- Yoked back design for increased freedom of movement
- Snaps attach outershell to liner at leg bottoms
- One internal hip pocket on the right side sewn to the thermal lining inside
- 3" reflective "Triple Trim" around leg bottoms
- Leg bottoms are reinforced with water-resistant material
- Main outseams are topstitched for extra strength



Knee reinforcement with Ara-shield



NFPA 1971  
2013 Edition

See pages 10 & 13  
for optional features & lettering.

# FIBERS & FABRICS

Protective garments for structural firefighting are made from three layers of fabric, where each layer has a specific job to do. The **outershell** forms the primary defense against heat and flame. It must also contain properties that make the garment durable and hardwearing. Both the defense against heat and flame and the durability aspects are measured by specific textile tests laid down in the Standard on Protective Ensembles for Structural Fire Fighting, NFPA 1971.

The **moisture barrier** must prevent water infiltration and give the wearer protection against blood-borne pathogens while still allowing natural perspiration to wick away. The selection of the moisture barrier has the greatest effect on the level

of "heat stress" experienced by the wearer. "Heat stress" continues to be a major concern for firefighters, which makes the selection of the moisture barrier of great importance.

The **thermal barrier** gives the wearer protection against radiant heat exposures. It should provide the highest possible level of radiant heat protection, measurable via the TPP (Thermal Protective Performance) test, while being as light and thin as possible. The weight is important so that "heat stress" is kept to a minimum; and the thickness is important because a thick, bulky thermal barrier fabric impedes freedom of movement and does not dry quickly.



## MOISTURE & THERMAL BARRIER FABRICS



### P.T.F.E. Crosstech®

Black  
(Type 2F)  
4.7 oz. per square yard

*Crosstech® is a registered trademark of W.L. Gore and Associates, Inc.*

Crosstech Black is a poly-tetra-fluoroethylene (PTFE) membrane laminated to a Nomex Pajama Check substrate. The fabric is water-resistant, but still breathable. This means that the fabric will not allow water to pass through the fabric from the outside to the wearer, but it will permit the wearer's sweat to wick away through the fabric to the outside. Crosstech is also resistant to blood-borne pathogens and is tested to ensure that it is resistant to blood, body fluids, and common chemical liquid penetration. The seams of the moisture barrier are taped using GORE seam sealing technology to ensure the integrity of the seams, even after many wash/dry cycles.

### Bristol Lite 2

6.5 oz. per square yard

Bristol Lite 2 is a non-woven Aramid high-loft felt, quilt stitched to a red 100% aramid facecloth. This unique thermal barrier fabric, developed exclusively for Bristol, is significantly lighter and more flexible than most thermal barrier fabrics used in the United States today. When used in combination with recommended outershell and moisture barriers, Bristol Lite 2 gives thermal protection that easily exceeds the requirements of NFPA 1971.



# OUTERSHELL FABRICS...

"...your primary defense against heat and flame"



## Nomex Titan®

89% Nomex®  
9% Kevlar®  
2% P140  
Ripstop Plain Weave

6.5 oz. per square yard

The Nomex Titan outershell fabric was developed in partnership between Dupont and Hainsworth Protective Fabrics in England. The fabric carries the unique property of "active air entrapment." This consists of Nomex fiber on top with a Kevlar grid underneath. When the fabric is exposed to extreme heat such as a flash fire situation, the two fibers react differently causing the Nomex layer to consolidate and ripple while the Kevlar grid remains undamaged. The rippled Nomex layer creates pockets of air between the outer layer and the Kevlar grid and the moisture barrier. This is known as "active air entrapment". Air is one of the world's most effective insulators and this unique outershell fabric harnesses this natural thermal insulation.



## Advance™

40% Nomex®  
60% Kevlar®  
Ripstop Weave

7 oz. per square yard

Advance unites the proven dependability of Nomex with the rugged strength of Kevlar.

The unique, hardworking, hardwearing fabric offers uncompromised performance. When the forces of these two flame-resistant fibers are combined, the strength and durability of the resulting blend is dramatically increased.



## Gemini Matrix™

40% PBI®, 60% Kevlar®  
Reinforced Kevlar®  
filaments  
Plain weave

7.5 oz. per square yard

Gemini combines the proven performance of PBI with the advanced engineering concepts from TenCate Southern Mills. The thermal resistance of PBI and Kevlar spun yarns, reinforced with an enhanced Matrix Technology grid of Kevlar filament yarns, provides the high performance protection that high-risk jobs demand.

# OPTIONAL GARMENT FEATURES

There are many different options available to customize gear to fit individual fire department needs. Our customer service department would be happy to help you choose from the many options available.



Double Padded Knees



Name Panel

Kevlar® Fabric Reinforcement in Cargo Pockets



Padded Quick Adjust Suspenders



Harness Loops



Belt Loops



Quick Adjust Suspenders



Quick Release Buckle at Waist



Nomex® American Flag Emblem



# CLASSIC TROUSER



## BT60 Specifications

- Heavy-duty molded nylon zipper with Nomex zipper tape
- 2" wide protective overflap closes with 1" hook-and-loop tape
- Two external bellowed cargo pockets with drain holes
- External bellowed pockets close with pocket flaps and hook-and-loop tape
- Pocket flaps have fabric tabs for easy opening with a gloved hand
- Kevlar felt knee reinforcements
- Elasticized waistband with side adjusters on both sides
- Removable "H" style suspenders with quick release snaps front and rear
- Yoked back design for increased freedom of movement
- Snaps attach outershell to liner at leg bottoms to facilitate inspection of moisture barrier for repair work
- One internal hip pocket on the right side sewn to the thermal lining inside
- 3" reflective "Triple Trim" around leg bottoms
- Leg bottoms are reinforced with water-resistant material
- Main outseams are topstitched for extra strength



Side adjusters



NFPA 1971  
2013 Edition

See pages 10 & 13  
for optional features & lettering.



BRISTOL

# HIGH BACK TROUSER

## BT62 Specifications

- High back style with elasticized back waist and side adjusters on both sides
- Heavy-duty molded nylon zipper with Nomex zipper tape
- 3½" wide protective overflap closes with 1" hook-and-loop tape
- Two external belled cargo pockets with drain holes
- External belled pockets close with pocket flaps and hook-and-loop tape
- Pocket flaps have fabric tabs for easy opening with a gloved hand
- Kevlar felt knee reinforcements
- The knees have a shaped design for increased mobility when kneeling or crawling
- Knees have Ara-Shield reinforcement
- Removable "H" style suspenders with quick release snaps front and rear
- Yoked back design for increased freedom of movement
- Snaps attach outershell to liner at leg bottoms to facilitate inspection of moisture barrier for repair work
- One internal hip pocket on the right side sewn to the thermal lining inside
- 3" reflective "Triple Trim" around leg bottoms
- Leg bottoms are reinforced with water-resistant material
- Main outseams are topstitched for extra strength



High back style

See pages 10 & 13  
for optional features & lettering.

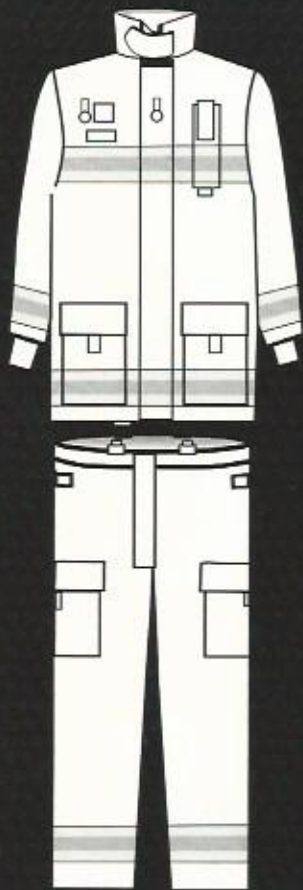
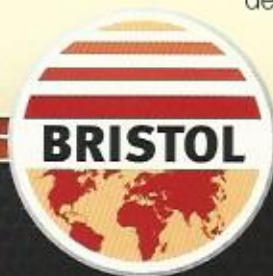


# TRIM OPTIONS

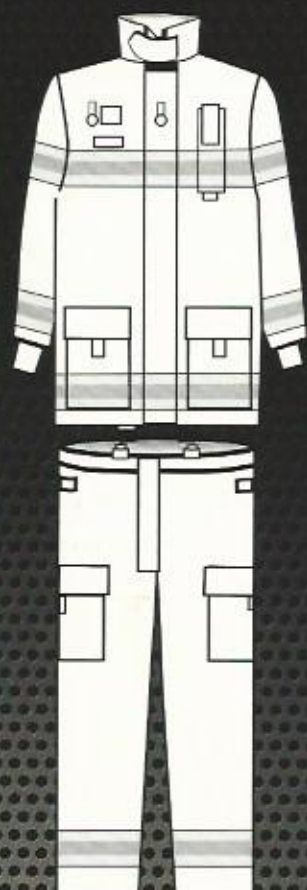
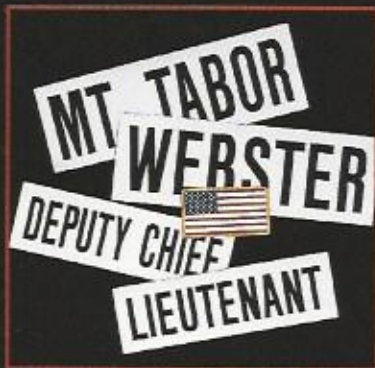
In accordance with the requirements of NFPA 1971, garments shall have fluorescent and retroreflective trim permanently attached to the outershell of the garment to meet visibility requirements. Bristol offers a variety of approved trim patterns and trim materials to ensure high safety levels for fire department personnel operating in low visibility environments. The fluorescent trim enhances daytime visibility while retroreflective trim enhances nighttime visibility.

Bristol's approved trim materials also meet the performance requirements laid down in the standard for flame resistance and thermal shrinkage. These requirements mean that the trim materials attached to the outershell of the garment shall not melt, drip or ignite.

Bristol garments are available with heat seal department patches and/or name patches to your specifications.



Bristol Trim Pattern



New York City (NYC)  
Trim Pattern

# HOW TO MEASURE

To ensure that turnout gear fits properly, it is important that firefighters are measured correctly. The preferred method of obtaining the most accurate measurements is by using a Bristol sizing set. When using a sizing set, the following points should be kept in mind.

## Using a Bristol Sizing Set

- Always try on the sizing coat and the sizing pant together
- The wearer should go through the full range of motions to make sure that shoulders and chest fit comfortably. The wearer should include squatting and climbing to ensure that there is adequate room in the pant seat and thigh
- The sleeve length and the pant inseam required should be determined by adding to or subtracting from the length of the sizing garment sleeve/inseam
- The wearer should ensure that there is sufficient overlap between the coat and the pant when reaching overhead and bending forward, bending to the side and to the back. There should always be a 2" overlap between the coat and the pant
- Measurements should be taken over clothing normally worn underneath turnout gear. Also take into account that thicker clothing may be worn during the winter months
- Wearers should always provide height and weight measurements

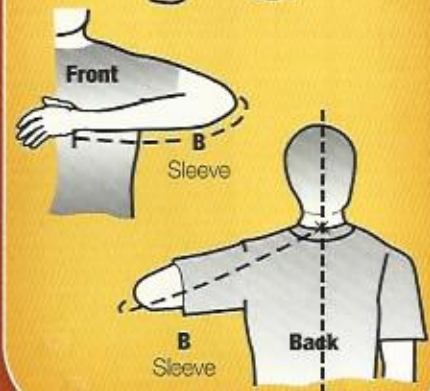
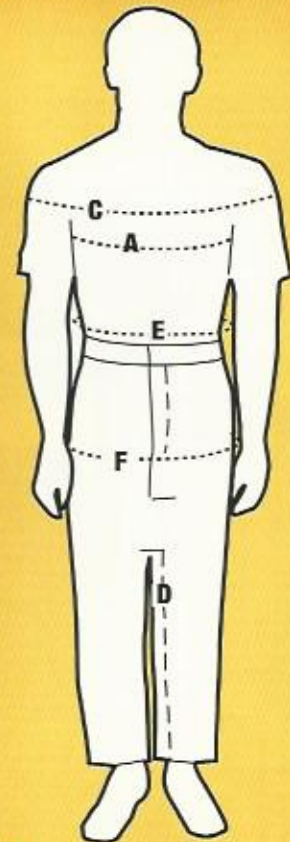
## Sizing and Measuring with a Tape Measure

### Coat

- A Measurement around the chest should be taken around the fullest part of the chest as illustrated
- B Measure sleeve length by holding arms as illustrated. Begin tape measure at nape of neck; follow contour of arm around elbow to 1" below wrist bone
- C Measure around the outside of arms at rest

### Pants

- D Measurement of inseam from crotch down to ankle bone
- E Measurement around waist
- F Measurement around the fullest part of the hips



# MEET OUR AFFILIATE COMPANIES



For further information about Topps, or to request a catalog, please call (800) 848-2820.

[www.toppsafetyapparel.com](http://www.toppsafetyapparel.com)

Email: [info@toppsafetyapparel.com](mailto:info@toppsafetyapparel.com)



**TOPPS**  
safety apparel, Inc.

Topps Safety Apparel, Inc., a leader in the flame-resistant apparel market, offers a variety of flame-resistant and public safety garments including coveralls, shirts, pants, shop coats and bib overalls. Topps has a complete range of flame-resistant garments offering varying levels of protection, depending on the individual requirements of the working situation.

Certain Topps styles are certified by Underwriters Laboratories Inc.® as compliant with the requirements of NFPA 1975 Standard on Station/Work Uniforms for Fire and Emergency Services and NFPA 2112 Standard on Flame-resistant Garments for protection of industrial personnel against flash fire.

Topps also offers shirts, jackets, pants and coveralls for Wildland Fire Fighting. These Wildland Fire Fighting garments are certified by the Underwriters Laboratories, Inc.® as compliant with the requirements of NFPA 1977 – Standard on Protective Clothing and Equipment for Wildland Fire Fighting.



**Quaker Safety**  
Quality  
Fire & EMS  
Clothing

For further information about Quaker, or to request a catalog, please call (215) 536-2991.

[www.quakersafety.com](http://www.quakersafety.com)

Email: [info@quakersafety.com](mailto:info@quakersafety.com)

Quaker Safety has been manufacturing different types of protective clothing since 1946. However, the real roots of the company were established in 1986 when the company began to focus primarily on manufacturing garments for structural and proximity firefighting. Substantial market research and development conducted over the years has provided Quaker Safety with insight into the requirements of the clothing from the wearer's perspective. Quaker Safety's design and manufacture of high quality turnout gear with a quick, reliable delivery schedule has become well-known and remains unsurpassed in the fire service industry.

Since 1986, Quaker Safety has developed a network of leading distributors and exporters throughout North America. Quaker Safety believes that service through local distribution is the best way to achieve the highest level of customer satisfaction. Quaker Safety's local distributors are always available to measure, provide technical information, and to ensure that each set of protective clothing is customized to meet each firefighter's specific needs.



PROTECTING THE WORLD'S FIREFIGHTERS

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