

Falmouth Fire EMS - November 2017

PROTECTIVE JACKET AND TROUSERS FOR STRUCTURAL FIRE FIGHTING SPECIFICATION

SCOPE

This specification details design and materials criteria to afford protection to the upper and lower body, excluding head, hands, feet, against adverse environmental effects during structural firefighting. All materials and construction will meet or exceed latest version of NFPA Standard #1971 and OSHA for structural fire fighters protective clothing.

It is not the intention of this specification to limit or restrict the use of alternate methods however; where exceptions, deviations or clarifications are noted, a detailed explanation shall be provided describing how they are equal to or greater than the item specified.

_____ Comply _____ Exception

CERTIFICATION - THIRD PARTY TESTING AND LISTING PROGRAM

All components used in the construction of these garments shall be tested for compliance to NFPA Standard #1971 (2013 revision) by Underwriters Laboratories (UL). Underwriters Laboratories shall certify and list compliance to that standard. Such certification shall be denoted by the Underwriters Laboratories certification label.

_____ Comply _____ Exception

EXCEPTIONS TO SPECIFICATIONS

Any and all exceptions to the above specifications must be clearly stated for each heading. Use additional pages for exceptions, if necessary.

DELIVERY INSPECTION

All garments will be inspected before acceptance by an authorized representative of the department for workmanship, appearance, and proper functioning of all components and conformance to all requirements of these specifications.

Should deficiencies be found, it will be the responsibility of the supplier to repack and return the units in question, make necessary corrections or replacements, and return the units to the Department for re-inspection and acceptance.

*Note: Payment and/or commencement of discount period, if applicable, will not be made until all corrections have been made and all units accepted.

_____ Comply _____ Exception

SIZING

The jacket shall be available in male and female patterns in even size chest measurements of two inch increments. Generalized sizing, such as small, medium, large, etc., will not be considered acceptable. Vendor shall provide free onsite measuring for each set of gear.

_____ Comply _____ Exception

OUTER SHELL MATERIAL - JACKETS AND TROUSERS

The outer shell shall be constructed of "ARMOR AP™. Color of garments to be black.

_____ Comply _____ Exception

THERMAL INSULATING LINER - JACKET AND TROUSERS

The thermal liner shall be constructed of Glide Ice or similar material. A 7-inch by 9-inch pocket, constructed of self-material and lined with moisture barrier material, shall be affixed to the inside of the jacket thermal liner.

_____Comply _____Exception

MOISTURE BARRIER - JACKETS AND TROUSERS

The moisture barrier shall be a woven backing vapor barrier such as Crosstech or similar brand.

_____Comply _____Exception

SEALED MOISTURE BARRIER SEAMS

All moisture barrier seams shall be sealed with a minimum 1-inch wide sealing tape.

_____Comply _____Exception

METHOD OF THERMAL LINER/MOISTURE BARRIER ATTACHMENT FOR JACKETS AND TROUSERS

The thermal liner and moisture barrier shall be completely removable from the jacket shell. Two strips of 5/8-inch-wide flame-resistant FR Velcro® fastener tape or snaps shall secure the thermal liner/moisture barrier to the outer shell along the length of the neck line under the collar. The remainder of the thermal liner/moisture barrier shall be secured with a minimum of four snap fasteners appropriately spaced on each jacket facing and a minimum of two snap fasteners at each sleeve end.

The thermal liner and moisture barrier shall be completely removable from the trouser shell. Nine snap fasteners shall be spaced along the waistband to secure the thermal liner/moisture barrier to the shell. The legs of the thermal liner/moisture barrier shall be secured to the shell by means of a minimum of two snap fasteners per leg.

_____Comply _____Exception

RATINGS

TPP

Minimum TPP 35

THLMinimum THL 205 w/m²

Comply Exception

STITCHING

Stitching in all seams shall be continuous. There shall be no joined stitching in midseam. All major A outer shell structural seams, major B structural liner seams, shall have a minimum of 8 to 10 stitches per inch. There shall be reinforced stitching at pull points and at corners of pockets and storm flaps.

Comply	Exception
<p>1. The information is not required by law.</p> <p>2. The information is not in the public domain.</p> <p>3. The information is not in the possession or control of the agency.</p> <p>4. The information is not relevant to the public interest.</p> <p>5. The information is not in the public domain.</p> <p>6. The information is not in the possession or control of the agency.</p> <p>7. The information is not relevant to the public interest.</p> <p>8. The information is not in the public domain.</p> <p>9. The information is not in the possession or control of the agency.</p> <p>10. The information is not relevant to the public interest.</p>	<p>1. The information is required by law.</p> <p>2. The information is in the public domain.</p> <p>3. The information is in the possession or control of the agency.</p> <p>4. The information is relevant to the public interest.</p> <p>5. The information is in the public domain.</p> <p>6. The information is in the possession or control of the agency.</p> <p>7. The information is relevant to the public interest.</p> <p>8. The information is in the public domain.</p> <p>9. The information is in the possession or control of the agency.</p> <p>10. The information is relevant to the public interest.</p>

JACKET CONSTRUCTION

BODY

The body of the shell and liner system shall meet or exceed current NFPA standards.

Comply Exception

OPTION #1: The shoulders of the jacket will have padding to create a separation (air space) between the firefighter and the liner when using an SCBA.

\$_____ Added Cost for Option

DRAG RESCUE DEVICE (DRD)

A Firefighter Drag Rescue Device shall be installed in each jacket that meets or exceeds NFPA standards. The access port will be covered by an outside flap of shell material. The flap will have a NFPA-compliant 3M Scotchlite™ reflective logo patch sewn to the outside to clearly identify the feature as the DRD (Drag Rescue Device).

_____ Comply _____ Exception

LINER ACCESS OPENING (JACKET)

The thermal liner and moisture barrier shall be completely removable from the jacket shell. The liner and outer shell must interface with a zipper for the sides and with Velcro at the neck.

_____ Comply _____ Exception

RETROREFLECTIVE FLUORESCENT TRIM

The retro reflective fluorescent trim shall be lime/yellow 3M Scotchlite™ Triple Trim (L/Y borders with silver center).

Each jacket shall have an adequate amount of retro reflective fluorescent trim affixed to the outside of the outer shell to meet the requirements of NFPA #1971 (2013 edition) and OSHA. The trim shall be in the following widths and shall be **NYC style**; 3-inch-wide stripes - around the bottom of the jacket within approximately 1 inch of the hem, around the back and chest area approximately 3 inches below the armpit, around each sleeve below the elbow, around each sleeve above the elbow.

_____ Comply _____ Exception

OPTION #2: The reflective trim shall be lime/yellow 3M Scotchlite™ Comfort Trim

\$_____ Added Cost for Option

REINFORCED TRIM STITCHING

All reflective trim is secured to the outer shell with Nomex® thread, using a reinforced locking or 2 lines of stitching. All trim ends shall be securely sewn into a seam for a clean finished appearance.

_____ Comply _____ Exception

SEWN ON RETROREFLECTIVE LETTERING

Each jacket shall have:

3" lime/yellow 3M Scotchlite™ lettering on Row B reading: FALMOUTH

3" lime/yellow 3M Scotchlite™ lettering on Row F reading: (NAMES)

_____ Comply _____ Exception

OPTION #3: 3" lime/yellow 3M Scotchlite™ lettering on Row C reading: (RANK) for Chief Officers

\$_____ Added Cost for Option

OPTION #4: 3" lime/yellow 3M Scotchlite™ lettering on Tab attached with snaps to back of coat (tail) reading: (NAMES)

\$_____ Added Cost for Option

LETTER PATCH

Sew-On Letter Patch

Lettering on Row F will be on a Sewn-on letter Patch. The sewn-on letter patch shall be constructed of a layer of outer shell material.

_____ Comply _____ Exception

COLLAR & FREE HANGING THROAT TAB

The collar shall consist of a four-layer construction and be of two-piece design. The collar shall have a minimum of 3 rows of quilting. The outer layers shall consist of outer shell material, with two-layers of specified moisture barrier sandwiched in between (see Moisture Barrier section). The rear inside ply of moisture barrier shall be sewn to the collar's back layer of outer shell at the edges only. The forward inside ply of moisture barrier shall be sewn to the inside of the collar at the edges only. The multi-layered configuration shall provide protection from water and other hazardous elements. The collar shall be of two-piece design with the left and right halves of all component materials joined in the center by stitching, thereby permitting the collar to retain its proper shape and roll. The collar shall be minimum 3½ inches high and graded to size. The leading edges of the collar shall extend up evenly from the leading edges of the jacket front body panels so that no gap occurs at the throat area. The collar's back layers of outer shell and moisture barrier shall be joined to the body panels with two rows of stitching. Inside the collar, above the rear seam where it is joined to the shell shall be a strip of ⅝ inch wide FR Velcro® hook fastener tape running the full length of the collar. The collar's front layers of moisture barrier and outer shell shall have an additional strip of ⅝ inch wide hook fastener tape stitched to the inside lower edge and running the full length of the collar. These two inside strips of ⅝ inch wide FR Velcro® hook fastener tape sewn to the underside of the collar shall engage corresponding pieces of flame resistant loop fastener tape at the front and back neck area of the liner system.

The throat tab shall be a scoop type design and constructed of two plies of outer shell material with two center plies of moisture barrier material. The throat tab shall measure not less than 4 inches wide at the center tapering to 2 inches at each end with a total length of approximately 9 inches. The throat tab will be attached to the right side of the collar by a 1 inch wide by 1½ inch long piece of Nomex® twill webbing. The throat tab shall be secured in the closed and stowed position with flame resistant FR Velcro® fastener tape. The flame-resistant FR Velcro® fastener tape shall be oriented to prevent exposure to the environment when the throat tab is in the closed position. Two 1½ inch by 3 inch pieces of FR Velcro® loop fastener tape shall be sewn vertically to the inside of each end of the throat tab. Corresponding pieces of FR Velcro® hook fastener tape measuring 1 inch by 3 inches shall be sewn horizontally to the leading outside edge of the collar on each side, for attachment and adjustment when in the closed position and wearing a breathing apparatus mask. In order to provide a means of storage for the throat tab when not in use, a 1 inch by 3-inch piece of FR Velcro® hook fastener tape shall be sewn horizontally to the inside of the throat tab immediately under the 1½ inch by 3 inch pieces of FR Velcro® loop fastener tape. The collar closure strap shall fold in half for storage with the FR Velcro® loop fastener tape engaging the FR Velcro® hook fastener tape. A hanger loop constructed of a double layer of outer shell material shall be sewn to the top of the collar at the center.

_____ Comply _____ Exception

OPTION #5: Collar of coat will not have a throat tab. Collar will attach at the top with a zipper.

\$_____ Added Cost for Option

JACKET FRONT

The jacket shall incorporate separate facings to ensure there is no interruption in thermal or moisture protection in the front closure area. The facings shall measure 2½ inches wide, extend from collar to hem, and be double stitched to the underside of the outer shell at the leading edges of the front body panels. A breathable moisture barrier material shall be sewn to the jacket facings and configured such that it is sandwiched between the jacket facing and the inside of the respective body panel. The breathable film side shall face inward to protect it. The thermal liner and moisture barrier assembly shall be attached to the jacket facings by means of snap fasteners or zipper.

_____ Comply _____ Exception

STORM FLAP

A rectangular storm flap measuring a minimum 3 inches wide and 24 inches long shall be centered over the left and right body panels to ensure there is no interruption in thermal or moisture protection in the front of the jacket. The outside storm flap shall be constructed of two plies of outer shell material with a center ply of breathable moisture barrier material. The outside storm flap shall be double stitched to the right-side body panel and shall be reinforced at the top and bottom with bar tacks.

_____ Comply _____ Exception

STORM FLAP AND JACKET FRONT CLOSURE SYSTEM

The jacket shall be closed by means of a heavy-duty high-temp smooth-gliding zipper on the jacket fronts and flame-resistant FR Velcro® fastener tape on the storm flap. The teeth of the zipper shall be mounted on black Nomex® tape and shall be sewn into the respective jacket facings. The storm flap shall close over the left and right jacket body panels and shall be secured with flame resistant FR Velcro® fastener tape. A 1½ inch by 24-inch piece of FR Velcro® loop fastener tape shall be installed along the leading edge of the storm flap on the underside. A corresponding minimum 1½ inch by 23-inch piece of FR Velcro® hook fastener tape shall be sewn to the front body panel and positioned to engage the loop fastener tape when the storm flap is closed over the front of the jacket.

_____ Comply _____ Exception

CARGO/HANDWARMER EXPANSION (BELLOWS) POCKETS

Each jacket front body panel shall have a 2-inch-deep by 8-inch-wide by 8 inch (all measurements +/- ½") high expansion pocket double stitched to it and shall be located such that the bottom of the pockets is at the bottom of the jacket for full functionality when used with an SCBA. Retro reflective trim shall run over the bottom of the pockets so as not to interrupt the trim stripe. Two rust resistant metal drain eyelets shall be installed in the bottom of each expansion pocket to facilitate drainage of water. *The lower half of the pocket shall be reinforced with an extra layer of outer shell material on the inside.* The pocket flaps shall be rectangular in shape, constructed of two layers of outer shell material and shall measure 3 inches deeper than the pocket expansion and ½ inch wider than the pocket. The upper pocket corners shall be reinforced with proven back tacks, and pocket flaps shall be reinforced with bar tacks. The pocket flaps shall be closed by means of flame resistant FR Velcro® fastener tape. Two pieces of 1 ½ inch by 3-inch FR Velcro® hook fastener tape shall be installed vertically on the inside of each pocket flap (one piece on each end). Two corresponding pieces of 1 ½ inch by 3-inch FR Velcro® loop fastener tape shall be installed horizontally on the outside of each pocket near the top (one piece on each end) and positioned to engage the hook fastener tape.

(35" or longer) Retro reflective trim shall run over the bottom of the pockets so as not to interrupt the trim stripe.

Additionally, a separate hand warmer pocket compartment will be provided under the expandable cargo pocket. This compartment will be accessed from the rear of the pocket and shall be lined with thermal liner material or moisture barrier for warmth and comfort. This pocket will not have a Velcro closure.

_____ Comply _____ Exception

OPTION #6: External bellows pocket flaps shall have a tab of material (approx. 2-inch by 2 inch) extending down from the middle of the flap to ease opening with a gloved hand.

\$_____ Added Cost for Option

RADIO POCKET

Each jacket shall have a pocket designed for the storage of a portable radio. This pocket shall be of box type construction, double stitched to the coat, and shall have one drainage eyelet in the bottom of the pocket. The pocket flap shall be constructed of two layers of outer shell material measuring approximately 5 inches deep and ¼ inch wider than the pocket. The pocket flap shall be closed by means of flame resistant FR Velcro® fastener tape. A 1½ inch by 3-inch piece of FR Velcro® hook fastener tape shall be installed vertically on the inside of the pocket flap beginning at the center of the bottom of the flap. A 1½ inch by 3-inch piece of FR Velcro® loop fastener tape shall be installed horizontally on the outside of the pocket near the top center and positioned to engage the hook fastener tape. In addition, the entire inside of the pocket shall be lined with neoprene coated cotton/polyester impermeable barrier material to ensure that the radio is protected from the elements. The impermeable barrier material shall also be sandwiched between the two layers of outer shell material in the pocket flap for added protection. The radio pocket shall measure approximately 2 inches deep by 3 inches wide by 7 inches high (all measurements +/- ½") and shall be installed on the left chest. Radio pocket flap shall be left-notched or be only 2 inches wide to allow for a radio antennae on the left side.

_____ Comply _____ Exception

MICROPHONE STRAP

A strap shall be constructed to hold a microphone for a portable radio. It shall be sewn to the coat at the ends only. The microphone strap shall be mounted above the radio pocket and shall be constructed of double layer outer shell material.

_____ Comply _____ Exception

"SURVIVOR" FLASHLIGHT HOLDER

Each jacket shall be equipped with a "Survivor" flashlight holder. An inward facing metal safety hook/coat snap shall be triple riveted in a vertical position to the upper chest. The inward facing snap hook will accommodate the clip portion of the flashlight. Below the coat hook will be a strap constructed of outer shell material measuring approximately 2½ inches high and 9 inches wide, and will hold the barrel of the flashlight. The lower strap will be equipped with a 1½ inch by 2½ inch flame resistant FR Velcro® closure at the front of the strap to facilitate easy removal of the flashlight. There shall be approximately 3 inches between the upper snap hook and lower strap. The "Survivor" flashlight holder shall be sewn to the jacket on the right chest.

_____ Comply _____ Exception

ARTICULATED SLEEVES

The sleeves shall have articulated/ergonomic elbows (not straight) to allow for greater multi-directional mobility and flexibility in the shoulder and arm areas, with little restriction or coat rise.

_____ Comply _____ Exception

SLEEVE CUFF REINFORCEMENTS

The sleeve cuffs shall be reinforced with black suede leather.

The cuff reinforcements shall not be less than 2 inches in width and folded in half, approximately one half inside and one half outside the sleeve end for greater strength and abrasion resistance. The cuff reinforcement shall be double stitched to the sleeve end.

_____Comply _____Exception

OPTION #7: Sleeve cuffs shall be reinforced with ARA-Shield or similar material.

\$_____ Added Cost for Option

WRISTLETS / ELASTICIZED ADJUSTABLE SLEEVE WELLS

Each jacket shall be equipped with **Nomex® knit wristlets** not less than 4 inches in length and of double thickness. Nomex® knit is constructed of 96% Nomex and 4% Spandex for shape retention.

The wristlets shall be sewn to the end of the liner sleeves. Flame resistant neoprene coated cotton/polyester impermeable barrier material shall be sewn to the inside of the sleeve shell approximately 5 inches from the sleeve end and extending toward the cuff forming the sleeve well. The neoprene sleeve well shall form an elasticized cuff end with an FR Velcro® tab providing a snug fit at the wrist and covering the knit wristlet. This sleeve well configuration serves to prevent water and other hazardous elements from entering the sleeves when the arms are raised. The neoprene barrier material shall also line the inside of the sleeve shell from the cuff to a point approximately 5 inches back, where it joins the sleeve well and is double stitched to the shell. A minimum of 2 Nomex® snap tabs will be sewn into the juncture of the sleeve well and wristlet. The tabs will be spaced equidistant from each other and shall be fitted with female snap fasteners to accommodate corresponding male snaps in the liner sleeves. This configuration will ensure there is no interruption in protection between the sleeve liner and wristlet.

_____Comply _____Exception

LINER ELBOW THERMAL ENHANCEMENT

An additional layer of thermal liner material shall be sewn to the elbow area of the liner system for added protection at contact points and increased thermal insulation in this high compression area.

_____Comply _____Exception

LINER SHOULDER AND UPPER BACK THERMAL ENHANCEMENT

An additional layer of thermal liner material shall be used to increase thermal insulation in the upper back, front and shoulder area of the liner system. This full-cut thermal enhancement layer shall drape over the top of each shoulder extending from the collar to the sleeve/shoulder seam, down the front approximately 5 inches from the juncture of the collar down the back to a depth of 7½ inches to provide greater CCHR protection in this high compression area.

_____Comply _____Exception

TROUSER CONSTRUCTION

LINER ACCESS OPENING (TROUSER)

All gear must have inspection port per NFPA 1851. The thermal liner and moisture barrier layers of the trouser liner system shall be constructed in such a way as to allow an access opening for interior inspection, service and replacement. The thermal liner and moisture barrier layers shall be stitched together at the front fly for security and prevention of inadvertent use of one layer without the other.

_____ Comply _____ Exception

SIZING

The trousers shall be available in even size waist measurements of two inch. The trouser inseam measurement shall be available in two inch increments. Generalized sizing, such as small, medium, large, etc., will not be considered acceptable. Sizing specifically for women shall also be available.

_____ Comply _____ Exception

RETROREFLECTIVE FLUORESCENT TRIM

The trousers shall have a stripe of retro reflective fluorescent trim encircling each leg below the knee to comply with the requirements of NFPA #1971 (2013 revision) in 3-inch lime/yellow 3M Scotchlite™ Triple Trim (L/Y borders with silver center).

Bottom of trim band shall be located approximately 3" above cuff.

_____ Comply _____ Exception

OPTION #8: The reflective trim shall be lime/yellow 3M Scotchlite™ Comfort Trim

\$_____ Added Cost for Option

REINFORCED TRIM STITCHING

All reflective trim is secured to the outer shell with Nomex® thread using a reinforced stitching (locking or double-stitching). All trim ends shall be securely sewn into a seam for a clean finished appearance.

_____ Comply _____ Exception

ELASTICIZED WAISTBAND

The trouser shall have an elasticized waist band with side adjusters on both sides (postmen's slide or similar mechanism).

_____ Comply _____ Exception

EXTERNAL / INTERNAL FLY FLAP

The trousers will have a vertical outside fly flap constructed of two layers of outer shell material, with a layer of moisture barrier material sandwiched between. The fly flap shall be double stitched to the left front body panel and shall measure approximately 2 ½ inches wide by 10 inches long and reinforced with bar tacks at the base. An internal fly flap constructed of one layer of outer shell material, thermal liner and specified moisture barrier, measuring approximately 2 inches wide by 10 inches long, shall be sewn to the leading edge of the right front body panel. The inside of the right front body panel shall be thermally enhanced directly under the outside fly with a layer of moisture barrier and thermal liner material.

The underside of the outside fly flap shall have a 1½ inch wide piece of FR Velcro® loop fastener tape quadruple stitched along the full length and through the shell material only; stitching shall not penetrate the moisture barrier insert between the two layers to insure greater thermal protection and reduced water penetration. A corresponding strip of 1½ inch wide by 9-inch-long FR Velcro® hook fastener tape shall be quadruple stitched to the outside right front body panel securing the fly in a closed position.

A clip mechanism shall be installed at the leading edge of the waistband for the purpose of further securing the trousers in the closed position.

_____ Comply _____ Exception

OPTION #9: The trousers will have a heavy-duty high-temp smooth-gliding zipper in place of a fly flap.

\$_____ Added/Reduced Cost for Option

ARTICULATED KNEES

The outer shell of the trouser legs shall be constructed with articulated or ergonomic knees (not straight) for increased freedom of movement and maximum flexibility.

The liner system shall be constructed with four darts per leg in the front of the knee. Two will be located above the knee (one on each side) and two will be located below the knee (one on each side). Each dart will be approximately 2 inches long. The darts in the liner provide a natural bend at the knee. The darts in the liner work in conjunction with the expansion panels in the outer shell to increase freedom of movement when kneeling, crawling, climbing stairs or ladders, etc.

_____ Comply _____ Exception

LINER KNEE THERMAL ENHANCEMENT

An additional layer of specified thermal liner and moisture barrier material, measuring a minimum of 7" x 10", will be sewn to the knee area of the liner system for added CCHR protection and increased thermal insulation in this high compression area. The knee thermal enhancement layers shall be sandwiched between the thermal liner and moisture barrier layers of the liner system and shall be stitched to the thermal liner layer only. Thermal scraps shall not be substituted for full-cut fabric padding.

_____ Comply _____ Exception

KNEE REINFORCEMENTS

The knee area shall be reinforced with ARA-Shield or similar outer fabric reinforced waterproof and abrasion resistant.

The knee reinforcement shall be slightly offset to the outside of the leg to insure proper coverage when bending, kneeling and crawling. The knee reinforcements shall measure 10 inches wide by 12 inches high and shall be double stitched to the outside of the outer shell in the knee area for greater strength and abrasion resistance.

_____ Comply _____ Exception

EXPANSION (BELLOWS) POCKETS

An expansion pocket, measuring approximately 2 inches deep by 8 inches wide by 8 inches high (all measurements +/- 1/2") shall be double stitched to the side of each leg straddling the outseam above the knee and positioned to provide accessibility. The lower half of each expansion pocket shall be reinforced with an additional layer of outer shell material on the inside. Two rust resistant metal drain eyelets shall be installed on the underside of each expansion pocket to facilitate drainage of water. The pocket flaps shall be rectangular in shape, constructed of two layers of outer shell material and shall measure 3 inches deeper than the pocket expansion and 1/2 inch wider than the pocket. The upper pocket corners shall be reinforced with proven back tacks, and pocket flaps shall be reinforced with bar tacks. The pocket flaps shall be closed by means of flame resistant FR Velcro® fastener tape. Two pieces of 1 1/2 inch by 3-inch FR Velcro® hook fastener tape shall be installed vertically on the inside of each pocket flap (one piece on each end). Two corresponding pieces of 1 1/2 inch by 3-inch FR Velcro® loop fastener tape shall be installed horizontally on the outside of each pocket near the top (one piece on each end) and positioned to engage the hook fastener tape.

_____ Comply _____ Exception

OPTION #10: External bellows pocket flaps shall have a tab of material (approx. 2-inch by 2-inch) extending down from the middle of the flap to ease opening with a gloved hand.

\$_____ Added Cost for Option

TROUSER CUFF REINFORCEMENTS

The cuff area of the trousers shall be reinforced with black suede leather.

The cuff reinforcement shall not be less than 2 inches in width and folded in half, approximately one half inside and one half outside the end of the legs for greater strength and abrasion resistance. The cuff reinforcement shall be double stitched to the outer shell for a total of four rows of stitching. This independent cuff provides an additional layer of protection over a hemmed cuff.

Cuff area leg bottoms of inner liner shall be reinforced at the bottom with approximately 4 inches of water resistant material.

_____ Comply _____ Exception

PADDED RIP-CORD SUSPENDERS & ATTACHMENT

On the inside waistband shall be attachments for the standard "H" style "Padded Rip-Cord" suspenders. There will be four attachments total – 2 front, 2 back. The suspender attachments shall be constructed of a double layer of black Nomex® measuring approximately 1/2 inch wide by 3-inches long. They shall be sewn in a horizontal position on the ends only to form a loop. The appearance will be much like a horizontal belt loop to capture the suspender ends.

A pair of "H" style "Padded Rip-Cord" suspenders shall be specially configured for use with the trousers. The main body of the suspenders shall be constructed of 2-inch-wide black webbing straps. The suspenders shall run over each shoulder to a point approximately shoulder blade high on the back, where they shall be joined by a 2-inch-wide horizontal piece of webbing measuring approximately 8-inches long, forming the "H". This shall prevent the suspenders from slipping off the shoulders. The shoulder area of the suspenders will be padded for comfort by fully encasing the webbing with aramid batting and wrap-around black Nomex®.

The rear ends of the suspenders will be sewn to 2-inch wide elasticized webbing extensions measuring approximately 8-inches in length and terminating with thermoplastic loops. The forward ends of the suspender straps shall be equipped with specially configured black powder coat non-slip metal slides with teeth. Through the metal slides will be the 9 inch lengths of strap webbing "Rip-Cords" terminating with thermoplastic loops on

each end. Pulling on the "Rip-Cords" shall allow for quick adjustment of the suspenders.

Threaded through and attached to the thermoplastic loops on the forward and rear ends of the suspenders will be black Nomex® suspender attachments incorporating two snap fasteners. The Nomex® suspender attachments are to be threaded through the suspender attachment loops on the inside waistband of the trousers. The Nomex® suspender attachments will then fold over and attach to themselves securing the suspender to the trousers.

_____ Comply _____ Exception

REVERSE BOOT CUT

The outer shell trouser leg cuffs will be constructed such that the back of the leg is approximately 1 inch shorter than the front. The liner will also have a reverse boot cut at the rear of the cuff and a concave cut at the front to keep the liner from hanging below the shell. This construction feature will minimize the chance of premature wear of the cuffs and injuries due to falls as a result of "walking" on the trouser cuffs.

_____ Comply _____ Exception

LABELS

Appropriate warning label(s) shall be permanently affixed to each garment. Additionally, the label(s) shall include the following information:

- Compliance to NFPA Standard #1971 - 2007 edition
- Underwriters Laboratories classified mark
- Manufacturer's name
- Manufacturer's address
- Manufacturer's garment identification number
- Unique Serial Number
- Date of manufacture
- Size
- Fiber contents

_____ Comply _____ Exception

ISO CERTIFICATION / REGISTRATION

The protective clothing manufacturer shall be certified and registered to ISO Standard 9001 to assure a satisfactory level of quality. Indicate below whether the manufacturer is so certified and registered by checking either "Yes" or "No" in the space provided.

_____ Yes _____ No

WARRANTY:

The manufacturer shall warrant these jackets and trousers to be free from defects in materials and workmanship for their serviceable life when properly used and cared for.

_____ Comply _____ Exception