ST. JOHN THE BAPTIST PARISH
PURCHASING & PROCUREMENT DEPARTMENT
1811 W. Airline Highway
LaPlace, LA 70068

2025.24 STRUCTURAL FIREFIGHTER BUNKER GEAR

Attachment A
Specifications
Structural Firefighter Bunker Gear

Turn Out Gear Specifications

SCOPE
This document specifies the design and materials used to manufacture coats and pants to be worn during STRUCTURAL FIREFIGHTING as covered by NFPA 1971. The protection offered by the garment covers the lower and upper section of the body excluding head, hands or feet. Garment sizing shall be done in accordance with NFPA 1500 and available for male and female firefighters. Generalized sizing such as small, medium, large, etc... shall be considered unacceptable.

COMPLY _____	**EXCEPTION** _____

CERTIFICATION
The design, materials, workmanship, construction and performance shall meet or exceed all National Fire Protection Association (NFPA) requirements as specified in NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018 edition. The manufacturer shall supply the Certificates of Compliance from Underwriters Laboratories showing compliance to the standard.

COMPLY _____	**EXCEPTION** _____

ISO 9001
The manufacturer shall be ISO 9001:2015 certified, thus assuring quality control procedures in the manufacturing of bunker gear. A copy of this certification shall be supplied.

COMPLY _____	**EXCEPTION** _____

EXCEPTION
Bidder shall clearly state in this document if they comply with the section requirements or takes an exception. Any section that is not clearly identified as compliant will be considered as an exception. All alternative proposals for each exceptions shall be described and listed on a separate document and attached to this bid. No exceptions to this paragraph shall be accepted.

COMPLY _____	**EXCEPTION** _____

LABELING
The coats and pants shall be labeled according to the applicable standards and regulations. A warning label shall be applied about use and protection of the garment. A human readable unique serial number shall be assigned to the coats and pants. The unique serial number shall also be translated into bar code so it can be read by care and maintenance facilities.

COMPLY _____	**EXCEPTION** _____

PACKAGING
The garments shall be individually packaged in separate boxes. The transportation box shall only contain the jacket and / or pants for an individual firefighter.

COMPLY _____	**EXCEPTION** _____

OUTER SHELL
The outer shell shall be approximately 6.5 oz/yd², constructed of a proprietary blend of 80% Nomex® / Kevlar® spun yarns with 20% 400 denier Kevlar® filament. The outer shell shall be constructed in a comfort-twill weave and shall have the DuPont™ Teflon® F-PPE durable water-repellent finish. The outer shell color shall be black.

COMPLY _____	**EXCEPTION** _____

MOISTURE BARRIER
The moisture barrier material shall be Stedair® 4000, a premium tri-component moisture barrier that provides outstanding protection for the fire service industry. STEDAIR® 4000 combines a woven DuPont™ Nomex® IIIA pajama check substrate with an enhanced bi-component membrane. This bi-component membrane is comprised of expanded PTFE (Teflon) matrix that has continuous hydrophilic (water-loving) and oleophobic (oil-hating) polymer coatings impregnated into the fabric. For best seam sealing results, Stedair® moisture barrier seams should be sealed with Stedair® seam tape to afford comparable viral penetration resistance performance. Double rows of stitching shall not be acceptable as it reduces the surface area of the sealing tape on both sides of the seam. The total weight of the moisture barrier shall be approximately 5.5 oz/yd².

COMPLY _____	**EXCEPTION** _____

THERMAL BARRIER
The thermal barrier shall consist of a twill weave face cloth constructed of 86% Aramid / 14% FR Viscose containing at least 60% of filament Nomex®. The facecloth shall weigh approximately 3.6 oz/yd² and be quilted with meta-aramid threads to 1 layer of 2.3 oz/yd² and 1 layer of 1.5 oz/yd² 100% aramid non-woven spunlace. The thermal barrier shall have a total weight of approximately 7.4 oz/yd². Bids offering other fiber blends or less than 60% filament Nomex® shall not be considered acceptable by this department.

COMPLY _____	**EXCEPTION** _____

THL RATING
The composite of outer shell, thermal barrier and moisture barrier shall meet or exceed the minimum THL requirement of the latest edition of NFPA 1971. Manufacturer shall state on his bid the THL value of the proposed composite. THL: _____

THL: _____

	Coat	Pants
THL – Zone 1 / GENERAL	269	269

COMPLY _____	**EXCEPTION** _____

TPP RATING
The composite of outer shell, thermal barrier and moisture barrier shall meet or exceed the minimum TPP requirement of the latest edition of NFPA 1971. Manufacturer shall state on his bid the TPP value of the proposed composite.

	Coat	Pants
TPP – Zone 1 / GENERAL	39	39
TPP – Zone 2	0	0

COMPLY _____	**EXCEPTION** _____

REFLECTIVE TRIM TYPE
The retro-reflective trim shall be the three inches wide Scotchlite™ Reflective Material - 9587, lime-yellow with silver center, from 3M™ with MICRO Perforation. This material is also commonly referred to as triple trim. The MICRO perforations shall have diameter of 300 microns. Trims shall have two rows of lock stitching on each side of the trim.

COMPLY _____	**EXCEPTION** _____

POLYMER COATED ARAMID REINFORCEMENT COLOR
All polymer coated aramid reinforcements, where specified, shall be black in color.

COMPLY _____	**EXCEPTION** _____

HARDWARE
All zippers, snaps, or hook and loop shall be supplied by YKK. Snaps shall be prong type. Stitching of all long pieces of hook and loop shall be done with a triple row of lock stitching. Stitching of all short pieces of hook and loop shall be done with a single row of lock stitching around the edges with an "X" in the center. All hook and loop larger than one (1) inch shall have rounded corners.

COMPLY _____	**EXCEPTION** _____

COAT SPECIFICATIONS

OUTER SHELL CONSTRUCTION
All "Major A" seams shall be made of seam type LSbm-4, including stitch types #504, 401 and 301. The seaming process starts by aligning two pieces of fabric together and stitching them together with what is commonly referred to as a "5 thread overlock", using stitch type #516, consisting of stitch type 504 and 401. The seam is then folded over and top stitched with two (2) rows of lock stitch # 301. All seams shall be stitched with Nomex® thread and sewn to prevent stitches from coming apart by themselves if cut or worn. Stress points such as pockets, pocket flaps, collar, storm flap shall be bar-tacked for increased durability. The base jacket shall be approximately 32 inches (grading) and cut to assure increased overlap with the pants. The collar line, the collar, the sleeve lengths and the gussets shall be cut in proportion with the chest size of the jacket. The coat design shall include a tapered fit, through an athletic cut and shall be 4 inches shorter in the front than back. The coat shall be constructed of 16 panels in order to provide optimal comfort and fit. A drag harness shall be installed in the jacket between the outer shell and the liner. The drag harness shall be made of 1" wide supple Kevlar® webbing to limit the abrasion on the moisture barrier. The webbing shall loop around the shoulders starting horizontally below the shoulders at the back, wrap around both shoulders at the front and exit through the outer shell at the back of the neck, below the collar seam. This design increases comfort and reduces the overall coat weight by reducing the amount of webbing between the outer shell and the liner. A flap made of outer shell shall be installed on the back of the jacket at the collar seam. The flap shall be shaped like an irregular pentagon with a rectangular base of six (6) inches wide by one inch and a half (1-1/2) long ending in a triangle. The length of the flap shall be three (3) inches. The flap shall open to give access to the strap of the drag harness. The flap shall be secured in closed position with the use of a hook and loop fastener two (2) inches by one inch and a quarter (1-1/4) with rounded corners and a box and cross stitching. A piece of silver reflective trim shall be heat applied vertically on the center of drag rescue device flap to clearly identify the drag rescue device handle. The letters DRD shall be etched with a laser in the silver reflective material. The harness shall be held in place between the outer shell and the inner liner by strategically positioned loops under the arm, along the path of the harness to keep it in the optimal position.

COMPLY _____	**EXCEPTION** _____

LINER CONSTRUCTION
All "Major B" seams shall be made of seam type SSa-2, including stitch types #504 and #401. The seaming process shall start by aligning two pieces of fabric together and stitching them together with what is commonly referred to as a "5 thread overlock", using stitch type #516, consisting of stitch types #504 and #401. In addition, the moisture barrier seams shall be sealed. The moisture barrier and thermal barrier component of the liner shall be sewn together at the edges using a piece of bias-cut neoprene and sewn together with one row of lock stitch, consisting of stitch type 301. All moisture barrier seams shall be stitched with Nomex® thread using 12 ± 1 stitches per inch. All thermal barrier seams shall be stitched with Nomex® thread using 10 ± 1 stitches per inch. All seams shall be oriented so that

the edges of the thermal barrier and the moisture barrier sealing tape are inside the inner liner. The liner shall be cut a maximum of three (3) inches shorter for the jacket and one (1) inch shorter for the sleeves. The liner shall be attached to the outer shell by one zipper running along the front closure of the jacket and shall be protected with a breathable moisture barrier facing. The liner shall also attached by two (2) color coded tabs with snaps at each sleeve end. Two additional layers of thermal barrier shall be sewn in the shoulder area for increased CCHR protection. Should the manufacturer include a nonporous elbow reinforcement, the area under the elbow reinforcement shall also have a layer of neoprene sewn to the thermal barrier, to meet the Stored and Thermal Energy requirement. The liner shall be equipped with an inspection port allowing for visual inspection of all sealed seams of the moisture barrier. The inspection port shall use a zipper closure of minimally sixteen (16) inches long.

COMPLY _____	**EXCEPTION _____**

THERMAL LINER ATTACHMENTS (BOTTOM OF COAT)
Two tabs measuring three-quarter (3/4) of an inch by four and a half (4-1/2) inches inserted in the lower hem of the outer shell. Tabs are linked to the lining by snap buttons located on the lining, on the side of the jacket.

COMPLY _____	**EXCEPTION _____**

COAT CLOSURE SYSTEM
The positive closure system shall consist of a heavy-duty Vislon® zipper of approximately twenty (20) inches long graded to the size of the jacket. The positive closure shall be covered by a ONE PIECE storm flap extending from the bottom of the jacket to the top of the collar to prevent any gaps in the throat area. The one piece flap shall measure approximately three inches (3) wide and twenty four inches and three quarters (24-3/4) long. The storm flap and throat closure shall be constructed of three (3) layers: two (2) layers of outer shell and one (1) layer of moisture barrier. The storm flap shall have a special grabber made of outer shell material and closed cell foam padding to help opening the flap with a gloved hand. The grabber shall be approximately two inches (2) high by three inches (3) wide at the widest point and shall be cut at an angle on the bottom. The grabber shall be located at the top of the storm flap. The flap shall be fastened to the front of the jacket by means of FR hook and loop fastener one and a half (1-1/2) inches wide for the full length of the flap and one and a half (1-1/2) inches on the front panel of the outer shell. The hook and loop fastener shall be sewn so that seams are at most 1” apart from one another in order to prevent damage with opening and closing the flap. The moisture barrier in storm flap shall be the SAME as the moisture barrier selected in the MOISTURE BARRIER section of this specification. Use of moisture barrier other than that specified in the MOISTURE BARRIER section are not considered acceptable by this department. Closures with separate throat tabs are not considered acceptable to this department.

COMPLY _____	**EXCEPTION _____**

ACTION BACK
The coat shall have two (2) extensible gusset installed in the center of the back. These gussets shall measure a minimum of eighteen (18) inches long and offer an extension of approximately (4) inches. The liner shall also include pleats that work together with the outer shell gussets to increase range of motion. The outer shell gussets shall have an elastic to ensure that the action back retracts when the arms are in the natural position. This feature is essential to help prevent accidentally getting caught in by the gusset. The extremities of these gussets shall be bartacked. Coat designs with action backs that are not

retractable are not considered acceptable by this department. Coat designs with action backs that are not in the center of the back are not considered acceptable by this department.

COMPLY _____	**EXCEPTION** _____

COLLAR
The collar shall be of variable height design with a four (4) layers construction consisting of two (2) layers of outer shell, one (1) layer of thermal barrier and one (1) layer of breathable moisture barrier. The collar shall afford the full protection of a four (4) inch collar at the back and the comfort of a three (3) inch collar at the front for integration with the SCBA face piece. The collar throat closure shall be a continuation of the coat storm flap to prevent any gaps in the throat area. The collar shall have an internal hanging loop made of the specified outer shell. The loop shall measure a half inch (1/2) wide and have a usable width of three (3) inches. Collars with separate throat tabs are not considered acceptable to this department. Collars of single height are not considered acceptable to this department.

COMPLY _____	**EXCEPTION** _____

NO SEAM SHOULDER CONSTRUCTION
The coat outer shell shall be constructed such that there are no seams on top of the shoulder to prevent coat rise and unnecessary abrasion and pressure points. Coat designs with seams on top of the shoulder are not considered acceptable by this department.

COMPLY _____	**EXCEPTION** _____

SLEEVES
The sleeves shall be cut full length in proportion with the chest sizes. The sleeve pattern shall include the top of the shoulder in order to avoid having a seam on top of the shoulder and limit coat rise. The sleeve shall consist of four (4) pieces, including one (1) single piece on the side of the body and three (3) on the opposite side. The sleeves shall be shaped like the natural bend of the arm. The elbow seams shall incorporate retro-reflective piping for additional night time and confined space visibility. The sleeve seams shall be positioned so that they do not come in contact with the coat body when the arms are on the sides. Coat designs with sleeve seams that come in contact with the coat body and without retro-reflective piping are not considered acceptable by this department.

COMPLY _____	**EXCEPTION** _____

WATERWELL
The waterwell shall have a shallow design including a WATER EVACUATION SYSTEM to prevent accumulation of water when the arms are raised. This water evacuation system shall consist of two (2) water evacuation eyelets installed on each sleeve. The eyelets shall be positioned so that liquids draining from the eyelets are aiming away from the firefighter's face.

COMPLY _____	**EXCEPTION** _____

ANGLED CUFFS
The sleeve cuffs shall be cut at an angle so that the top of the cuff is longer than the bottom to provide additional overlap of the cuff over the glove interface and provide additional protection while providing unrestricted range of motion. Coat designs without angled cuffs are not considered acceptable by this department.

COMPLY _____	**EXCEPTION** _____

CUFF REINFORCEMENT
The sleeve cuffs shall be reinforced with polymer coated aramid. The reinforcement shall include a Nomex® cording to prevent stress points on the reinforcement material and reduce abrasion and repairs. The reinforcement material shall be sewn between the sleeve outer shell and waterwell to prevent thread abrasion and repairs. The reinforcement material shall be sewn with two (2) rows of locked stitches. Coat designs with cuff reinforcements on top of the sleeve outer shell are not considered acceptable by this department.

COMPLY _____	**EXCEPTION** _____

PROFILED POCKETS WITH BUILT-IN HAND-WARMER
The coat shall be equipped with two profiled pockets to reduce bulk when bending and crawling; and eliminate possible snagging. The pockets shall be between the outer shell and liner and accessible through an angled opening for easy access, even when wearing an SCBA. The pockets shall be made of Kevlar® mesh for greater breathability with a woven Kevlar® on the bottom. The pockets shall close with a Vislon® zipper. The zipper shall have a Nomex® tab for ease of opening and closing. The pockets shall also have a hand-warmer compartment lined with Nomex® fleece. The pockets shall be equipped with be a D-ring permanently riveted to one end of a strap of black Nomex® material of a minimum 5" long folded in half and positioned so that the D-ring can hang just outside the closed pocket. The other end of the black Nomex® material strap shall be permanently attached to the inside of the coat pocket with a bartack. Coats without profiled pockets are not considered acceptable by this department.

COMPLY _____	**EXCEPTION** _____

INSIDE POCKET WITH HOOK AND LOOP
The coat shall be provided with an inside pocket measuring approximately seven and a half (7-1/2) inches wide by eight (8) inches high, constructed of outer shell material. The pocket shall be closed with a one (1) inch by three (3) inches of hook and loop fastener. The hook and loop fasteners shall be sewn with locks stitching in a box & cross pattern.

COMPLY _____	**EXCEPTION** _____

REFLECTIVE TRIM PATTERN
The trim shall be "PROJECT FIRES" style; one (1) band around the lower portion of the jacket, one (1) band on the front of the jacket at the chest area below the armpit, two (2) vertical bands between the lower back trim up to the shoulders, one (1) band around each sleeve below the elbow.

COMPLY _____	**EXCEPTION** _____

OUTER SHELL REMOVABLE PATCH WITH HOOK & LOOP (4"X17")
A patch for lettering constructed of shell fabric shall be installed on the back portion of the jacket and secured to the jacket with the use of hook and loop fastener. This patch shall measure approximately four (4) inches high by seventeen (17) inches wide. Hook fastener shall be sewn to the outer shell at lower back of the jacket to receive the removable patch.

COMPLY _____	**EXCEPTION** _____

NOMEX® AMERICAN FLAG PATCH
The coat shall have an American flag embroidered with Nomex® thread measuring 2-1/2" by 1-1/4".

COMPLY _____	**EXCEPTION** _____

MICROPHONE / P.A.S.S. LOOP
A loop for a microphone or P.A.S.S. alarm shall be installed above the radio pocket. The loop shall be one (1) inch high and have an opening of approximately one inch and three quarters (1-3/4) of usable space and be made of the specified outer shell. The loop shall be bartacked at each end to the front of the

COMPLY _____	**EXCEPTION** _____

FLASHLIGHT HOLDER
The coat shall have an adjustable loop made of outer shell. The loop shall measure eleven (11) inches long and be attached to the outer shell with bartacks spaced approximately one inch and a half (1-1/2) apart, leaving an opening. The loop shall close onto itself with the use of hook and loop fastener. The

coat shall also have an outer shell tab measuring approximately two (2) inches by three (3) inches instaled above the loop with bartacks.

COMPLY _____	EXCEPTION _____

PANT SPECIFICATIONS

REGULAR WAIST
The pant shall be of regular waist design. The circumference of the waist shall allow the wearer to pull his pants up without restriction. The front to the pant shall measure between 9-3/4" and 12-7/16" from the "Complete Motion Crotch" seam to the top of the waist line and shall be graded with the waist size to provide appropriate overlap with the coat. The back to the pant shall measure between 15-3/8" and 17-7/8" from the "Complete Motion Crotch" seam to the top of the waist line and shall be graded with the waist size to provide appropriate overlap with the coat.

COMPLY _____	EXCEPTION _____

OUTER SHELL CONSTRUCTION
All "Major A" seams shall be made of seam type LSbm-4, including stitch types #504, #401 and #301. The seaming process shall start by aligning two pieces of fabric together and stitching them together with what is commonly referred to as a "5 thread overlock", using stitch type #516, consisting of stitch types #504 and #401. The seam shall then be folded over and top stitched with two (2) rows of lock stitch consisting of stitch type #301. All seams shall be stitched with Nomex® thread using 9 ± 1 stitches per inch and sewn to prevent stitches from coming apart by themselves if cut or worn. Stress points such as pockets and pocket flaps shall be bar-tacked for increased durability. The pant shall be made of nine (9) panels to provide complete range of motion. Pant designs with less than nine panels shall not be considered acceptable for this department

COMPLY _____	EXCEPTION _____

LINER CONSTRUCTION
All "Major B" seams shall be made of seam type SSa-2, including stitch types #504 and #401. The seaming process shall start by aligning two pieces of fabric together and stitching them together with what is commonly referred to as a "5 thread overlock", using stitch type #516, consisting of stitch types #504 and #401. In addition, the moisture barrier seams shall be sealed. The moisture barrier and thermal barrier component of the liner shall be sewn together at the edges using a piece of bias-cut neoprene and sewn together with one row of lock stitch, consisting of stitch type 301. All moisture barrier seams shall be stitched with Nomex® thread using 12 ± 1 stitches per inch. All thermal barrier seams shall be stitched with Nomex® thread using 10 ± 1 stitches per inch. All seams shall be oriented so that the edges of the thermal barrier and the moisture barrier sealing tape are inside the inner liner. The liner shall be cut a maximum of three (3) inches shorter for the outer shell. A waist band shall be sewn to the inside of the outer shell. . A two (2) inch waist band made of thermal barrier and moisture barrier shall be sewn to the inside of the outer shell. The liner shall be attached between the outer shell and the waist band with the use of one (1) full length zipper. The liner shall also be attached to the shell with two (2) tabs with snaps at each leg. The waist band shall be kept in position with the use of five (5) snaps positioned around the waist, further securing the liner to the outer shell. Two additional layers of thermal barrier shall be sewn in the knee area for increased CCHR protection. The liner shall be equipped with an

inspection port allowing for visual inspection of all sealed seams of the moisture barrier. The inspection port shall use a zipper closure of minimally sixteen (16) inches long.

COMPLY _____	**EXCEPTION _____**

PANT CLOSURE SYSTEM
The positive closure system shall consist of a heavy duty VISLON® zipper of approximately ten (10) inches long. The storm flap shall be approximately two and a quarter (2-1/4) inches wide and eleven (11) inches long and constructed of two (2) layers of outer shell material. The pant fly flap shall have a special grabber made of outer shell material and closed cell foam padding to help opening the flap with a gloved hand. The grabber shall be approximately one and a quarter (1-1/4) inch high by three (3) inches wide at the widest point and shall be cut at an angle on one side. The grabber shall be located on the top the flap. The flap shall be fastened to the front of the pants by means of FR hook and loop fastener two (2) inches by ten inches and three quarter (10-3/4) on the flap and two (2) inches by ten inches and a half (10-1/2) on the right front panel of the outer shell. 360 degree moisture and thermal protection shall be afforded by overlapping the left and right side of the liner. The pant shall have a removable Nomex® belt shall be made of two (2) inch wide webbing. The webbing shall be passed through six (6) belt loops fixed on the pants. The belt shall include an adjustable high-temp plastic buckle. The belt loops shall be made of outer shell and shall be installed at the waist area of the pants. Each belt loop shall have an opening of two and a half (2-1/2) inches and shall be secured to the pant with lock stitching and bartacks.

COMPLY _____	**EXCEPTION _____**

"FULL MOTION" LEG DESIGN
The pant shall be designed with nine (9) body panels to provide complete range of motion and comfort. There shall be a seam above the knee with retroreflective piping at the front of each leg to increase range of motion as well as additional night time and confined space visibility. There shall be a seam behind the knee of each leg to increase range of motion. The leg inseams shall be positioned so that they do not come into with the opposite leg when walking to prevent abrasion and repairs. Pant designs with less than nine (9) body panels are not considered acceptable by this department.

COMPLY _____	**EXCEPTION _____**

COMPLETE MOTION CROTCH
The pant shall be designed with an oversized diamond shape panels to provide complete range of motion and comfort. Pant designs without an oversized diamond shape panels are not considered acceptable by this department.

COMPLY _____	**EXCEPTION _____**

POCKETS & REINFORCEMENT
The pants shall be provided with two (2) bellow pockets measuring approximately eight (10) inches by ten (10) inches and two (2) inches deep on all sides of the pockets. The pockets shall be fitted with a full width flap measuring approximately three inches and a half (3-1/2) high.The pant pocket flaps shall have a special grabber made of outer shell material and closed cell foam padding to help opening the pockets with a gloved hand. The grabbers shall be approximately one and a quarter (1-1/4) inch high by five and

a half (5-1/2) inches wide at the widest point and shall be cut at an angle on both sides. The grabbers shall be located on the bottom edge of the flap in the center of the flap. The pocket flaps shall have two (2) hook fasteners of two (2) inches by two (2) inches. The pockets shall have two (2) loop fasteners measuring two (2) inches wide by one and a half (1-1/2) inch high. The hook and loop fasteners shall be sewn with locks stitching in a box & cross pattern. The bottom of the pockets shall be provided with two (2) evacuation eyelets. Each pocket shall have two (2) bartacks on each lower corner, one (1) bartack on each top corner and one (1) bartack on each side of the pocket flap for a total of eight (8) bartacks. The bottom of the pockets shall be reinforced with one (1) layer of Kevlar® from the bottom of the pocket extending to the top of the pockets.

COMPLY _____	**EXCEPTION** _____

KNEE REINFORCEMENT / PADDING
The knee area shall be designed to enhance mobility with the use of darts and pleats in the outer shell. The knee area shall be molded and articulated to better shape the knee in order to increase flexibility, mobility and comfort. The knee area shall be reinforced by a rectangular piece of polymer coated aramid graded in length in proportion with the pant size and shall be double stitched to the outer shell. A padding made of one (1) layer of thermally stable FR closed cell foam shall be inserted between the polymer coated aramid knee reinforcement and the pant outer shell.

COMPLY _____	**EXCEPTION** _____

CUFF REINFORCEMENT
The pant cuffs shall have a reverse boot cut design (shorter at the back than the front) and reinforced with polymer coated aramid. The reinforcement shall include a Nomex® cording to prevent stress points on the reinforcement material and reduce abrasion and repairs. The reinforcement material shall be sewn inside the outer shell to prevent thread abrasion and repairs. The reinforcement material shall be sewn with two (2) rows of locked stitches. Pant designs with cuff reinforcements on top of the leg outer shell are not considered acceptable by this department.

COMPLY _____	**EXCEPTION** _____

REFLECTIVE TRIM PATTERN
The trim shall be "NFPA" style; one (1) band around the lower portion of each leg.

COMPLY _____	**EXCEPTION** _____

NOMEX® BELT
The belt shall be removable and adjustable on both end and shall be made of two (2) inches wide NOMEX® webbing. The belt shall include adjustable plastic buckle on both extremity. Each belt end shall be finished using a clean finish hem.

COMPLY _____	**EXCEPTION _____**

BELT LOOPS
The pant shall be equipped with a minimum of six (6) belt loops made of outer shell and shall be installed equally spaced around the waist area of the pant. Each belt loop shall be two (2) inches wide, have an opening of two and a quarter (2-1/4) inches and shall be secured to the pant with lock stitching and bartacks.

COMPLY _____	**EXCEPTION _____**

SUSPENDERS
The pants shall be equipped with Deluxe H-style removable suspenders. The suspenders shall be constructed of two (2) inch wide heavy-duty cotton webbing. The horizontal component of the suspenders forming the H back shall be made of elastic material to increase comfort when bending forward. The suspenders shall be attached to the pant by passing the ends through high-temp sliders in the belt loops around the waist of the pant and folding each end over onto itself while securing the Hook and Loop fasteners 1-1/2" x 2" sewn with a box and cross pattern. A quick adjust metal "ladderlock" buckle shall be installed on the front of the suspender to tighten or release the suspenders quickly. In addition, a shoulder padding made of neoprene shall be sewn to the shoulder area of the suspenders. The padding shall measure a minimum of 8 inches long by the width of the webbing. The suspenders shall be cut in proportion to the size of the fire fighter measurements and completely removable for ease of cleaning.

COMPLY _____	**EXCEPTION _____**

PERSONALIZATION SPECIFICATIONS

COAT -

LETTERING
All units shall have the same lettering at this position.

- FD name :	SJFD

N-STD PERSO: VERTICAL - Right sleeve (E) - Lettering - For all units (SJFD) - Scotchlite® 2" - LIME / Sewn on shell

COMPLY _____	**EXCEPTION _____**

COAT - Hem of coat (M)

LETTERING
Each unit shall have their own specific lettering.

- FF Name :	FF First Initial Last Name
- Attachment method :	SEWNONREMOVABLEPATCH
- Patch Size :	4" X 17"
- Patch Color :	Outer Shell

COMPLY _____	**EXCEPTION _____**

COAT - Left sleeve (F)

NOMEX® AMERICAN FLAG

The garment shall have an American flag embroidered with Nomex® thread measuring 2-1/2" by 1-1/4" sewn on the left sleeve.

Successful Bidder shall have In-State Service Center for repairs

COMPLY _____	**EXCEPTION _____**

Successful Bidder must size with Sizing Kit

COMPLY _____	**EXCEPTION _____**

Pricing shall apply to all sizes (NO OVERSIZE CHARGES) and must include delivery.

COMPLY _____	**EXCEPTION _____**

Sizing must be available in chest and waist increments of 2″ and sleeve and inseam increments of 1″. Sleeve and/or inseam increments greater than 1″ are not considered acceptable by this department.

COMPLY _____	EXCEPTION _____

BOOT

HAIX Fire Eagle Air Fire Boot

Product Abstract

Bunker boot, black, waterproof (to 10.5 inches measured from top of the insole in the heel area), full leather, profiled TPU toe cap, large boot straps on both sides, shin protection, integrated “Boot Jack” with non-slip, heat resistant, shock-absorbing, electrical shock resistant rubber outsole and machine washable insole.

Information

A booklet containing product details, information about fit and wear, electrical properties, and care and storage instructions will be included with each pair of shoes. A hangtag with User Guide download instructions will be attached to each pair of shoes.

Materials
Upper:
Hydrophobic, full grain cowhide, breathable, color black. Thickness: 0.08 - 0.09 inches (2.0 – 2.2 mm), Tested to be hydrophobic for a minimum of 120 minutes (dynamic test in the Penetrometer).
Free of PCP, AZO dyes and Chromium-VI.
Shaft closure (casing, top band, and ankle flexor area, bending area):
Hydrophobic casing leather, breathable, color black. Thickness: 0.05 – 0.06 inches (1.3 - 1.5 mm), Tested to be hydrophobic for aminimum of 120 minutes (dynamic test in the Penetrometer).
Free of PCP, AZO dyes and Chromium-VI.
The casing is up to approx. 3.5 inches (90 mm) high.
Casing lining:
Hydrophobic casing leather, breathable, color black. Thickness: 0.04 – 0.05 inches (1.1 - 1.3 mm), Tested to be hydrophobic for a minimum of 120 minutes (dynamic test in the Penetrometer).
Free of PCP, AZO dyes and Chromium-VI.
The casing lining is approx. 1.1 inch (30 mm) high.
Shin protection:
Memory foam between shaft and lining, Thickness: 0.31 inches (8 mm) thick.
Ankle protection:
Combination of molded rubber protector with thickness of 0.12 inches (3 mm), upper leather, and memory foam inside.
Pull-on loop:
Two large pull-on loops at both sides made from upper leather, strengthened with textile strip.
Padding:
Soft, reticulated, breathable foams, Various densities, various thicknesses: 0.28 – 0.31 inches (7 mm – 8 mm)
Lining:
4 layer waterproof laminate with permanently welded seams, abrasion resistance, and nonwoven.
1st layer Face fabric: Thermobonded nonwoven 100% PA
2nd layer Middle layer: Nonwoven 100% PES

3rd layer Functional layer: Bicomponent membrane based on ePTFE
4th layer Backing fabric: Warp knit monofilament 100% PA
Abrasion Resistance acc. to SATRA TM 31A:
Dry: ≥ 500,000 movements
Wet: ≥ 200,000 movements.
Inside back strap / heel grip: Combination of heel strap leather, color black, Thickness: 0.04 – 0.05 inch (1.1 – 1.3 mm), and highly abrasion resistant non-woven material, color grey, Thickness: 0.05 – 0.05 inch (1.1 – 1.3 mm).

Threads:
NOMEX® threads, with a minimum dimension of Nm 45/4, water repellent, colour black.

Insole:
Moisture-absorbing insole with steel joint made from polyester non-woven, 0.1 inch (2.5 mm) thick.

Ladder shank:
Thickness ≥ 1.4 mm, stainless, 3 riffles, deflection at 400 lb (182 kg) acc. NFPA 1971-2013 not more than 1/4 inch (6 mm)

Insert/ footbed:
2-piece inlay sole (heel shell part and basis), anatomically formed, very good damping, and exchangeable, and washable at 86°F.
The separate heel shape has “Airflow channels” and provides good cushioning and foot insertion.

Heel counter:
Made of fibrous leather board, matching to the firefighting last, thickness: 0.11 – 0.12 inch (2.8 – 3.0 mm)

“Boot Jack” (heel part):
Made of thermoplastic polyurethane, moldings with ribs for better foot pull out
Thickness: 0.07 – 0.24 inch (1.8 – 6.2 mm)

Protective toe cap:
Composite/ plastic toe cap, with synthetic padding strip at the edge,
Type: “HX XR”

Outsole:
Fuel-oil resistant, non-slip and non-chalky, electrical shock resistant and heat resistant rubber shell sole, contains PU damping wedge with puncture resistant stainless steel insert, self-cleaning.

Technical Information

Upper leather with sun reflecting properties:
• Specially furnished upper leather, made during the tanning process
• Reduces the heating effect of the upper leather by direct sunlight
• Sunlight is reflected by the leather, keeping the leather and the feet cooler
• The leather has a reflection rate of over 65 % at a test wavelength of 980 nm, tested with calibrated test equipment

Outsole:
• Lightweight rubber/PU sole with high shock absorption, with a high degree of walking comfort, and excellent thermal insulation.
• Toe spring of approx. 0.59 inches (15 mm)
• Heel spring of approx. 0.50 inches (12 mm)
• Main tread depth minimum 0.22 inches (5.5 mm)
• Profile height in the waist area: 0.10 inches (2.5 mm)
• Stable, non-slipping sole edge for uneven terrain and for high lateral stability
• Self-cleaning effect of profile due to cone-shaped profile grooves
• Wear resistant rubber quality with excellent anti-slip properties
• Yellow color integrated into parts of the sole profile for better passive safety and better visibility in poor visibility conditions

HAIX® Protective sole - Steel mid sole:
• Thickness > 0.02 inches (0.5 mm)
• Stainless, corrosion-resistant
• Puncture resistance acc. to NFPA 1971 > 1212 N (272 lbf)
• Flex cracking resistance acc. to ASTM F2413-11 and CAN/CSA Z195-14 ≥ 1,500,000 flexes

Slip-out help (Boot Jack):

• Specially designed TPU heel part for easy removal of boots
• → Integrated Boot Jack

HAIX® AF System (HAIX® Ankle Flex System):

• System offering a very good heel adaptation of the boot to different instep heights and widths.
• With elastic insert which stretches when stepping into the boot and therefore enables the foot to get in.
• This elastic insert encompasses the foot firmly in the instep area and holds it in place against the rear heel cap.
• During walking, a tight heel fit has to be guaranteed. The heel may not (or only at a minimum) move up and down inside the boot
(“slipping” in the boot).

Heel and instep bend:

• Guarantees a smooth movement when kneeling, bending, and operating a machine.
• With padded leather as instep and heel bend.

Pull-on loops:

• With leather straps on both sides of the boots.
• At least 1 inch (25 mm) broad having a length of approx. 10 inches (25 cm).

Reflective strip:

• Yellow reflective ankle strip on the outside above the outsole
• Width: up to 1.38 inches

HAIX® Composite Toe Protection Cap:

• Composite toe cap acc. to ASTM F2413-11, 5.1, 5.2 and CAN/CSA-Z195-14, 4.2

Inlay sole (Insert):

• anatomically formed, very good damping, and exchangeable inlay sole
• the insert base is made of PUR-foam, laminated with Polyester, an abrasion resistant upper material has to withstand more than 100,000 scrubbing tours at the minimum (Martindale) without scrubbing through.
• The inlay is washable at 86°F (30 °C).
• The “Perfect Fit” marking provides an optimal verification of the correct shoe size

HAIX® Climate System:

• Permits air circulation with every step.
• At the top of the upper leg height , there are at least 13 ventilation holes.
• Inner lining glued to upper only periodically to prevent detachment and allow full breathability of the leather.

HAIX® Arch Support System:

• The AS system supports the natural curvature of the foot and keeps the foot in the best position for optimal foot health.

HAIX® Absorption:

• Shock absorption with cushioning wedge which is built in into the sole.

Extended Wear Program:

• Out of warranty footwear can be refurbished with original factory parts through an extended wear package. This package includes any necessary replacement or repair of stitching, profiled rubber toe caps, insoles, and retreading of soles. Footwear will be cleaned and deodorized. HAIX® footwear owners also have the option of a sole retread only or a toe cap replacement only.

Quality Assurance

Marking:

• Every shoe is equipped with a durable, long lasting, and legible label containing company specific data as serial number, size, and production site.
• Each shoe has a unique code number which permits tracking of the shoes in the production company and with consumers.

Waterproof quality:

• Each 50th pair (and/or after each disturbance of the producing process) of welded seams must be checked using an imperviousness testing device.
• The welding seam must withstand a test pressure of 1 bar for at least 5 minutes. The test result is available upon demand.
• Daily, at least one pair of shoes is checked for its waterproof quality on a walking simulator.
• Over a period of 300,000 scrubbing cycles (approx. 24 hours) the shoe should not take on any water. Test results are available on demand. On prior agreement and on demand, technically

adequate testing procedures (e.g. centrifuge) are also able to be used due to production organizational reasons.

Certification by Underwriter's Laboratories, Inc.

• NFPA 1971, Standard for Protective Ensembles for Structural Fire Fighting
• NFPA 1992, Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Material Emergencies
• ASTM F2413-11, Standard Specification for Protective Footwear
– Impact Class I/75, Compression Class C/75
– Puncture Resistance PR
– Electric Hazard Resistance (EH)
• CAN/CSA-Z195-2014, Standard for Protective Footwear, Grade 1
Electric Shock Resistance

_____COMPLY _____EXCEPTION

HELMET

Bullard Lightweight Traditional Series Helmet

General

Helmets for Structural Firefighting shall meet or exceed NFPA 1971, Standard on Protective Ensemble for Structural Fire Fighting and Proximity Fire Fighting, (Pertaining to Structural Fire Helmets). Certification/verification shall be furnished by written documentation supplied by a recognized independent third party test laboratory. A sample helmet meeting the requirements of this specification shall be supplied upon request for inspection and verification of compliance within 10 working days. The authority having jurisdiction reserves the right to accept bids submitted per their evaluation based upon compliance to the standard performance and any other applicable requirements concerning fit and function. The authority having jurisdiction reserves the right to accept the most appropriate helmet based on the above stated criteria without regard to lowest price offerings. Helmets for Structural Firefighting shall meet or exceed NFPA 1971, Standard on Protective Ensemble for Structural Fire Fighting and Proximity Fire Fighting, (Pertaining to Structural Fire Helmets). Certification/verification shall be furnished by written documentation supplied by a recognized independent third-party test laboratory. A sample helmet meeting the requirements of this specification shall be supplied upon request for inspection and verification of compliance within 10 working days. The authority having jurisdiction reserves the right to accept bids submitted per their evaluation based upon compliance to the standard performance and any other applicable requirements concerning fit and function. The authority having jurisdiction reserves the right to accept the most appropriate helmet based on the above stated criteria without regard to lowest price offerings. Helmets conforming to this specification are designed to help protect the firefighter from head and neck injuries related to structural firefighting activities. The helmet manufacturer shall be a certified ISO 9001 company to assure quality procedures and production capabilities.

Physical Configuration The basic helmet shall be a flared, rear-brim design with a length of 15-5/8", a width of 12" and a height of 7".

Shell The shell shall be comprised of a composite fiberglass with a thermoset fire-retardant resin. Color pigment shall be added to the resin as part of the manufacturing process that molds the helmet to maintain appearance by masking chips and scratches that might occur in daily wear and tear. The shell finish shall be available in white, yellow, red, and black. The edge of the composite shell shall have an aluminum reinforced, elastomeric edge beading that is secured at the rear of the brim by a brass clip and D-ring fastened by a brass rivet. The edge beading shall not melt, drip, or ignite when tested to NFPA 1971 Section 8.6 Heat Resistance requirement.

Leather Front & Holders A stamped, embossed, brass sheet front shall be provided in the form of an eagle to be attached by two solid brass bolts and nuts. The beak of the eagle shall be formed to hold the top of a leather identification shield. Two brass support arms shall fork and

extend downward from the eagle head 3-1/2” from the tip of the eagle beak to form the lower supports for attachment of the leather identification shield. An arched brass bar shall be attached to the two lower support arms of the eagle to form a cross bar support. An 8-32 threaded hole shall be provided at the lower support arms of the eagle to accept the two brass screws which hold both the cross-bar support and the leather identification shield.

Impact Liner System The impact liner shall consist of a urethane foam liner covering a black heat resistant nylon inner shell with a Heat Deflection Temperature >180°C for ASTM D648, 0.45 MPa. The urethane foam liner shall be formed without the use of CFCs to eliminate the potential for additional expansion when subjected to heat during actual use. The black inner shell shall have four 1” x 3” pieces of adhesive-backed hook material attached, two to each side, to secure the ear/neck protector at the sides of the inner shell. Crown Strap Suspension System The crown strap suspension system shall be three 3/4” nylon web straps attached to six nylon keys. The keys shall be locked into the lip of the inner shell. a 3/4” piece of adhesive-backed Velcro® hook material attached at the center rear of this component to secure the rear portion of the ear/neck protector.

Ratchet Headband The helmet shall have a quick-adjustment sizing capability by means of a ratchet adjustment system attached to a heat-resistant nylon headband. The headband shall be attached to the inner shell by four black acetal buttons which connects to two “U”-shaped thermoplastic adjustment components at the front and rear of the headband. These mechanisms shall allow the wearer six (6) unique combinations of pitch and ride height adjustments at both the front and rear of the headband for a total of thirty-six (36) discrete adjustment settings. The headband height adjuster shall permit at least 1” of travel by means of three height adjustment keys for proper fit. This adjustment shall not affect the height of the helmet on the firefighter’s head. The rear adjustment component shall have a 3/4” piece of adhesive-backed Velcro® hook material attached at the center rear of this component to secure the rear portion of the ear/neck protector.

Brow Pad The headband shall be supplied with a fire retardant (FR) cotton brow pad sewn around the perimeter, backed with foam cushion padding material at the forehead, that is removable for laundering and replacement. Attachment to the headband with stitching will not be permitted.

Chinstrap The chinstrap shall be two pieces of 3/4” black Nomex® webbing with a super tough nylon quick release buckle and a chrome-plated postman’s slide fastener. The male side of the quick-release buckle shall be anchored to the right side of the outer shell with a dielectric anchor block with dog-bone washer secured to the mounting bracket with two stainless steel screws seated in thermoplastic sleeves. For helmets with internal integrated visor, the chinstrap shall be secured on each side with three stainless steel screws: the front two screws attaching with a dielectric anchor block, the rear screw secured via acorn nut. The long portion of the chinstrap with the female side of the quick-release buckle and the postman’s slide fastener shall be attached to the left side of the outer shell in the same manner. When the chinstrap is connected and fully extended, maximum length shall be at least 24” when measured from one anchor block to the opposite anchor block.

Ear/Neck Protector The ear/neck protector shall consist of a 6 oz. rip-stop Nomex outer shell backed with three layers of FR cotton flannel for comfort and protection. A 1” strip of loop material shall be stitched in one continuous band across the top of the outer shell of the ear/neck protector for attachment to the inner shell. When properly attached to the inner shell of the helmet, the ear/neck protector shall have the following minimum coverage to the sides and rear of the helmet brim: 1. 6” from the sides of the helmet brim at the chinstrap. 2. 6-1/2” from the center rear of the helmet brim.

Eye Protection Per the requirements listed in NFPA 1971, one of the following eye protection options must be specified with the helmet:

ReTrak™ Internally Integrated Visor The visor, when not deployed, shall store in a protected fashion between the inner liner and the outer shell. The visor shield shall meet the requirements of ANSI/ISEA Z87.1, Standard for Eye and Face Protection. This certification shall meet NFPA 1971 requirements for heat and impact performance. The visor material shall be a high heat polyarylate. A nose comfort pad shall be provided. The visor shall be optically correct with a scratch resistant coating on the inner and outer surfaces. The visor shall be deployable by the wearer with a single hand. The visor shall transverse across two axes of movement to accommodate most eyeglasses, safety glasses, or other protective eyewear. No tools shall be required for the wearer to remove the eye shield for cleaning, decontamination, or replacement.

Visor must be held in place by retainer latches. Latches must be able to be actuated with the use of a single finger.
Faceshield The faceshield shall be a hard-coated polyarylate material 4” x 15” that is molded in the formed position and designed to fit the contour of the helmet brim. The faceshield shall be certified to meet the optic requirements of ANSI/ISEA Z87.1 Standard for Eye and Face Protection. This certification shall be in addition to compliance with NFPA 1971 requirements for heat and impact performance. The faceshield shall be mounted to the brim of the outer shell by a glass-reinforced, flame resistant, nylon handwheel/stainless steel threaded stud attached to a brass T-nut which is supported by washer and mounting bracket. The faceshield hardware shall be tested to NFPA 1971 Flame Resistance Test. The mounting bracket shall be secured to the brim of the outer shell by the chinstrap screws.
Goggles The goggle shall be full-perimeter filtered ventilated around the dark-gray molded frame. The lens shall be 2.8mm polycarbonate with anti-fog and anti-scratch coatings. The goggle shall be certified to meet the optic requirements of ANSI/ISEA Z87.1 Standard for Eye and Face Protection. The goggle strap system shall include a quick adjustment for length/ tension that can be used while wearing firefighter gloves. The goggle shall be retained by either a direct connection of two goggle straps that attach to the left and right sides of the inner shell system, or via a full goggle strap that fit around the outer shell.
Retro-reflective Trim The outer shell shall have 8 pentagon-shaped, fluorescent lime-yellow, retro-reflective markings equidistantly located around the circumference of the dome. The reflective materials shall be glass bead based to maximize the resistance to heat exposure experienced in firefighting. Vinyl-based reflective materials will not be considered equal. Options of colors must include lime-yellow and red orange (standard) as well as optional trim in lime-yellow, red-orange, and maple leaf.
Weight
Helmets with Internally Integrated Visors or Goggles Basic configurations of helmets with internally integrated visors or goggles shall weight less than 3.40 lbs. (54.4 oz.). In addition to the integrated visor system, these configurations shall include: composite outer shell, retro-reflective trim, edge beading with D-ring, leather front holder, impact liner system, headband and suspension system, chinstrap, and Ear/Neck Protector.
Helmets with External Faceshields Basic configurations of helmets with externally mounted faceshields shall weight less than 3.90 lbs. (62.4 oz.). In addition to the faceshield, these configurations shall include: composite outer shell, retro-reflective trim, edge beading with D-ring, leather front holder, impact liner system, headband and suspension system, chinstrap, and Ear/Neck Protector.
Warranty Bullard warrants to the original purchaser that the firefighter helmet is free of defects in materials and workmanship under normal use and service for a period of five (5) years from the date of manufacture on the helmet shell and lifetime (as defined in NFPA 1851: 10 years) warranty on the non-electronic components.

_____ COMPLY _____EXCEPTION

HOOD

Innotex Gray 25 Hood Specification

SCOPE This document specifies the design and materials used to manufacture protective hoods to be worn during STRUCTURAL FIREFIGHTING as covered by NFPA 1971. The protection offered by the hood covers the head & neck section and portion of upper torso of the body.
CERTIFICATION The design, materials, workmanship, construction and performance shall meet or exceed all National Fire Protection Association (NFPA) requirements as specified in NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018 edition. The hood shall comply with the Requirements for Optional Structural Fire Fighting Protective Hood Interface Components Providing Particulate Protection (NFPA 1971, Section 7.14). The manufacturer shall supply the Certificates of Compliance from Underwriters Laboratories showing compliance to the standard.

ISO 9001 The manufacturer shall be ISO 9001:2015 certified, thus assuring quality control procedures in the manufacturing of fire fighters protective clothing.
THL RATING The composite of outer layer and inner layer shall meet or exceed the minimum Total Heat Loss (THL) requirement (325 W/m2) of the latest edition of NFPA 1971. Minimum THL shall be of 392 W/m2.
TPP RATING The composite of outer layer and inner layer shall meet or exceed the minimum Thermal Protective Performance (TPP) requirement (20) of the latest edition of NFPA 1971. Minimum TPP shall be of 28.
LABELING The hoods shall be labeled according to the applicable standards and regulations. An identification label as well as a warning label about use and protection of the hood shall be sewn to the bottom hem of back bib of the hood. A human readable serial number shall be assigned to the hoods.
PACKAGING The hoods shall be individually put in a bag that protects them from external elements. The individual bags shall have a label that includes the hood identification number. A User Guide shall be included in the bag with each hood.
HOOD CONSTRUCTION The hood shall use a two (2) layer construction and consist of eight (8) panels for optimal fit and comfort with a full drape coverage around the shoulders. All panels shall be assembled using Blue TEX 40 Spun Nomex threads using a flat lock seam type FSa-1 with stitch type 607 for maximum comfort. When measured from top of head to bottom of front and back bib, the hood shall measure twenty four (24) inches long. The bottom hem of the hood shall be finished using a self-material bias binding. This binding is sewn with bottom cover-stitch, stitch type 406. The design of the hood shall guarantee proper seal on the face mask no matter the head movement, including when head is fully leaning backward, ensuring no exposure of chin and neck skin when the Firefighter is fully dress. The hood shall include a Particulate Blocking Barrier that provides protection throughout the entire hood.
FACE OPENING The face opening shall be circular in shape and shall have a heavy half (½) inch wide by one sixteenth (1/16) inch thick Elastic serged using stitch type 504 around the face opening. The elastic shall not stretch out when worn around the neck and offer proper seal on face mask. The elastic shall be wrapped by both the outer layer and particulate blocking barrier and secured in place by a bottom cover stitch, stitch type 406.
OUTER LAYER The outer layer shall be a 1X1 rib knit of approximately 8.0 oz/yd², constructed of a blend of 20% DuPont™ Nomex® spun yarns, with 80% Viscose (Lenzing®) spun yarns. The outer layer shall be of Grey color.
PARTICULATE BARRIER / INNER LAYER The inner layer shall consist of a trilaminate of approximately 4.1 oz/yd² containing the Stedair Prevent Particulate Blocking Barrier and shall be sewn to the interior of the hood. The Particulate Blocking Barrier shall be air permeable and block particulates from 0.1 µm to 1.0 µm (microns) by greater than 99% (NFPA 1971 requirement is a minimum of 90%) and over 99% after two hundred (200) wash cycles. The Particulate Blocking Barrier shall be made using ePTFE barrier and be laminated in between a Nomex Lenzing knit facing outward and a multifilament FR Viscose knit which is in contact with the skin for optimal comfort and moisture wicking properties.

_____ COMPLY _____EXCEPTION

GLOVE

Majestic MFA72, Kangaroo Glove, Gauntlet Cuff

_____ COMPLY _____EXCEPTION