



**TOWN OF STRATFORD
PURCHASING DEPARTMENT
STRATFORD, CONNECTICUT**

BID No. 2018-004

Issued: February 28, 2018

Subject : Protective Clothing for Structural Firefighting

The Town of Stratford through the Office of the Purchasing Agent, will receive SEALED BIDS for furnishing the equipment described in the accompanying specifications, in accordance with the instructions, conditions and reservations that follow:

A. CLOSING DATE:

Bids will be received until 3:00 pm March 15, 2018 at which time they will be publicly opened and read. All bidders are invited to attend this public opening, which will be held immediately following the closing time specified above, in the Office of the Purchasing Agent, Room 202, Town Hall, 2725 Main Street, Stratford, CT 06615.

Any bid may be withdrawn prior to the above-scheduled time for receiving bids or authorized postponement thereof. Any bids received after the date and time specified shall NOT be considered. No bidder may withdraw a bid within 45 days after the actual opening thereof.

B. INSTRUCTIONS:

Bid proposals are to be submitted (**TWO COPIES**) in a sealed envelope and clearly marked with the bid number and description on the outside of the envelope, including all outer packaging (DHL, FedEx, UPS, etc).

Bids must be delivered to:

Purchasing Department
Stratford Town Hall – Rm 202
2725 Main Street
Stratford, CT 06615

C. CONDITIONS:

Bid Surety:

A bid surety is not required.

Payment: Final payment will be made upon the acceptance of the completed work by an authorized representative of the Town of Stratford. NO partial payments will be made. Invoices covering the work specified herein should be forwarded to the Purchasing Department upon completion of the project.

Taxes: The Town of Stratford is exempt from all State and Federal taxes. Do not include these amounts in your quotation.

Addendums: All addendums will be posted on the town website, www.townofstratford.com. It is the responsibility of the bidder to check the website for any addendums before submitting their bid.

F.O.B. Destination: All prices quoted must be net delivered to destination.

Conflict of Interest: No public official or employee shall, while serving as such, have any financial interest or engage in any business, employment, transaction or professional activity or incur any obligation of any nature which is in substantial conflict with the proper discharge of his/her duties or employment in the public interest.

D. RESERVATIONS:

The Town of Stratford may consider informal any proposal not prepared and submitted to the Town in accordance with the provisions herein stated. The Town of Stratford reserves the right to reject any or all proposals or parts of proposals; to waive defects in same proposals; or to accept any proposal or part thereof deemed to be in the best interests of the Town of Stratford.

Michael Bonnar, Purchasing Agent

Detailed Technical Specifications

for

Protective Clothing for Structural Firefighting
Coat and Pant

Stratford Fire Department
2750 Main St
Stratford, CT 06615-5816



LEGAL RIGHT TO SPECIFY

The Stratford Fire Department (for the remainder of this section referred to as the “specifier”) chooses to exercise its Legal Right to Specify as determined by the U.S. Supreme Court’s affirmation of the decision handed down in the case of Whitten Corp. vs. Paddock, by the U.S. District Court of Massachusetts, the First Federal District Court, which in effect states:

- 1) That as trained professionals, specifiers make informed judgments on products that they feel best serve their needs. Also, that proprietary specifications (if chosen) DO NOT violate any antitrust laws. Technically, very few brands of material or equipment are exactly alike, and if the specifier wants to limit the specification to one source, he has the right to do so and enforce it.
- 2) Only the specifier has the responsibility and judgment for determining whether a proposed substitution is an “or equal”.
- 3) That from start to finish in the purchasing process, only the specifier can ultimately decide if another desirable product is available in lieu of the specification.
- 4) Finally, that the courts concluded “the burden is on the supplier or manufacturer, who has NOT been specified, to convince the specifier that their product is equal for the purpose of a particular project”.

The specifier has determined that this product specification shall represent the product to which all offerings shall be compared. Due to the fact that firefighting is an ULTRAHAZARDOUS, UNAVOIDABLY DANGEROUS activity, only trained Fire Department personnel with specific knowledge in the area of Personal Protective Equipment shall be allowed to make the final determining decision on the selection of the appropriate product to serve the Fire Department’s needs.



STRATFORD FIRE DEPARTMENT FIRE DEPT
PROTECTIVE CLOTHING FOR STRUCTURAL FIREFIGHTING
COAT AND PANT – MORNING PRIDE - TAILS

Date: February 28, 2018

1.0 PURPOSE AND SCOPE

This specification defines the minimum requirements for structural firefighter personal protective equipment (PPE) providing limited protection as defined by NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting*, Latest Edition. In the absence of comment on a particular point, industry standard practice shall be presumed to prevail. Every exception to specifications must be clearly spelled out at the time of bid.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

2.0 UNITS OF MEASURE

Current NFPA standards applicable to this product specification express values for measurement requirements in SI (metric-based) units, followed by US (inch-pound) approximate equivalents in parentheses. For the convenience of the fire department, this product specification *reverses the order* and presents the more familiar US approximation first, followed by the SI requirement in parentheses.

3.0 CERTIFICATION

The manufacturer must certify that the garments proposed in its bid meet or exceed all requirements of NFPA 1971. The manufacturer must also list and label this product with Underwriters Laboratories Inc. (UL) or Safety Equipment Institute (SEI), as the third party certification organization prescribed in NFPA 1971. All certification testing and test preconditioning must have been performed by an ISO 17025-certified laboratory. UL, SEI or a UL Authorized Client Test Data Program laboratory will fulfill this requirement.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

The manufacturer shall be registered to ISO 9001, *Quality Management Systems – Requirements, 2000*.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

4.0 WARRANTY

The manufacturer must provide a lifetime warranty against defects in materials and workmanship with the bid package.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

5.0 PRODUCT COUNTRY OF ORIGIN

For liability reasons, garments must be manufactured in the United States of America or Canada by companies with their assets and incorporation within the United States of America or Canada.

A tour of the facility of the manufacturer should be provided to at least one representative of the Stratford Fire department to observe the manufacture of said garments. All costs associated with travel, lodging and expenses incurred related to this tour are the sole responsibility of the manufacturer to exclude actual payroll expenses for each representative sent. This option should be available **one time over the duration of an anticipated three year bid**.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

6.0 LABELING REQUIREMENTS

Labels shall be permanently and integrally printed onto materials that meet all the requirements for labels of NFPA 1971. The garment shall be clearly labeled to fully identify the material content of all three layers: outer shell, moisture barrier and thermal liner.

In addition, each separable outer shell component shall be labeled in an obvious location including the size, date of manufacturer and an individualized serial number and bar code that matches the corresponding garment liner.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

7.0 CARE INSTRUCTIONS

The manufacturer shall provide a user information guide for the garments, which complies with user information requirements of NFPA 1971. Topics shall include, but not necessarily be limited to: pre-use information, preparation for use, inspection frequency and details, don/doff, use consistent with NFPA 1500, maintenance and cleaning, and retirement and disposal criteria and considerations.

This document shall be packaged with each garment along with a specification summary sheet describing garment custom options, sizing and production details. This written information shall be in complete compliance with NFPA 1971 requirements, and shall reference same.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

8.0 TRACEABILITY PROGRAM

The manufacturer shall have in place a computer maintained traceability program that provides for the assignment of a production control number to each garment. The traceability program must be capable of tracing the garment through production, from the bolts of cloth used in all three layers of the garment composite construction, to the assignment of the garment to the individual firefighter. This production control number shall be visibly located on the garment label and on other protected areas of garment.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

9.0 PATENT CONSIDERATIONS

The Bidder, without exception, shall indemnify and save harmless the Purchaser and its employees from liability of any nature and kind, including cost and expenses for or on account of any copyrighted, patented or un-patented invention, process, or article manufactured or used in the performance of the contract, including its use by the Purchaser. If the Bidder uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

10.0 SIZING

To ensure a perfect fit, sizing shall be determined by actual measurements taken of the firefighter by a trained measurement specialist, or sizing try-ons, or both. Sizing measurements shall be taken according to a schedule and location(s) mutually agreed between the manufacturer and the department within 96 hours of notification of said scheduling needs for the Stratford Fire department

Garments shall be available in custom sizing as follows: coat chest in 2-inch (5.1 cm) increments, coat sleeve in 0.5-inch (1.3 cm) increments, coat back length in 1-inch (2.5 cm) increments, pant waist in 2-inch (5.1 cm) increments and pant inseam in 1-inch (2.5 cm) increments. A full range of women’s sizing, on women’s patterns, must also be available. Each sleeve and inseam length shall provide 100% gradation from shoulder to wrist, and from hip to ankle, to provide proper fit for individual arm and leg lengths. Pattern tailoring to custom-fit neck, bicep, hip/seat and thigh circumferences must also be provided, when needed, at no additional charge. Neither Small-Medium-Large-Extra Large sizing nor women’s garments cut to men’s patterning are considered acceptable, since proper fit facilitates mobility and minimizes stress.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

11.0 SELF-BINDING

Liner and moisture barrier shall be stitched together and turned, then topstitched, to create a self binding edge. The extra bulk of separate binding material is specifically prohibited.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

12.0 THREAD

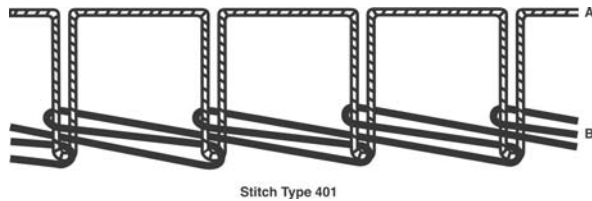
All thread used in structural seams shall be Nomex® of minimum Tex size T-70. Light colored garments and trim areas shall feature yellow thread. Black and dark garments shall feature black thread.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

13.0 STITCH METHODS

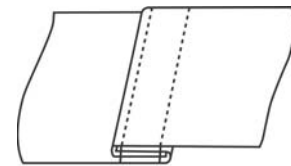
13.1 MAJOR A & B SEAMS

Except for the collar Major A seam, which is single-needle lock stitched three times, all Major A & B seams (as defined by NFPA 1971) shall be double stitched, double feld throughout all three layers (outer shell, moisture barrier and thermal liner), and shall be made with Nomex® thread, minimum Tex size T-90. Detailed stitch and seam type requirements are shown below.



Stitch Type 401

Double lockstitch, as defined by ASTM D 6193-97



Seam Type LSc-2 (Modified)

Modified Seam Type LSc-2

Double feld seam, modified only to ensure that both stitch lines penetrate all layers of cloth at joining, otherwise as defined by ASTM D 6193-97

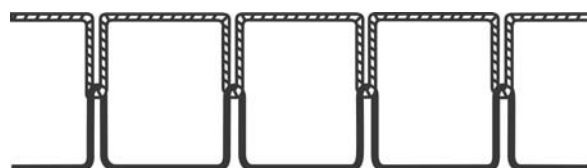
Also, all moisture barrier seams shall be tape-sealed to meet all requirements of the NFPA 1971 Liquid Penetration Resistance Test.

Does Your Bid Comply With All Aspects Of This Section?

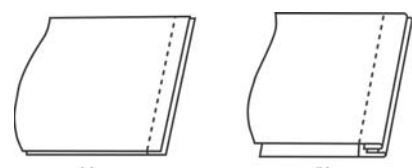
For Outer Shell:	Yes _____	No _____
For Thermal Lining:	Yes _____	No _____
For Moisture Barrier:	Yes _____	No _____

13.2 MINOR SEAMS

Most Minor seams, such as storm shields and mated hems, shall also be stitched with the specified Nomex thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301



Seam Type SSae-2

Stitch Type 301

Lockstitch as defined by ASTM D 6193-97

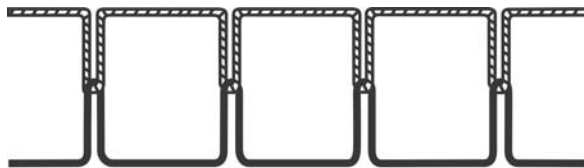
Seam Type SSae-2

As defined by ASTM D 6193-97, shown (a) before and (b) after required turning

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

13.3 POCKETS

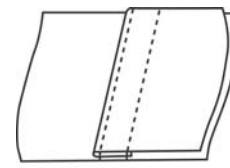
Flat garment pockets shall be stitched with the specified Nomex® thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301

Stitch Type 301

Lockstitch as defined by ASTM D 6193-97

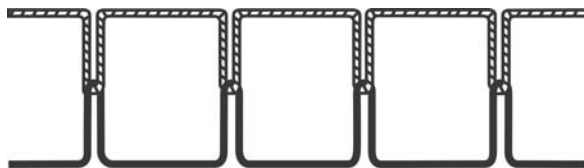


Seam Type LSd-2

Seam Type LSd-2

As defined by ASTM D 6193-97

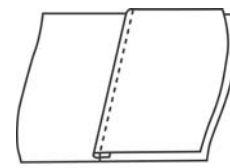
3-Dimensional pocketing shall feature these same construction details, but the reinforced single stitch Seam Type LSd-1 may be substituted for LSd-2. Detailed seam type requirements are shown below.



Stitch Type 301

Stitch Type 301

Lockstitch as defined by ASTM D 6193-97



Seam Type LSd-1

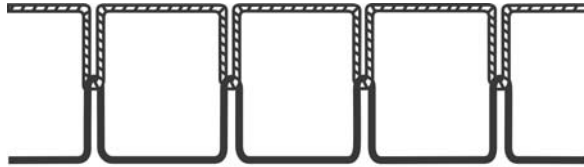
Seam Type LSd-1

As defined by ASTM D 6193-97

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

13.4 TRIM AND DANGER LABELS

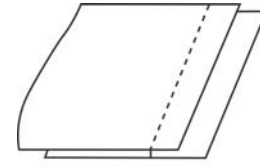
Trim and DANGER labels shall be stitched with the specified Nomex® thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301

Stitch Type 301

Lockstitch as defined by ASTM D 6193-97



Seam Type SSbd-1

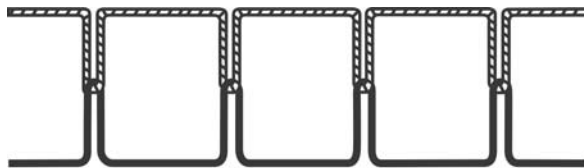
Seam Type SSbd-1

As defined by ASTM D 6193-97

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

13.5 SINGLE LAYER HEMMING AND FINISHING

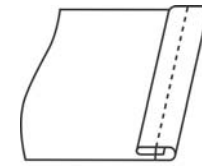
Single layer hemming and finishing shall be stitched with the specified Nomex® thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301

Stitch Type 301

Lockstitch as defined by ASTM D 6193-97



Stitch Type EFb-1

Seam Type EFb-1

As defined by ASTM D 6193-97

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

14.0 POCKETS

When exterior pockets are specified, the following requirements shall apply to all such custom option specified exterior pockets:

All pockets and flaps shall be reinforced at the top corners with bar tack stitching.

All pockets shall be reinforced with an extra layer of NFPA-certified outer shell, moisture barrier, or other NFPA-certified reinforcement material for extra durability. The exact location of the reinforcements shall be identified in the custom options section(s).

All pockets shall have a means to drain water and shall have a means of closure.

All pocket closures shall be made either with hook and loop fastener tape a minimum of 1.5 inches (3.8 cm) wide, with a flap, or with snaps. The specific placement of the closure system shall be outlined in the custom options sections.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

15.0 TAILORED GRADING OF GARMENT LININGS

All garment layers and Cold Weather Accessory Linings shall be graduated in size to fit within in each other in the overall composite without causing bunching or binding when the garment is worn.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

16.0 POINTS OF STRESS

All points of stress shall be reinforced with sturdy bartacks. Rivets are not acceptable because of their potential for rust and electrical or heat conduction.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

17.0 ASSET TRACKING SERVICES

Upon request, the manufacturer shall be capable of providing a Windows-compatible software program for the tracking of care, cleaning and maintenance of the department's PPE.

This tracking program shall meet or exceed all record-keeping requirements of standard NFPA 1851, *Standard on Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensembles*, Latest Edition

Labels on each separable part of the garment shall include a standard style interleaved 2 of 5 barcode containing (at a minimum) an individualized serial number for asset tracking purposes.

The manufacturer must be capable of providing onsite or internet training to department personnel who are involved with the daily use of this tracking program, and if there is an additional cost involved for this service, the Bidder must disclose those costs at the time of bid. *Each helmet provided should come with a helmet tracking system to include issue, advanced cleaning, and repairs listed for each helmet.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

18.0 REPAIRS AND ALTERATION SUPPORT

The manufacturer shall furnish, free of charge, reasonable quantities of NFPA 1971-certified thread, materials and other supplies to allow the department to manage its own ongoing internal

maintenance efforts. Also, the manufacturer shall provide on call at no charge, during normal business hours, a liaison for the repair department to assist the Fire Department on a telephone consultation basis, on all maintenance or repair questions that might arise. Additionally, the manufacturer shall agree to expedite, on its own cost-only basis, all repairs that must be performed at the manufacturer's plant, rather than in department, over the life of the contract.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

19.0 HIGH TEMPERATURES THERMAL INSULATING MATERIALS REQUIREMENT

Because thermally stable materials are essential to maximizing protective performance in firefighters' PPE, and because NFPA only states "minimum" performance requirements, all thermal liner or thermal enhancing materials used in the garments shall also meet the following criteria after the 500 degree F oven test:

- 1) Material shall remain intact and flexible
- 2) No portion of the material shall crack, crumble or flake

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

20.0 BREATHABILITY REQUIREMENT

Excluding where required by NFPA standard, necessary for functionality, or specifically called out in the custom option sections, all materials fabrics and reinforcements used in the construction of the garments shall be breathable and all moisture barrier material must be as specified in the Materials Section.

The breathability requirement includes but is not limited to: collar, chinstrap, storm shield, fly, water wells, front coat facings, and reinforcement cushioning where applicable.

Areas where non-breathability is allowed (absent Custom Option specifications): trim or other items placed externally on the arms that might need extra material to pass NFPA required Stored Energy Testing, hook and loop fastening, hardware or hardware backing, and pocket linings where used exterior to the outer shell.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

21.0 CONDUCTIVE AND COMPRESSIVE HEAT RESISTANCE (CCHR)

Using breathable materials as outlined in the section titled Breathable Materials, there shall be: A minimum area of 4" x 4" (10.2 cm x 10.2 cm) at the shoulders and elbows that provide a minimum of 25 CCHR at 2 psi. with a minimum 6" x 6" (15.2 cm x 15.2 cm) area at the knees that provide 25 CCHR at 8 psi.

In all three of these compression areas at least a portion of the protective area shall be made from high temperature fiber based materials sewn to the thermal liner on the inside of the liner toward the moisture barrier.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

22.0 SEAM PROTECTION AT CUFFS

At the coat and pant cuff Major A seams, the reflective trim shall stop just before the folding of the full fold seam and for additional abrasion protection be covered by a sewn on strip of polymer coated Kevlar material laid on top of the Major A seam and covering each end of the trim.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

23.0 APPLICABLE DOCUMENTS

The following standards in their active versions on the date of invitation for bid shall form a part of this specification to the extent specified herein.

<u>STANDARD</u>	<u>TITLE</u>
ASTM D 6193-97	Standard Practice for Stitches and Seams
NFPA 1500, Latest Edition	Standard on Fire Department Occupational Safety and Health Program
NFPA 1851, Latest Edition	Standard on Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensembles
NFPA 1971, Latest Edition	Standard on Protective Ensemble for Structural Fire Fighting

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

COAT – MORNING PRIDE - TAILS

To avoid liability and interface problems, coats and pants shall be procured from the same manufacturer.

24.0 DESIGN CONCEPT (STYLING)

The standard coat design shall be 6-inches (15.2 cm) longer at the rear hem than at the front hem and provide continuous and unbroken moisture barrier and thermal liner protection from the collar seam to the hem at the bottom of the coat tail. Each coat length shall be determined by each individual’s torso length to provide the coat-to-pant interface as defined by NFPA 1500. Coat design must interface properly with standard waist high bunker pants. To facilitate various body types the front to rear length differential shall be made available in 3-inch (7.5cm), 4-inch (10.0cm), 5-inch (12.5cm and 6-inch (15.0cm) “Tail Drops”.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

25.0 PATTERNING CONCEPT

Garments shall feature a tailored three-piece body (with one-piece back) and one-piece, set-in sleeve construction throughout the outer shell, moisture barrier and thermal liner layers. One-piece garment body (either all layers or some layers) will not be considered acceptable since they cannot be tailored to hard-to-fit personnel. Similarly, garments with seams in mid-back are not considered acceptable because of backbone irritation that can occur with SCBA use. To facilitate individual tailoring needs, the major A & B seams joining the one-piece back to the right and the left front body panels (outer shell and all interior layers) shall be located at the most lateral position when the coat is laid flat for inspection.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

26.0 PATTERNING REQUIREMENTS

To assure maximum freedom of movement and reduce kinetic resistance with minimum garment weight and bulk, coat patterning shall include the following features:

- Degree of slope on shoulders shall be no more than 20%.
- Hydraulic Butterfly sleeve patterning having built-in underarm bellow with 85-degree Lift Up Release Action shall be provided to minimize coat hem rise.
- Sleeve attachment shall minimize shoulder lift and allow a full 360 degrees freedom of movement.
- Coat hem rise with overhead reach of both arms not to exceed 4-inch (10.2-cm) maximal extension on properly fitted garments.
- Shell-and-liner retraction at the cuff shall not exceed 1 inch (2.5 cm) when both arms are raised overhead. This helps eliminate wrist exposure.
- 10-inch (25.4-cm) chest over-sizing shall be provided.
- Coat sweep measurements must be consistent with the chest over-size at the hem.
- Reach when measured from cuff to cuff, with coat lying flat, and standard length sleeves extended to each side, shall be provided as detailed below.
- An alteration point at the hem that during manufacture allows the sweep dimension to be adjustable in two-inch (5.0cm) increments

<u>Chest Size</u>	<u>Standard Reach</u>
40 in (101.6 cm)	66 in (167.6 cm)
42 in (106.7 cm)	67 in (170.2 cm)
44 in (111.8 cm)	68 in (172.7 cm)
46 in (116.8 cm)	68 in (172.7 cm)

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

27.0 DRAG RESCUE DEVICE (DRD)

Manufacturer shall supply an NFPA required and certified Drag Rescue Device with each coat. Each strap will be properly labeled with the chest size(s) the Rescue Strap is designed to fit.

Rescue Strap shall be designed in a fashion that it functionally provides a dynamic and articulated action and to eliminate excess strapping material hanging down the back when installed between the garment’s liner and outer shell.

The device shall be constructed using two components: a 1.75” (4.45 cm) Kevlar webbing grab handle; and a free-floating loop of Kevlar rope to go around each of the wearer’s arms/shoulder.

The grab loop shall extend upward and pass through a tunnel of outer shell and pass out through a reinforced slot in the coat outer shell just below the center rear of the collar seam. The protruding grab loop shall then fold back down and be stored by hook and loop fastener.

The end of the garb loop shall be covered with an outer shell flap sewn below the held in place with hook & loop fastener to reduce the chances of snagging the grab loop by accident.

The Grab Handle shall be constructed of soft and pliable Kevlar webbing meeting the following specifications:

Description	100% Kevlar Double Plain Weave
Width	1.75" (4.45 dm)
Thickness	0.064" ± 0.010" (.163 cm ± .0254 cm)
Tensile	5,000 lb minimum (22.24 kN)

To facilitate comfort and safety the free-floating loop shall be constructed of soft and pliable Kevlar rope meeting the following specifications:

Description	100% Kevlar Tubular Plain Weave - Natural
Width	.038" (.097 cm)
Thickness	0.144" ± 0.005" (.366 cm ± .013 cm)
Tensile	3500 lb minimum (15.57 kN)

Rescue Strap shall be sewn with Kevlar thread

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

28.0 LINER ATTACHMENT

The completed liner-moisture barrier assembly shall attach by means of four (4) evenly spaced glove snaps to each outer shell front facing to reduce weight, bulk and stiffness. To provide continuous moisture and pathogen protection at the front, the liner shall be positioned so it is sandwiched between the coat front facing and a breathable pathogen shield. The use of zippers or hook and loop fasteners in this area is not allowed due to their added weight, bulk and stiffness.

Liner sleeves shall be attached at the cuff by means of snaps on two (2) sets of Nomex tabbing per liner cuff. The male and female snap parts shall both be located on Nomex tabbing that is sewn to the liner at the cuff. A separate piece of Nomex tabbing shall be sewn to the shell cuff and fashioned as a loop without any snap hardware.

To provide continuous moisture protection and pathogen protection at the neck, the liner shall be positioned so that it is sandwiched between an outer-facing pathogen shield and an inside facing of the specified outer shell material.

Attachment at the neck shall be by means of four (4) glove straps that penetrate only the layer of the attachment strip facing towards the liner, so that metal contact at a wearer's neckline is completely eliminated.

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

29.0 COAT CERTIFICATION LABEL ON LINER

The coat certification label on the liner shall be affixed to the inside right body panel of the liner in a fashion to provide an inside liner pocket.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

30.0 COAT CERTIFICATION LABEL ON SHELL

The coat label on the shell shall be affixed in a conspicuous location once the liner is removed.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

31.0 COLLAR

The collar shall be of layered construction, consisting of a layer of waterproof moisture barrier and a layer of NFPA 1971-certified insulating material, sandwiched between two (2) layers of specified outer shell material. NFPA compliant collars shall be at least 3 inches (7.6 cm) high while CGSB compliant collars shall be at least 4 inches (10.2 cm) high. The design shall incorporate in its patterning a natural contour that will allow proper fit and performance in the standing (upright) or stowed position.

There shall be no vertical or horizontal seams or stitching in the body of the collar. The left outside of the collar shall have a sewn piece of 2-inch x 2-inch (5.0-cm x 5.0-cm) hook fastener tape for chinstrap-to-collar closure. The fastener tape shall be located rear ward far enough to allow for the location of a forward mounted microphone tab if so desired. Each collar shall be graded to individual coat sizes.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

32.0 CHIN STRAP

The chinstrap shall be of layered construction identical to that of the collar configuration described in the previous paragraphs. Chinstrap shall be black in color of a crescent shaped design with *minimum dimensions of*: 9 inches (22.5 cm) long across the top corners, 10.5 inches (26 cm) long across the bottom corners, and 3.5 inches (8.75 cm) in vertical height, measured at the center. The leading underside edge of the chinstrap shall have a 4.0-inch-wide (3.8 cm-wide) horizontal strip of loop fastener tape to ensure an adequately adjustable closure and to ensure passage of the Whole Garment Liquid Penetration Test.

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

33.0 HANG-UP LOOP

An 80-pound (36.3 kg) tear strength hang-up loop shall be provided at the interior collar seam. The loop shall be constructed of triple layers of the specified outer shell material, lockstitched to the coat. Webbing is not acceptable.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

34.0 SLEEVES

To prevent stove-piping the sleeves shall be individually graded by coat size and sleeve length. For maximum freedom, the sleeve design shall feature extra full cut one-piece set-in sleeves with built-in bellows. To reduce the chances of possible top seam failure in that high thermal exposure area, the sleeve Major seams shall follow the underside of the arm and shall not cross over the outside of the elbow joint. Sleeve seam and sleeve attachment to coat body in all layers shall be 100% double feld and double stitched for maximum.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

35.0 INNER WRISTLET & WATERWELL

Every coat shall feature a minimum 4.5-inch (11.4-cm) long, double-layer knit inner wristlets protected by a flame-resistant and moisture-resistant inner waterwell. The inner wristlet shall be sewn to the thermal liner sleeve end (not to the outer shell). The specified moisture barrier shall form an inner waterwell with an elastic gather sewn to the moisture barrier sleeve end.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

36.0 EXTERNAL WRISTLET

Every coat shall feature a 2.5-inch (6.4 cm) long knit outer wristlet, which shall be mounted to the end of each outer shell sleeve to prevent liquid and debris movement up the sleeve between the outer shell and the moisture barrier/ thermal liner assembly.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

37.0 FRONT CLOSURE PROTECTIVE OVERLAP

Two-inch-wide (5.1 cm-wide) panels of breathable moisture/ pathogen barrier and specified thermal liner materials shall be provided at coat front closure facings to preclude any type of break in the protective envelope. The entire circumference of a closed coat shall consist of specified shell, moisture barrier and thermal liner materials.

An additional layer of breathable moisture/ pathogen barrier material shall be sewn between the 2-inch-wide (5.1 cm-wide) panels and outer shell coat body for the entire length of coat front in a fashion to prevent liquid entry during the NFPA 1971 Whole Garment Liquid Penetration Test.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

38.0 COMPOSITE MATERIALS

The specifier has determined the ONLY acceptable combination of materials. Any substitution of materials shall be grounds for immediate disqualification of bid without further consideration.

38.1 OUTER SHELL

Pioneer - Kevlar/Nomex Blend, 6.6 osy. Twill Weave - Black

38.2 THERMAL LINING

7.7 oz; spun Meta Aramid 75% and Filament 25% 1 layer of 2.3oz. and 1 layer of 1.5oz. Meta Aramid/Para Aramid spunlace with a 3D pattern.

38.3 MOISTURE BARRIER

Crosstech Black Type 2F 100%Nomex IIIA woven Pajama-check, 4.7 osy (Berry Compliant)

Does Your Bid Comply With All Aspects Of This Section?

For Outer Shell:	Yes _____	No _____
For Thermal Lining:	Yes _____	No _____
For Moisture Barrier:	Yes _____	No _____

39.0 COAT CUSTOM OPTIONS TO BE PROVIDED

Instructions in this custom options section that contradict earlier specifications or statements supersede those earlier specifications or statements as long as the required certifications are not compromised.

*** OPTION 1 ***

Std -Inspection Port Liner
Std-Liner detachable
Std -SET Thermal Enhancement
Std -Liner Label Pocket
(R01) Std-Articulating Rapid Rescue Strap
Std -Take Up Straps - 2 Postman
Take Up Straps Placed Above Pockets
Take Up Straps Moved Forward
Std -Trim Double-Stitched
Trim -(2) NFPA Hi-viz -lime Oralite Brilliance (3")
Back Patch - Pioneer - Black
 < STRATFORD >9 -3" sewn letter -lime Brilliance
Hem Patch w/Velcro - Pioneer - Black
 - FF LAST NAME (1st INITIAL when specified) or RANK
 - Avg. 8 letters
 8 -2" sewn letter -lime Brilliance
(O17) Embroidered American Flag - stars towards front - right sleeve
(E10) 2" Velcro/**Zipper Coat Closure**
(Q02) LTO Comfort Chinstrap black in color
Black Knit Material on Comfort Chinstrap
Extended Dead Air Panels
Coat Cuffs - Arashield - Black
Shingle Cuffs - Pioneer Black
X-Large Half Hi Bellows Pockets Pioneer - Black - 7 x 10 x 2
Handwarmers behind Bellows Pockets - Fleece
Flap .5" Wider than Bellows Pockets, Both Sides
Reinforced - 5" Ext. - Arashield - Black
Mic Tab - Pioneer - Black - left collar -topside - 0.5 x 2.5
Mic Tab - Pioneer - Black - right collar -topside - 0.5 x 2.5
Radio Pocket - Pioneer - Black - left chest - 8 x 3 x 2.5
Notch Flap -Left - left chest
Lanyard Flashlight Clip -Style #2 -Pioneer Black - right chest
 - Strap to be 2.5" X 9"
Liner Pocket -Quantum 3D Meta Armaid/2-Layer E-89 - on liner - 9 X 9.5
 - Left side
Line Liner Pocket with Neoprene - on liner
(S09) - 2 additional snap tabs, one on each side seam
Sub Wristlets -Long Hybrid with tabs -Nomex - black

****OPTION 2 *****

Std -Inspection Port Liner
Std-Liner detachable
Std -SET Thermal Enhancement
Std -Liner Label Pocket
(R01) Std-Articulating Rapid Rescue Strap
Std -Take Up Straps - 2 Postman
Take Up Straps Placed Above Pockets
Take Up Straps Moved Forward
Std -Trim Double-Stitched
Trim -(2) NFPA Hi-viz -lime 2-tone Oralite Brilliance (3")
Back Patch - Pioneer - Black
 < STRATFORD >9 -3" sewn letter -lime Brilliance
Hem Patch w/Velcro - Pioneer - Black
 - FF LAST NAME (1st INITIAL when specified) or RANK
 - Avg. 8 letters 8 -2" sewn letter -lime Brilliance
(O17) Embroidered American Flag - stars towards front - right sleeve
(E08) Chicago Closure -**2" Velcro/Hooks & Dees**
(Q02) LTO Comfort Chinstrap
Black Knit Material on Comfort Chinstrap
Extended Dead Air Panels
Coat Cuffs - Arashield - Black
Shingle Cuffs - Pioneer Black
X-Large Half Hi Bellows Pockets Pioneer - Black - 7 x 10 x 2
Handwarmers behind Bellows Pockets - Fleece
Flap .5" Wider than Bellows Pockets, Both Sides
Reinforced - 5" Ext. - Arashield - Black
Mic Tab - Pioneer - Black - left collar -topside - 0.5 x 2.5
Mic Tab - Pioneer - Black - right collar -topside - 0.5 x 2.5
Radio Pocket - Pioneer - Black - left chest - 8 x 3 x 2.5
Notch Flap -Left - left chest
Lanyard Flashlight Clip -Style #2 -Pioneer Black - right chest
 - Strap to be 2.5" X 9"
Liner Pocket -Quantum 3D Meta Armaid/2-Layer E-89 - on liner - 9 X 9.5
 - Left side
Line Liner Pocket with Neoprene - on liner
(S09) - 2 additional snap tabs, one on each side seam
Sub Wristlets -Long Hybrid with tabs -Nomex - black

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

PANTS – MORNING PRIDE - TAILS

To avoid liability and interface problems, coats and pants shall be procured from the same manufacturer.

40.0 DESIGN CONCEPT (STYLING)

The pant shall be of a traditional waist-high-only design to facilitate full torso ventilation of front, rear and sides of trunk for maximum body cooling effect to help minimize firefighter heat stress. For this reason, other than waist-high pants shall not be considered acceptable or “equal,” since additional trunk wrapping traps heat and moisture, increasing heat stress buildup while also creating mechanical resistance when covering the natural torso flexion point of the waist.

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

41.0 PATTERNING CONCEPT

Garments shall feature a tailored four-piece body plus a one-piece, over-sized crotch diamond pattern in the outer shell, moisture barrier and thermal liner.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

42.0 PATTERNING REQUIREMENTS

To assure maximum freedom of movement and reduced kinetic resistance with minimum garment weight and bulk, the pants patterning shall:

- Incorporate hydraulic, swivel action leg-to-torso interfaces.
- Incorporate an oversized diamond-shaped crotch insert, graded according to size, for maximum action stride, optimum stepping reach and no “in-crotch” seaming.
- In the outer seam hip area, in all three layers shall, incorporate convex seam technology to provide for generous seat expansion when squatting and crawling without creating unsightly bagginess.
- That the diamond extend from just above the left knee to just above the right knee, and be centered equally from front to rear. Width of diamond at top of crotch shall be approximately proportionally graded to waist size and inseam length.
- Ensure that pants rest in normal body line balance of 22 inches (55.9 cm) center distance at the cuff for 42 waist, 30 inseam pants.
- Provide for an alteration point at the hips so that during manufacture the hip dimension can be adjustable in two-inch (5.0cm) increments

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

43.0 SUSPENDER BUTTONS

Eight (8) heavy duty, rust-resistant suspender buttons shall be positioned around the waist. Suspender buttons shall be mounted through waistband of triple layer outer shell material that is internally reinforced with an additional band of coated needlepunch aramid.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

44.0 LINER ATTACHMENT

The moisture barrier and thermal liner assembly shall be attached to the outer shell at the waistband with seven (7) evenly-spaced glove snaps. Liners shall be attached at the cuff by means of snaps on two (2) sets of Nomex tabbing per liner cuff. The male and female snap parts shall both be located on Nomex tabbing that is sewn to the liner at the cuff. A separate piece of Nomex tabbing shall be sewn to the shell cuff and fashioned as a loop without any snap hardware.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

45.0 PANT CERTIFICATION LABEL ON LINER

The pant certification label on the liner shall be affixed to the inner left hip area of the liner.

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

46.0 PANT CERTIFICATION LABEL ON SHELL

The pant label on the shell shall be affixed to the facing at the fly..

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

47.0 FLY FRONT

The outer shell fly shall be lockstitched to the left side of the front opening and shall be in proportion to waist size and crotch rise in both length and width. Fly inner lining shall extend at least 2 inches (5.1 cm) to the left of the outer shell fly attachment seam and shall be constructed of certified breathable moisture barrier and thermal liner. The right front pant opening shall have an internal facing extending at least 2 inches (5.1 cm) to the right and constructed of specified fabric. In combination with the liner, the system shall offer 360-degree protection without gaps during movement of the outer shell moisture barrier and thermal liner. Closure shall be by means of a minimum 1.5-inch-wide (3.8-cm-wide) hook and loop fastener, and all construction techniques used shall provide liquid penetration protection under the NFPA 1971 Whole Garment Liquid Penetration Test. The fly shall be graded to the waist size of garments and crotch rise.

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

48.0 COMPOSITE MATERIALS

The specifier has determined the ONLY acceptable combination of materials. Any substitution of materials shall be grounds for immediate disqualification of bid without further consideration.

48.1 OUTER SHELL

Pioneer - Kevlar/Nomex Blend, 6.6 oz. Twill Weave - Black

48.2 THERMAL LINING

7.7 oz.; spun Meta Aramid 75% and Filament 25% 1 layer of 2.3oz. and 1 layer of 1.5oz. Meta Aramid/Para Aramid spun lace with a 3D pattern

48.3 MOISTURE BARRIER

Crosstech Black Type 2F 100%Nomex IIIA woven Pajama-check, 4.7 oz (Berry Compliant)

Does Your Bid Comply With All Aspects of This Section?

For Outer Shell:	Yes _____	No _____
For Thermal Lining:	Yes _____	No _____
For Moisture Barrier:	Yes _____	No _____

49.0 PANT CUSTOM OPTIONS TO BE PROVIDED

Instructions in this custom options section that contradict earlier specifications or statements supersede those earlier specifications or statements as long as the required certifications are not compromised.

- (J02) STD Narrow Fly -2" Velcro w/ Hook & Dee
- (S19) Fly to Close Right Over Left
- Std -Inspection Port Liner
- Std -Liner Detachable
- Std -Trim Double-Stitched
- Trim -(7) NFPA -lime 2-tone Oralite Brilliance (3")
- (O03) Angled Cuffs - Arashield - Black
- Pant Cuffs - Arashield - Black
- BiFlex Heat Channel Knees Replaceable -Pioneer - Black
- Horizontal Strips in BiFlex knees to be Arashield - Black
- Knees -Stitched Twice
- Take Up Straps - 2 Postman - Pioneer - Black
- Bellows Pocket (1) w/ Universal Escape System Adaptation - right leg - 9 x 9 x 2
- **Pocket flap to be 2" shorter than standard**
- X-Large Bellows Pocket (1) - Pioneer Black - left side seam - 10 x 10 x 2
- Bartack All 4 Corners of Bellows Pocket (1) - left side seam
- Pocket (1) w/ Reinforced - 5" Ext. Arashield - Black - left side seam
- 1 Pocket w/ Lined with Poineer - Black - left side seam
- Snap Style Suspender Attachment
- Exterior Harness Pants -No Harness
- (H28) Add 1 Snap on Each Velcro Harness Tab
- Dyna-Fit Suspenders w/ Snap Attach & Quick Adjust Installed
- Dyna-Fit w/ lime Oralite Brilliance Trim
- Suspender Padding

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

50.0 STRUCTURAL FIREFIGHTING BOOTS (Pro Warrington 5555 NightHawk 14")

Certifications

NFPA 1971-2013 - Structural FF
NFPA 1992-2012 - Liquid Splash

COMPOSITE MATERIALS

The specifier has determined the ONLY acceptable combination of materials. Any substitution of materials shall be grounds for immediate disqualification of bid without further consideration.

1. Full grain cowhide leather to provide flame and water resistance
2. Inserts to provide arch support and enable all day wear applications.
3. Omni directional, self cleaning lugs and notched sidewalls.
4. Reflective trim to provide visibility.
5. Leather reinforced NOMEX pull straps
6. Shaft openings that increase with foot size to eliminate need for wide calf application.
7. Sizing to be measured to each person being fitted with same timeline of gear measurement.

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

51.0 STRUCTURAL FIREFIGHTING HELMET (Morning Pride)

Certifications

NFPA 1971-2013 - Structural FF
NFPA 1851, 2014 Edition "Standard for the Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Firefighting"

COMPOSITE MATERIALS

The specifier has determined the ONLY acceptable combination of materials. Any substitution of materials shall be grounds for immediate disqualification of bid without further consideration.

1. Built in Goggle retention system
2. Usable hang up loop
3. Adjustable head band to fit larger range of sizes
4. Protected suspension straps
5. Black Nomex ear flaps
6. EZ clip ,reversible chinstrap with quick release buckle and postman slide
7. Reflexite lime trapezoids
8. Gold plated Traditional eagle front holder
9. Edge beading
10. Lightweight in nature constructed of composite fiberglass
11. Matte finish of flat black to reduce visibility of scratching.

Does Your Bid Comply With All Aspects of This Section? Yes _____ No _____

Special instructions to vendor /manufacturer

1. Garment training and support

OSHA requires employees be trained on the capabilities and limitations of their Personal Protective Equipment.

The selected vendor shall provide the following:

On-site care and maintenance training shall be provided by the manufacturer to the Stratford Fire Department. Training shall be in compliance with NFPA 1851, current edition, at the conclusion of which each participant shall receive a certificate of completion. **This training shall be made available to all four platoons with an additional alternative day for members not present on shift for a total of 5 days/sessions.**

An on-site OSHA mandated training class on the **Knowing the Limits of Your PPE** shall be provided at no charge. The training shall include structural firefighting helmet, coat, pant, gloves hoods and boots. At the conclusion of said training each participant is to receive a certificate of training.

In the event that the class is online each member should have ability to log in under an individual profile and receive a certificate.

2. Delivery location.

All garments shall be delivered to 2750 Main Street Stratford CT 06615

3. Test Gear

Vendor shall provide one jacket, pant, helmet and boots constructed to these specifications, with bid for view by Stratford Fire Department. These items will not be returned to the manufacturer. **Failure to provide this could result in the disqualification of a vendor for no other reason.**

4.Striping for Chief/ officers

Vendor shall provide the option at time of ordering gear to have striping in the following configuration.

Orange/silver /orange

5.Duration of bid

The bid price shall remain constant for a three year period from the date of acceptance and award.

THIS TEST SET SHOULD BE PROVIDED WITHIN 30-45 DAYS OF ACCEPTANCE OF BID

PERCENTAGE SPECIFICATION COMPLIANCE CALCULATIONS

	Total Number "Yes/No" Questions		
	Total Number of Yes Answers		
	Total Number of No Answers		
% Specification Compliance: $[(\text{Total Yes Answers}) \div (\text{Total Answers})] \times 100\%$			%
Each "No" answer requires a full written explanation. Each "Yes/No" question not checked where provided will be considered a "No" answer.			

TOWN OF STRATFORD
BID 2018-004
Protective Clothing for Structural Firefighting
BID FORM

Bid Price for One Coat : \$ _____

Bid Price for One Pants : \$ _____

Bid Price for One pair of Boots : \$ _____

Bid Price for One Helmet : \$ _____

Bid Price for one set of Coat, Pants, Boots and Helmet : \$ _____

.Supply make/model and specs for equipment.

Return answers to questions in bid with your response.

Company Name: _____

Address: _____

Phone: _____ Fax: _____ Email: _____

Authorized Signature: _____ Date: _____

Name: _____

Title: _____

References (At least three with contact information):
