SPECIFICATION 5100-91F
February 1994
Superseding 5100-91E
January 1990

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

SPECIFICATION

SHIRT, FLAME-RESISTANT ARAMID

1. SCOPE

1.1 Scope. This specification covers the requirements for flame-resistant shirts.

1.2 Classification. The shirt shall be of one type in the following sizes (see 6.2):

	Dimensions (inches)	
Nominal size	Neck size	Sleeve length
Extra Small	13-1/2	31
Small	14-1/2	32
Medium	15-1/2	33
Large	16-1/2	34
Large-Long	16-1/2	36
Extra Large	17-1/2	35
Extra Large-Long	17-1/2	36

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the invitation for bids or request for proposals (see 6.2).

SPECIFICATIONS

FEDERAL

A-A-50198	-	Thread, Gimp, Cotton, Buttonhole
A-A-55126	-	Fastener Tapes, Hook and Pile, Synthetic
V-B-871	-	Sewing Hole, and Button, Staple, (Plastic)
DDD-L-20	-	Label: For Clothing, Equipage, and Tentage (General Use)
PPP-B-636	-	Boxes, Shipping, Fiberboard

MILITARY

MIL-C-43594	-	Cloth, Interlining, Polyester
MIL-T-83193	-	Thread, Aramid, Spun Staple

USDA FOREST SERVICE

5100-87	-	Cloth, Shirting, Aramid

STANDARDS

FEDERAL

FED-STD-123	-	Marking for Shipment (Civil Agencies)
FED-STD-376	-	Preferred Metric Units for Use By the Federal Government
FED-STD-751	-	Stitches, Seams, and Stitchings

MILITARY

MIL-STD-105	-	Sampling Procedures and Tables for Inspection By Attributes

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Ave., Philadelphia, PA 19111-5094. Copies of Forest Service specification 5100-87 are available from USDA Forest Service, Missoula Technology and Development Center, Building 1, Fort Missoula, Missoula, MT 59801-7294.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those in effect on the date of the invitation for bids or request for proposals (see 6.2).

DRAWINGS

USDA FOREST SERVICE

MEDC-647- Patterns, Shirt, Men's, M-1979

(Address requests for copies to USDA Forest Service, Missoula Technology and Development Center, Building 1, Fort Missoula, Missoula, MT 59801-7294.)

2.2 Non-Government publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the invitation for bids or request for proposals (see 6.2).

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

Photographic Comparative Rating of Single and Double Needle Seams (Method 88B, two photos)

(Address requests for copies to the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3951- Standard Practice for Commercial Packaging

(Address requests for copies to the American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103-1187.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

(Address requests for copies to the American Trucking Association, Inc., Traffic Department, 1616 P St. NW, Washington, DC 20036.)

SEARS, ROEBUCK AND COMPANY

Sears Fabric Defect Replica Scales

(Address requests for copies to the Sears, Roebuck and Co., "Fabric Defect Replica Kit," Department 817 (ATTN: FC 554B), 3333 Beverly Rd., Hoffman Estates, IL 60179.)

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification

(Address requests for copies to Uniform Freight Classification Committee, Room 1106, 222 S. Riverside Plaza, Chicago, IL 60606.)

(Non-Government standards and other publications normally are available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. Unless otherwise specified (see 6.2), sample shirts shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.2 Material and components. Materials and components shall be as specified herein and in the applicable drawing: MEDC-647.

3.2.1 Basic material. The basic material shall be in accordance with the requirements specified in Forest Service specification 5100-87.

3.2.2 Collar interlining. It shall be optional to the contractor to use either of the following materials for the collar interlining: basic material (see 3.2.1); or polyester interlining conforming to MIL-C-43594.

3.2.3 Thread. The aramid thread shall conform to Tex size 35 and Tex size 50 of MIL-T-83193. At the contractor's option, type II aramid thread may be substituted as follows: Tex size 27 in lieu of Tex size 35; Tex size 45 in lieu of Tex size 50. Any type II thread used shall meet the requirements of MIL-T-83193 and table I below. Thread color shall be a good approximation of the basic material (see 3.2.1).

TABLE I. Physical requirements, Type II thread

Nominal Tex Size	Plies final	Length/lb (yd, min-max)	Break Strength (lb, min orig)	Elongation (% max)
21	2	21,800-23,400	1.5	20
27	2	16,200-18,000	2.2	20
45	3	9,200-10,200	4.0	20
60	3	7,800-8,600	5.0	20
70	3	6,200-7,000	6.0	20
90	4	4,700-5,200	8.0	20

3.2.4 Gimp. The cotton gimp for reinforcing buttonholes shall conform to type I or II, Ticket No. 8 of A-A-50198. The color shall be a good approximation of the basic material (see 3.2.1).

3.2.5 Buttons. The buttons shall conform to type II, class D, style 26, size 30-line of V-B-871. The color shall be a good approximation of the color of the basic material (see 3.2.1) and shall have a glossy finish.

3.2.6 Fastener tape, hook and pile. The hook and pile fastener tape shall conform to 1 inch width, type II, class 1 of A-A-55126. The color of the tape shall be a good approximation of the color of the basic material (see 3.2.1).

3.2.7 Labels. Each shirt shall have two sewn-on labels: a combination identification/instruction/care label and a woven size label.

3.2.7.1 Combination label. The combination identification/instruction/care label shall conform to type VI, classes 1 and 3 combined of DDD-L-20. Fastness to laundering requirements of DDD-L-20 shall apply. The body of the combination label shall be as follows:

SHIRT, FLAME-RESISTANT (ARAMID)
Contract Number: [ ]1/
NSN: [ ]1/
[Name of Manufacturer]1/
Date of Manufacture: [Month and year] 1/
[Size] 1/

a. Wear as outer garment.
b. Wear sleeves down with tabs engaged.
c. Wear bottom of shirt tucked in jeans.
d. Machine wash hot. **NO** bleach.
e. Wash separately from flammable, lint-producing fabrics.
f. Rinse thoroughly. Soap and detergent residues will burn.
g. **DO NOT STARCH**. Starch will burn.
h. Tumble dry medium. Remove garment promptly.
i. Use fabric softener in wash or static-reducing product in dryer.

DO NOT REMOVE THIS LABEL

1/The manufacturer shall insert the applicable information.

3.2.7.2 Woven size label. The woven size label shall finish a minimum of 1 inch wide and shall be long enough to allow a 3/8 inch seam allowance at each end. The ground tape shall be woven of filament polyester in a taffeta weave, color white. The letters shall be a minimum of 3/8 inch high and a minimum 3/16 inch wide. The lettering thread shall be 150 denier rayon or polyester and shall be a solution dyed black. The size label shall consist of the letter designations for sizes Extra Small, Small, Medium, Large, Large-Long, Extra Large, and Extra Large-Long, which shall be XS, S, M, L, L-L, XL, and XL-L respectively. An option to use a second "L" label for the long sized shirts is acceptable provided it is placed to the immediate right of an L or XL size label. Fastness to laundering requirements of DDD-L-20 shall apply.

3.3 Design. The shirt shall be a single-breasted design, button through front with a rolled collar and a straight cut bottom. It has two breast patch pockets with flaps. Fastener tape closures are used on the pocket flaps and sleeve cuffs.

3.4 Patterns. Standard patterns (MEDC-647) will be furnished by the Government. The standard patterns shall not be altered in any way and shall be used only as a guide for cutting the contractor's working patterns. The contractor's working patterns shall be identical to the standard patterns. The standard patterns provide an allowance of 3/8 inch for all joining seams, unless otherwise specified.

3.4.1 List of pattern parts. The components of the shirt shall be cut from materials as specified in accordance with the pattern parts indicated below:

TABLE II. List of pattern parts

Material	Pattern nomenclature	Cut parts
Basic material (see 3.2.1)	Front	2
Basic material	Back	1
Basic material	Sleeves	2
Basic material	Collar	2
Basic material	Breast pocket	2
Basic material	Breast pocket flap	2 or 4
Basic material	Sleeve tab	2
Basic material or polyester (see 3.2.2)	Collar interlining	1

3.5 Construction.

3.5.1 Stitches, seams and stitching. Stitch, seam, and stitching types, as specified in table III, shall conform to FED-STD-751. When two or more seam or stitch types are given for the same part of an operation, any one of them may be used. Where stitch type 401 is used, the chain, or underside of the stitch, shall be on the inside of the shirt. Seam allowances shall be maintained with seams sewn so that no raw edges, runoffs, twists, pleats, puckers or open seams will result. All seams shall start and finish evenly. Thread tension shall be maintained so that there is no tight or loose stitching.

3.5.1.1 Safety and overedge stitching. The gage of safety stitching shall be 5/16 to 3/8 inch. The gage of overedge stitching and the overedge portion of safety stitching shall be 3/16 to 1/4 inch. The guides and knives for the safety stitch and overedge machines shall be set to trim only the ravelled edges of the fabric.

3.5.1.2 Thread breaks and ends of seams. Ends of all seams and stitching produced with 301 stitch type, when not caught in other seams or stitching, shall be backtacked not less than 1/2 inch. Thread breaks (all stitch types) shall be secured by stitching back of the break not less than 1/2 inch. Skipped stitches and thread breaks for 401 stitch type may be repaired using 301 stitch type. The ends of a continuous line of stitching (except labels and automatic stitching) shall be overlapped not less than 1/2 inch. The ends of labels and automatic stitching shall be overlapped not less than three stitches.

3.5.1.3 Stitches per inch. The minimum and maximum number of stitches per inch shall be as specified in table III.

3.5.2 Puckering. In the course of the sampling examination, seams suspected of being puckered shall be examined at a distance of 3 feet in comparison with the AATCC photographic comparative rating (see 2.2) for seams. Puckering of 50 percent of the suspected seam that equals or is worse than class 3 for single needle seams shall be scored as a puckered seam.

3.5.3 Buttonholes. The buttonholes shall be the cut-after eyelet end taper bar type, worked over gimp with the end tacked with not less than four stitches not counting the cross-over stitch. The stitching shall be caught in the fabric with the purling on the outside. The finished cut length of the buttonholes shall be 3/4 to 7/8 inch.

3.5.4 Bartacks. Unless otherwise specified, bartacks shall be as follows:

		Tolerances		Stitches
Length	Width	Length	Width	per bartack
1/2 inch	1/8 inch	± 1/16 inch	±1/32 inch	28

Bartacking shall be free from thread breaks and loose stitching.

3.6 Manufacturing operations. The shirt shall be made in accordance with the manufacturing operation requirements specified in table III. The manufacturer is not required to follow the exact sequence of operations unless otherwise specified within table III.

3.6.1 Figures. Figures 1, 2, and 3 are furnished for information purposes only. In the event of inconsistencies between the specification and the figures, the specification shall govern.

3.6.2 Shade and size marking. The cut components of the shirt shall be marked or bundled to ensure a uniform shade and size throughout the garment. Any method of marking may be used except:

a. Corrosive metal fastening devices.
b. Sew-on type tickets.
c. Adhesive type tickets that discolor the material or leave traces of paper or adhesive on material after ticket removal.

5100-91F Table III. Manufacturing operations requirements

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN or LOOPER
1.	Cutting					
	a. Spread the material without tension. Shall finish on the outside of the shirt.					
	b. Cut the shirts in strict accordance with the patterns furnished which show size, shape, war directional lines and placement of pockets, also notches for the proper assembly of all parts. If the edge of one facing is raw, cut, or frayed, both facings on the same shirt shall be overedged the entire length of the facing (see operation 14a).					
	c. Cut all parts of the shirt from the same piece of basic material except collar interlining (see 3.2.2), sleeve tabs, and breast pocket flap liner (see operation 6a (two piece method)), which shall approximate the shade of the garment.					
	d. Cut the stripping for sleeve tab of sufficient width and length to comply with operation 8. Stipping may be cut from ends and shall approximate the shade of the garment					
	e. Cut two pieces of pile tape and two pieces of hook tape, 1-1/2 ±1/8 inches long, for the breast pocket closure (operations 5b and 6c)					

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD NEEDLE	THREAD BOBBIN or LOOPER
	f. Cut two pieces of pile tape 6 ±1/4 inches long for sleeve (operation 7b), and two pieces of hook tape 1-1/2 ±1/8 inches long for sleeve tab (operation 8b.					
2.	Replacement of Damaged Parts					
	a. Re-cut, in process, any parts containing damages such as a hole, smash, multiple float or slub.					
	b. Replace any part damaged during the manufacturing process by needle chew, cut, tear, hole, or exposed drill hole.					
3.	Shade Marking (see 3.6.2)					
	Mark, ticket, or bundle all parts of the shirt, except those cut from ends, to ensure a uniform shade and proper assembly throughout the garment.					
4.	Make Collar					
	Finished appearance. The collar and collar points shall be uniform in appearance, and the collar edges shall finish smooth and flat, without twisting, gathers, puckers, or raw edges.					

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD NEEDLE	THREAD BOBBIN or LOOPER
	a. Position interlining to under collar with points and edges even and quilt parallel to collar length using a 4 needle machine with needles set 1/2 inch apart.	301 or 401	SSv-4	10-14	35	35
	b. Seam collar pieces together along outside edges.	301 or 401	SSe-2(a)	10-14	35	35
	c. Trim corners, turn, work out edges and points, and edge stitch 1/8 ±1/16 inch from turned edges.	301	SSe-2(b)	10-14	35	35
5.	Make Breast Pockets					
	Finished appearance. The patch pockets shall be of uniform shape, squared, and lie flat and smooth without twist, puckers, or raw edges. The hem shall finish 1-7/8 ±1/4 inches wide.					
	a. Overedge stitch top edge of patch pocket. Turn under top as indicated by marks on pattern, and press, form hem.	503 or 504	EFd-1	10-14	35	35
	b. Position the hook tape (operation 1e) to outside of each pocket, at the pattern marks, and sew on four sides, 1/16 to 1/8 inch from the edge.	301	LSbj-1	7-12	50	50
	c. Pockets may be creased in a creasing machine.					

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD NEEDLE	THREAD BOBBIN or LOOPER
6.	Make Pocket Flaps					
	Finished appearance. The flaps shall completely cover the pocket hem stitching, be uniform in shape, and finish flat and smooth					
	a. Single part method: with face to inside fold flap in half, top to bottom, and stitch sides edges.	301 or 401	SSe-2(a)	10-14	35	35
	- OR -					
	a. Two part method: place flap and flap lining face to face and stitch side and bottom edges together.	301 or 401	SSe-2(a)	10-14	35	35
	Turn flap right side out, force out points and edges and edgestitch 1/8 ±1/16 inch from turned side and bottom edges.	301	SSe-2(b)	10-14	35	35
	b. Overedge stitch the top raw edge of flap.	503 or 504	SSa-1	10-14	35	35
	c. Position the pile tape (operation 1e) to the inside of each flap, at the pattern marks, and stitch on all four sides 1/16 to 1/8 inch from edge.	301	LSbj-1	7-12	50	50

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD NEEDLE	THREAD BOBBIN or LOOPER
7.	Hem Sleeves					
	a. Turn under the bottom raw edge of the sleeve 3/8 inch. Fold to inside to form a 1-1/2 ±1/4 inch hem. Stitch through the sleeve 1/8 ±1/16 inch from the edge.	301	EFb-1	10-14	35	35
	b. Join the pile tape (operation 1f) to the bottom of the sleeve at pattern marks with a single row of stitching 1/16 to 1/8 inch from the edges, on all four sides.	301	LSbj-1	7-12	50	50
8.	Make sleeve Tab					
	Finished appearance. The tabs shall be uniform in shape and finish flat and smooth. Tab width shall finish 1-1/4 ±1/8 inch.					
	a. Fold tab in half lengthwise and stitch around the sides and one end, leaving one end open for turning.	301 or 401	SSe-2(a)	10-14	35	35
	Trim, turn out and work out points and edges and edge stitch with a single row of stitching 1/8 ±1/16 inch from folded edge.	301	SSe-2(b)	10-14	35	35
	- OR -					
	a. Fold in half, turn in ends and sides and stitch 1/8 ±1/16 inch from edge.	301	SSc-1	10-14	35	35

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN or LOOPER
9.	Set Sleeve Tab to Sleeve					
	The tab shall be located to align with pile tape on sleeve, ±3/16 inch as shown in figure 2.	301 running track		6-10	35	35
10.	Attach Combination Label					
	Position the combination label on the inside of the front left facing, 1 to 1-1/2 inches above the bottom hem, and sew on all four sides with a single row of stitching 1/16 to 1/8 inch from the edge. The stitching shall not be through the printing.	301	LSbj-1	7-12	35	35
11.	Press Fronts					
	Fold back front edge 2-1/4 to 3-1/4 inches to inside and press down flat.					
	NOTE: Pressing is optional.					

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD NEEDLE	THREAD BOBBIN or LOOPER
12.	Set Pockets and Flaps					
	a. Turn side and bottom raw edges and stitch pockets on fronts, as indicated by marks on patterns, 1/8 ±1/16 inch from the edge. Alignment of pocket tops shall be within 1/4 inch.	301	LSd-1	10-14	50	50
	b. Sew pencil division. Stitch through left pocket and front with a row of stitching parallel to and 1-1/4 ±1/8 inches from the right edge of the left pocket. Start and end the stitching at the top and bottom edges of the pocket.	301	SSv-1	10-14	50	50
	c. Fold under and position top edge of pocket flap approximately 3/4 inch above top edge of pocket, making sure pocket hem is completely covered by flap. Stitch across top of pocket flap with a single row of stitching, 1/8 ±1/16 inch from edge.	301	LSd-1	10-14	50	50
	d. Bartack the left and right side of pocket openings and pencil division stitching using 1/2 inch bartacks superimposed on the pocket stitching. Upper edge of bartacks shall be located at the upper edge of the pocket ±1/16 inch.	Bartack		28 per bartack	35	35

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN or LOOPER
	e. Bartack flap at each corner with horizontal bartacks superimposed on the stitching. Bartacks shall be 1/2 inch. Outside edge of bartacks shall be located at outside edges of flaps ±1/16 inch.	Bartack		28 per bartack	35	35
13.	Join Fronts to Backs					
	Join fronts to backs at shoulders with safety stitch seam.	515 or 516 or 519	SSa-2	10-14	50 35	50 (chainstitch) 35 (overedge)
14.	Join Collar to Shirt					
	a. Overedge stitch the selvaged edge of facing if selvage is cut or frayed, (see operation 1b).	503 or 504	EFd-1	10-14	35	35
	b. Fold facing back at notch.					
	c. Insert collar between fronts at collar notch					
	d. Stitch across step and gorge to a point 1-3/4 to 2 inches from shoulder seam and notch collar through facings and fronts. Seam under collar to neck of shirt. (Shoulder seams shall be turned toward back.)	301	SSa-1	10-14	50	50

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD NEEDLE	THREAD BOBBIN or LOOPER
	e. Turn facing, work out steps. Insert top of facing inside of collar, turn in the unsewn portion of the top collar and topstitch to neck 1/8 ±1/16 inch from folded edge. Topstitching shall be superimposed on undercollar stitching ±1/8 inch.	301	LSb-1	10-14	50	50
	f. Center woven size label on center of collar within 1/8 inch of collar seam. Sew label on all four sides with a single row of stitching 1/16 to 1/8 inch from edges. Insert optional Long (L) label to the immediate right of size label. The printing shall be clearly visible.	301	LSbj-1	7-12	35	35
15.	Set in Sleeves					
	Set sleeves to shirt by stitching with a safety stitch in one operation, matching notches on sleeve and front armhole.	515 or 516 or 519	SSa-2	10-14	50 35	50 (chainstitch) 35 (overedge)
16.	Join Side Seams and Sleeve Seams					
	Join the sideseam and the underarm seam in one continuous operation with safety stitching, capturing sleeve tab in underarm seam.	515 or 516 or 519	SSa-2	10-14	50 35	50 (chainstitch) 35 (overedge)

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD NEEDLE	THREAD BOBBIN or LOOPER
17.	Bartack Sleeves					
	Make four 1/2 inch bartacks, one centered on upper edge of each sleeve tab and one located on each sleeve end (see figure 2).	Bartack		28 per bartack	35	35
18.	Hem Bottoms					
	Turn the raw edge of shirt under 3/8 inch. Fold to inside to form a 3/4 to 1-1/8 inch hem, single stitch 1/8 ±1/16 inch from folded edge, and continue stitching across the ends of hem 1/8 ±1/16 inch from front edges. Hem shall not extend beyond front edges of shirt.	301	EFb-1 and SSa-1	10-14	35	35
19.	Buttonholes					
	a. Mark position for buttonholes on left front as indicated by pattern.					
	b. Make a horizontal buttonhole at each mark with the inside edge of eyelet 5/8 to 3/4 inch from front edge with the ends tacked. Buttonholes shall be equally spaced.	Buttonhole		50-60 per buttonhole	35	35

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN or LOOPER
20.	Buttons					
	Finished appearance. The front buttons shall be positioned 3/4 ±1/8 inch in from the right edge (measured from center of button). Sew buttons on the outside of right front of shirt through front and facing to correspond with buttonholes in left front.	301		14-22 per button	50	50
21.	Clean Shirts					
	Trim al loose ends of thread to less than 1/2 inch and remove loose threads. Remove all spots, stains, and visible shade markings.					

3.7 Finished measurements. Finished measurements of shirts shall be as specified in table IV. The tolerance for all dimensions shall be ± 1/2 inch.

TABLE IV. Finished measurements (in inches)

Sizes	Extra Small	Small	Medium	Large	Large Long	Extra Large	Extra Large Long
1/2 chest (A) 1/	20	22	24	26	26	28	28
Back length (B) 2/	28-1/2	29-1/2	30-1/2	31-1/2	33	32-1/2	34
Sleeve length (C) 3/	31	32	33	34	36	35	36

NOTE: A, B, and C refer to figure 3. A, B, and C measurements shall be taken with the shirt buttoned and laid flat and smooth.

1/ Chest measurement shall be taken with shirt buttoned, at a point in line with pit of armhole, from folded edge to folded edge.

2/ Back length shall be taken along center of back from undercollar seam to bottom edge of shirt.

3/ Sleeve length shall be taken from center back of shirt at undercollar seam diagonally across back and along sleeve to center of bottom edge of sleeve.

3.8 Deviations and waivers. Deviations and waivers to the materials or construction specified herein shall not be allowed unless authorized in writing by the administrative contracting officer.

3.9 Workmanship. The finished shirts shall conform to the quality of product established by this specification. The occurrence of defects shall not exceed the applicable acceptable point values.

3.10 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch/pound units, provided they fall within the tolerances specified using conversion tables contained in the latest revision of FED-STD-376, and all other requirements of this specification are met.

3.11 Recovered materials. The contractor is encouraged to use recovered material in accordance with Federal Acquisition Regulation 23.4 to the maximum extent practical.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his/her own or any other facilities suitable for performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for ensuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point or at all points in the manufacturing process necessary to ensure compliance with all dimensional requirements.

4.1.3 Certification of compliance. Unless otherwise specified, certificates of compliance supplied by the manufacturer of the item, component, or material, listing the specified test method and test results obtained, may be furnished in lieu of actual lot by lot testing performed by the contractor (see 4.3.2). Where certificates of compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

4.2 Sampling for inspections and tests. Sampling for inspections and tests shall be made in accordance with MIL-STD-105. The inspection level and acceptable quality level (AQL) shall be as specified.

4.3 Quality conformance inspection. Each end item lot shall be sampled and inspected as specified in 4.3.4.1 and 4.3.4.2. As part of quality conformance inspections, test results shall be submitted to determine compliance of the basic cloth with the requirements of Forest Service specification 5100-87. The packaging shall be sampled as specified in 4.4. Packaging is not required when first articles are presented. Unless otherwise specified (see 6.2), the first articles submitted in accordance with 3.1 shall be inspected as specified in 4.3.4.1 and 4.3.4.2. The presence of any defect or failure to pass any test shall be cause for rejection of a first article sample.

4.3.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.3.2 Certification. Unless otherwise specified (see 6.2), as part of first article presentations and lot inspections, it shall be acceptable for the contractor to provide certificates of compliance for all materials and components in lieu of actual lot by lot testing (see 4.1.3 and 4.3). All certificates shall include as a minimum:

Product description, including specification, type, class, and form when applicable
Quantity purchased
Purchase source, address, and telephone number
Purchase date
Lot number traceable to materials used in production
Contract number

4.3.3 In-process inspection. Inspection shall be made at any point or during any phase of the manufacturing process to determine whether cut and finished lengths, cut parts, marking for location of components, and location of assembled component parts are in accordance with specified requirements and the drawings. Whenever non-conformance is noted, corrections shall be made to the parts and lot affected in-process. Parts that cannot be corrected shall be removed from production.

4.3.4 Examination of the end item. Examination of the end items shall be in accordance with 4.3.4.1 and 4.3.4.2.

4.3.4.1 Visual examination. Each sample shirt selected from lots presented for delivery (see 4.3.4.1.1) shall be examined for defects in color, design, material, construction, workmanship and marking and the defects classified in accordance with table V as follows:

TABLE V. End item classification of visual defects

Defect	Point value
Material Defects and Workmanship Damages	
a. Any hole, cut, tear, mend, burn, needle chew, exposed drill holes, or open place:	
1. Up to and including 1/4 inch	2
2. More than 1/4 inch	3
b. Slub larger than F1/ on any part of the shirt.	1
c. Knot larger than D1/ on any part of the shirt.	1
NOTE: Material defects and workmanship damages are to be classified as indicated above only when the condition is one which definitely weakens the structure of the garment, or when it is so conspicuously located as to be clearly noticeable. Nonweakening conditions which are inconspicuous shall not be classified as defects.	
Shaded Parts	
a. Shaded parts (excluding sleeve tab, breast pocket flap liner, and collar interlining).	2
b. Any shade bar above the bottom buttonhole on the finished shirt.	1
c. Shade of sleeve tab or breast pocket flap liner not good approximation of the shade of the garment.	1

1/ For these defects use the Sears Fabric Defect Replica Scales (see 2.2).

TABLE V. End item classification of visual defects - Continued

Defect	Point value	
Cleanness		
a. Any spot or stain on outside.		1
b. Five or more thread ends not trimmed to 1/2 inch or less.	1	
c. Two or more shade or size tickets not removed.	1	
d. One or more shade or size markings visible on outside.	1	
Cutting		
a. Any component part not cut in accordance with specified pattern or directional lines as indicated on patterns or not in accordance with specification requirements.		3
Components and Assembly		
a. Any component part or required operation omitted (unless otherwise classified herein).		3
b. Any operation not performed as specified (unless otherwise classified herein).		1
c. Any component not as specified (type, size, color, etc.).	3	
d. The edge of any component part required to be forced out, having folds more than 1/8 inch (unless otherwise classified herein).		1
e. Any component part twisted, distorted, pleated, misshaped, tight, or full (unless otherwise classified herein).		2
Seams and Stitching		
a. General:		
1. Seam irregular, twisted, or wavy (unless otherwise classified herein).		1
2. Seam puckered (score only on major portion of seam); (see 3.5.2).		1
3. Any part of shirt caught in an unrelated operation or stitching.		2

TABLE V. End item classification of visual defects - Continued

Defect	Point value
4. End of stitching when not caught in other seams or stitching not backstitched as specified (except stitching for attaching labels and automatic stitching).	1
5. Thread break (all stitch types) stitched less than 1/2 inch beyond each end of break.	1
6. Ends of a continuous line of stitching not overlapped as specified.	1
7. Thread color not as specified.	1
8. Stitching for attaching labels or automatic stitching not finished as specified.	1
b. Gage of stitching and seam allowance:	
1. Gage irregular or not within range specified.	1
2. Edge or raised stitching sewn too close to edge, resulting in damage of cloth.	2
3. Seam allowance more than 1/16 inch more or less than specified.	1
c. Open seams:	
1. On all seams except bottom hem and label stitching:	
(a) Up to 1/2 inch (inclusive)	1
(b) More than 1/2 inch up to 3/4 inch (inclusive)	2
(c) More than 3/4 inch	3
2. On bottom hem more than 1/2 inch.	1
3. On label stitching.	1

NOTE: One or more broken, skipped, or runoff stitches on a joining seam constitutes an open seam.

TABLE V. End item classification of visual defects - Continued

Defect	Point value	
d. Runoffs:		
1. On joining seam score as open seam.		
2. Edge or raised stitching (when not resulting in an open seam);		
(a) Up to 1/2 inch (inclusive)	1	
(b) More than 1/2 inch		2
e. Raw edges:		
NOTE: Raw edge not caught in stitching shall be classified as an open seam (unless otherwise specified).		
f. Seam and stitch type:		
1. Seam or stitch type not as specified.		2
2. Looper thread on outside.	3	
3. Any required line of stitching omitted.		3
4. Any line of stitching not beginning or ending where specified (unless otherwise classified herein).		1
5. Any seam not lapped or finished as specified.	1	
g. Broken, missing, or skipped stitches on edge or raised stitching (when seam is seamed, turned, and stitched) more than 1/4 inch.		1
h. Stitch tension:		
1. Loose tension, resulting in a loose seam.		3
2. Loose tension on edge or raised stitching, resulting in exposed loose thread.		1
3. Tight tension (stitches break when strain is applied in direction of seam or stitching).		3
NOTE: Puckering is evidence of tight tension. When puckering is evident, seam shall be tested by exerting pull in lengthwise direction of seam or stitching. If broken stitching results from the pull, score as specified above.		

TABLE V. End item classification of visual defects - Continued

Defect	Point value
i. Stitches per inch:	
1. Stitches per inch to be scored only when the condition exists on more than half the length of seam or stitching:	
(a) Less than the minimum specified.	2
(b) More than maximum specified.	1
Buttonholes	
a. Omitted, misplaced, added, not specified type, or not finished as specified.	3
b. Gimp omitted, uncut buttonhole, or ends of gimp not pulled through to underside.	1
c. Ragged edge, incomplete stitching, stitching not securely caught in fabric.	2
d. One or more broken stitches or two or more skipped stitches in one or more buttonholes.	1
e. Buttonhole stitching extending beyond bartack; stitches per buttonhole less than minimum specified.2/	1
f. Finished cut length not as specified.	1
g. Gimp color not a good approximation of the color of the basic material.	1
h. End of button hole tacked with less than four stitches.	1

2/ Stitches per buttonhole shall be determined by counting the number of needle perforations containing stitch floats to the outside of the buttonhole gimp.

TABLE V. End item classification of visual defects - Continued

Defect	Point value
Buttons (applying to all buttons)	
a. Missing, broken, defective,3/ misplaced, not positioned, or attached as specified, or insecurely sewn.	2
b. Wrong type, size, or color.	3
c. Badly shaded.	1
d. Stitching on one or more not locked at end of cycle (tug at the loose end of the thread when accessible to determine if it will ravel).	1
Fastener Tapes	
a. Hook and pile tapes not positioned as specified, exceeding 1/8 inch tolerance.	1
b. Length and width not as specified.	1
c. Incorrect color.	1
Bartacks	
a. One missing, loose, or misplaced; not specified size or not serving intended purpose.	1
b. Two missing, loose, or misplaced; not specified size or not serving intended purpose.	2
c. Three or more missing, loose, or misplaced; not specified size or not serving intended purpose.	3
d. Loose stitch tension.	1

3/ A button shall be considered defective when it has sharp, rough, cracked, or split edge; has scratch, dent, blemish, or imbedded air bubble(s) or foreign matter; or is badly shaded.

TABLE V. End item classification of visual defects - Continued

Defect		Point value
Labels		
a. Woven size label(s):		
1. Label missing, incorrect, or illegible.		3
2. Label not located under collar seam as specified.	1	
3. Label off center by more than 1/2 inch.	1	
4. Stitching through the printing of label.		1
b. Combination label:		
1. Missing, incorrect, or illegible.		3
2. Stitching exposed on outside of shirt.		1
3. Not positioned as specified.	1	
4. Stitching through the printing.	1	
Collar		
a. Not uniform in size or shape--any point varying more than 3/8 inch with corresponding point or matching part.		3
b. Collar points uneven in length by 3/8 inch or more.		2
c. Twisted, not smooth, too full, short, or tight, causing collar to turn out.		2
d. Collar points not properly forced out.	2	
e. Off center by 1/2 inch or more.4/		1

4/ Center of collar is determined by aligning the two shoulder seams at junction of collar.

TABLE V. End item classification of visual defects - Continued

Defect	Point value	
f. Tight at joining to neck, causing puckers or pleats at neckline (see 3.5.2).		1
g. Edge of collar not properly forced out, i.e., having a fold of more than 1/8 inch.		1
h. Stitching of topcollar joining seam more than 1/8 inch above or below stitching of undercollar joining seam for a distance of more than 2 inches.	1	
i. Parallel rows of stitching on undercollar omitted.	3	
j. Stitch gage of parallel rows of stitching varying from the gage specified by more than 1/8 inch.		1
Fronts		
a. Spacing between two or more buttonholes unequal by 1/4 inch or more.		1
b. Buttonhole position:		
1. Buttonhole less than 5/8 inch or more than 7/8 inch from edge.	1	
2. Two or more buttonholes out of horizontal alignment by more than 1/4 inch.		1
3. Lapel buttonhole not parallel with top edge of lapel.		1
c. Front tight or short, or front facing tight or twisted causing noticeable bulge or twist when shirt is buttoned.		1
d. Front edge not folded straight with warp line (i.e., forming curve).		1
e. Length of fronts:		
1. Uneven by 1/2 inch or more at bottom, when buttoned.		1
2. Uneven by 1/2 inch or more at neck, when buttoned.		1

TABLE V. End item classification of visual defects - Continued

Defect	Point value
Front Facing	
a. Facing not caught as specified.	1
b. Back edge of facing not finished as specified (see table III, operation 1b.).	2
c. Width of facing not as specified.	1
d. Facing not smooth and flat, shows evidence of puckering.	1
Pocket or Flap	
a. Not uniform in size or shape - any measurement varying from pocket to pocket or flap to flap by:	
1. More than 3/8 inch.	3
2. 1/4 inch up to and including 3/8 inch.	2
b. Out of alignment at any point from pocket to pocket or flap to flap by: (Determination may be made by a straight edge)	
1. More than 1/2 inch.	3
2. More than 3/8 inch up to and including 1/2 inch.	1
Pocket	
a. Pocket edge(s) not parallel to front edge of shirt by:	
1. More than 3/8 inch.	3
2. More than 1/4 inch up to and including 3/8 inch.	2
3. 3/16 inch up to and including 1/4 inch.	1
b. Edge of pocket pleated or twisted.	1
c. Pocket corner not secured as specified.	1
d. Width of pocket hem not as specified.	1
e. Pocket hem not overedged.	1
f. Pocket opening gapped.	1

TABLE V. End item classification of visual defects - Continued

Defect	Point value
Flap	
a. Attached crookedly:	
1. Distance between sides of pocket and underside of opened flap vary by more than 1/8 inch.	2
b. Pocket exposed beyond end of flap by 1/8 inch or more.	1
c. Not properly forced out.	1
d. Underside of flap not finished as specified.	1
e. Edge of under flap exposed beyond edge of top flap 1/16 inch or more for a distance of 1 inch or more.	1
f. Side edge(s) of flap extending beyond side edge(s) of pocket by more than 1/4 inch.	1
Sleeves	
a. Sleeves reversed.	3
b. Sleeves pleated or excessive fullness at armhole, affecting appearance (see 3.5.2).	2
c. Sleeve tight at armhole seam causing puckers on front or back, affecting appearance (see 3.5.2).	2
d. Sleeve hem (bottom of sleeve) finishing less than 1-1/4 inch or more than 1-3/4 inch wide.	1
e. Sleeve hem irregular in width by 1/4 inch or more.	1
f. Sleeve tab not finished flat and smooth.	1
g. Tab not positioned as specified or attached crookedly.	1
h. Tab width less than 1-1/8 inch or more than 1-3/8 inch.	1

TABLE V. End item classification of visual defects - Continued

Defect	Point value
Bottom Hem	
a. Less than 3/4 inch or more than 1-1/8 inch wide.	1
b. Irregular in width by 1/4 inch or more.	1
c. Hem end extending more than 1/8 inch beyond front edge of shirt.	1
d. Hem twisted, pleated, or puckered (see 3.5.2).	1

4.3.4.1.1 Acceptable point values. The sample size based on lot size and the acceptance values for 3 and 2 point defects and total (3, 2, and 1 point) defects listed in 4.3.4.1 shall be as specified in table VI. The sample unit shall be one shirt and the lot shall be unacceptable if either or both of the following occur:

a. The point value for 3 and 2 point defects exceeds the applicable maximum acceptable point value.

b. The point value for total (3, 2, and 1 point) defects exceeds the applicable maximum acceptable point value.

TABLE VI. Sampling provisions for visual examination

	Lot size	Sample size	Maximum acceptable point values: 3 & 2 point defects 1/	3, 2, & 1 point defects
Normal inspection	Up to 500	50	18 points	25 points
	501 to 1,200	80	25 points	36 points
	1,201 to 3,200	125	32 points	50 points
	3,201 to 10,000	200	45 points	73 points
	10,001 and over	315	68 points	110 points
Tightened inspection	Up to 500	50	13 points	20 points
	501 to 1,200	80	20 points	30 points
	1,201 to 3,200	125	32 points	40 points
	3,201 to 10,000	200	45 points	58 points
	10,001 and over	315	68 points	88 points
Reduced inspection	Up to 1,200	32	13-20 points	25 points
	1,201 to 3,200	50	16-25 points	32 points
	3,200 to 10,000	80	23-32 points	43 points
	10,001 and over	125	32-41 points	54 points

1/ For reduced inspection, when the first value is exceeded but not the second value, the lot shall be accepted, but normal inspection shall be reinstated (see 4.3.4.1.4.4). The second value is the maximum acceptable point value.

4.3.4.1.2 Initiation of inspection. Normal inspection shall be used at the start of inspection unless otherwise directed by the responsible procurement quality assurance element administering the contract.

4.3.4.1.3 Continuation of inspection. Normal, tightened, or reduced inspection shall continue unchanged on successive lots except where switching procedures in 4.3.4.1.4 require change.

4.3.4.1.4 Switching procedures

4.3.4.1.4.1 Normal to tightened. When normal inspection is in effect, tightened inspection shall be instituted when two out of five consecutive lots have been rejected on original inspection (i.e., ignoring resubmitted lots for this procedure).

4.3.4.1.4.2 Tightened to normal. When tightened inspection is in effect, normal inspection shall be instituted when five consecutive lots have been considered acceptable on original inspection.

4.3.4.1.4.3 Normal to reduced. When normal inspection is in effect, reduced inspection shall be instituted, providing that all of the following conditions are satisfied:

a. The preceding 10 lots have been on normal inspection and none have been rejected on original inspection; and

b. The total number of points for 3 and 2 point defects in the samples from the preceding 10 lots is equal to or less than 60 percent of the total maximum acceptable point values for 3 and 2 point defects from the preceding 10 lots; and

c. The total number of points for 3, 2 and 1 point defects in the sample from the preceding 10 lots is equal to or less than 75 percent of the total maximum acceptable point values for 3, 2 and 1 point defects from the preceding 10 lots; and

d. Production is at a steady rate; and

e. Reduced inspection is considered desirable by the procurement quality assurance element administering the contract.

4.3.4.1.4.4 Reduced to normal. When reduced inspection is in effect, normal inspection shall be instituted if any of the following occur on original inspection:

a. A lot is rejected; or

b. A lot is considered acceptable but exceeds the applicable first value (see 4.3.4.1.1); or

c. Production becomes irregular or delayed; or

d. Other conditions warrant that normal inspection be instituted.

4.3.4.2 Dimensional examination. The appropriate number of shirts, determined from table VII below, shall be examined for conformance to the dimensional requirements cited in table IV. When a measurement deviates from a dimension and tolerance specified, the shirt shall be penalized 1 point. Each shirt shall also be penalized 1 point when the sleeves are uneven in length by 1/2 inch or more. The lot shall be unacceptable if the total point value resulting from this examination exceeds the maximum acceptable point value. Each size of shirt present in the lot should be represented in the sample selected for this examination.

TABLE VII. Sampling provisions for dimensional examination

Lot size	Sample size	Maximum acceptable point values
Up thru 500	8	0
501 thru 3,200	13	1
3,201 thru 35,000	20	2
35,001 and up	32	3

4.4 Packaging inspection. An examination shall be made to determine that the preservation, packing, and marking comply with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one shipping container fully packaged with the exception that it need not be closed. Examination of closure defects listed below shall be made on shipping containers fully packaged. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 2.5.

Examine	Defect
Marking (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.
Materials	Any component missing, damaged, or not as specified.
Workmanship	Inadequate application of components, such as incomplete closure of container flaps, loose strapping, improper taping, improper adhesive application, or inadequate stapling. Open and non-continuous heat sealed seams and closure of polyethylene bag.1/ Alternative closure of polyethylene bag not provided with tuck or reverse flap.1/ Omission of vent hole in polyethylene bag.1/ Incorrectly fabricated bag.1/ Bulged or distorted container.
Content	Number of bundles or intermediate packages per shipping container is more or less than required. Number of shirts per bundle or intermediate package is more or less than required.1/ Size shown on one or more shirts not as specified on shipping container.1/

1/ For this defect, one bundle or intermediate package from each container in the sample shall be examined.

5. PACKAGING

5.1 Preservation. Preservation shall be in accordance with ASTM D 3951 and as specified in the contract or purchase order (see 6.2).

5.1.1 Packaging. Each fully buttoned shirt shall be neatly folded to measure approximately 14-1/2 inches by 10-1/2 inches. The folded shirt shall be secured with stainless steel pins, aluminum clips, or plastic fasteners. Each shirt shall be inserted in a snug-fitting flat style clear polyethylene film bag of 0.00125 inch thickness (±25 percent tolerance). The polyethylene bag shall be formed with heat-sealed seams that are straight, continuous, and parallel to each other and the formed edges of the bag. The final closure of the bag shall be heat sealed with the heat seal made as close as possible to the open end. The bag may be fabricated from polyethylene film tubing or sheeting. A 1/4 inch diameter hole shall be made at one corner of each polyethylene bag to allow excess air to escape. As an alternate, the polyethylene bag may be of the tuck-in or reverse flap type in which case a heat seal closure and corner vent hole are not required.

5.2 Packing. Unless otherwise specified (see 6.2), packing shall be in accordance with the requirements specified herein.

5.2.1 Packing. Fifty shirts of one size, packaged in accordance with 5.1.1 and folded widthwise, shall be stacked in two rows of 25 each into a close-fitting fiberboard box. The box shall comply with the Uniform Freight Classification and the National Motor Freight Classification. Boxes shall be type CF, variety SW, class Domestic, grade 350 of PPP-B-636; the closure shall be in accordance with method IV of the appendix. The approximate box size shall be 20-1/2 x 15 x 17-1/2 inches. Toward the end of the contract or when there are less than the number of shirts of the same size required per box for shipment, mixed sizes may be packed in the same container.

5.3 Marking. In addition to any special marking required by the contract or purchase order, shipping containers shall be marked in accordance with FED-STD-123.

5.3.1 Polyethylene bag. Each polyethylene bag (see 5.1.1) shall have the stock number (when applicable), nomenclature, and size legibly printed or stamped in black on the center face of the bag, or a label printed black on white with the required information shall be inserted in the bag so that it can be easily read through the polyethylene.

5.3.2 Special marking. Each shipping container packed with mixed sizes (see 5.2.1) shall have securely affixed to end and side, directly under the printing or stenciling, a 5 inch by 4 inch white paper label with the words "MIXED SIZES" plainly stamped or printed thereon. Under these words shall be legibly stamped or printed the correct quantity and sizes of shirts contained therein.

6. NOTES

6.1 Intended use. The shirts are intended to be worn with flame-resistant jeans for fighting wildland fires and for conducting controlled burning operations.

6.2 Acquisition requirements. Acquisition documents must specify:

a. Title, number, and date of this specification.
b. Sizes of shirts and quantities of each (see 1.2).
c. When required, the specific issue of individual document referenced (see 2.1 and 2.2).
d. When first article samples are not required (see 3.1, 4.3, and 6.3).
e. When lot by lot testing is required in lieu of certificates of compliance (see 4.3.2).
f. Packaging requirements if other than specified (see 5.1 and 5.2).

6.3 First article. When first articles are required, they shall be inspected and approved under the appropriate provisions of FAR 52.209. First articles shall be preproduction samples. The contracting officer should include specific instructions in all acquisition documents regarding arrangements for selection, inspection, and approval of the first articles.

6.4 Notice. When Government drawings, specifications, or other data are used for any other purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever.

6.5 Preparing activity. USDA Forest Service, Missoula Technology and Development Center, Building 1, Fort Missoula, Missoula, MT 59801-7294.

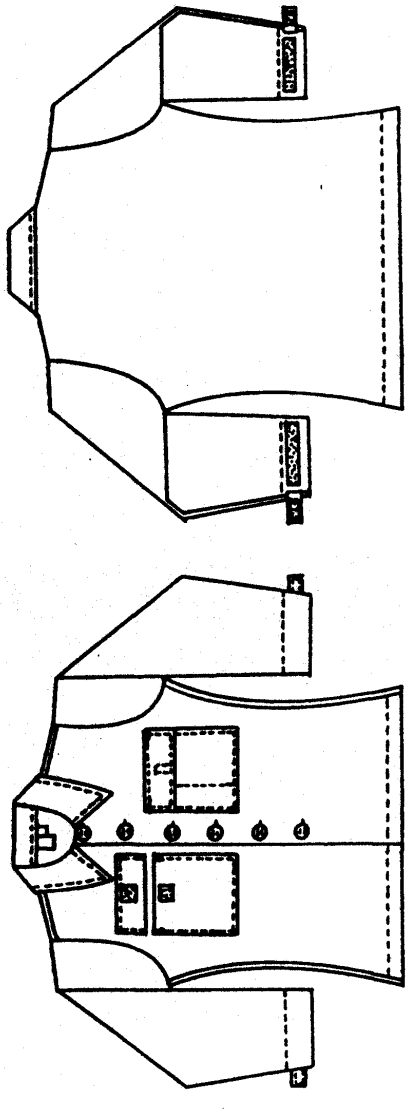
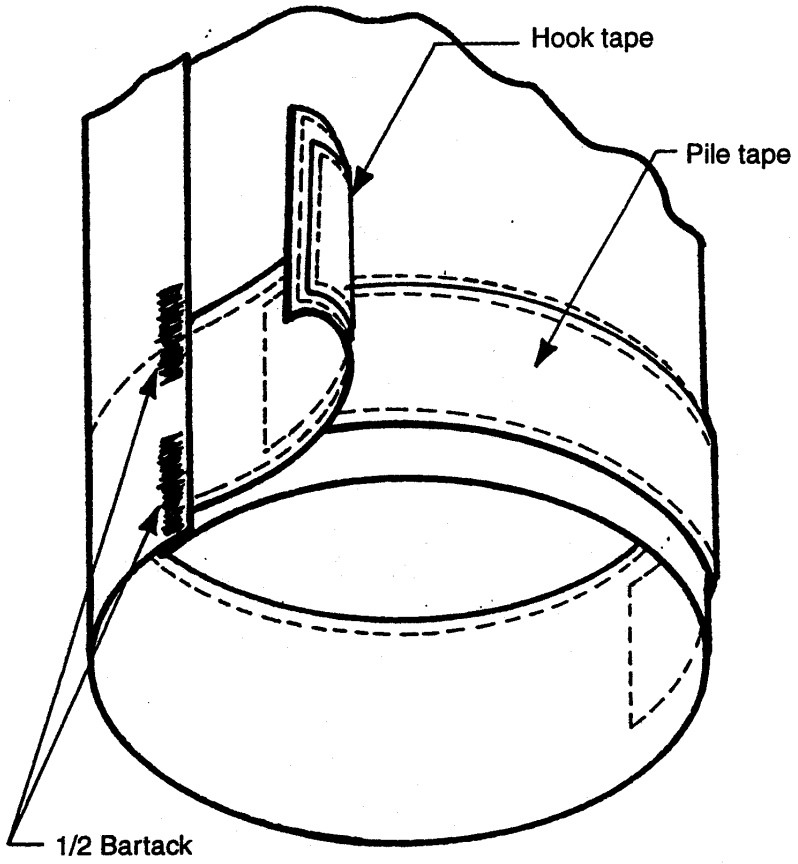
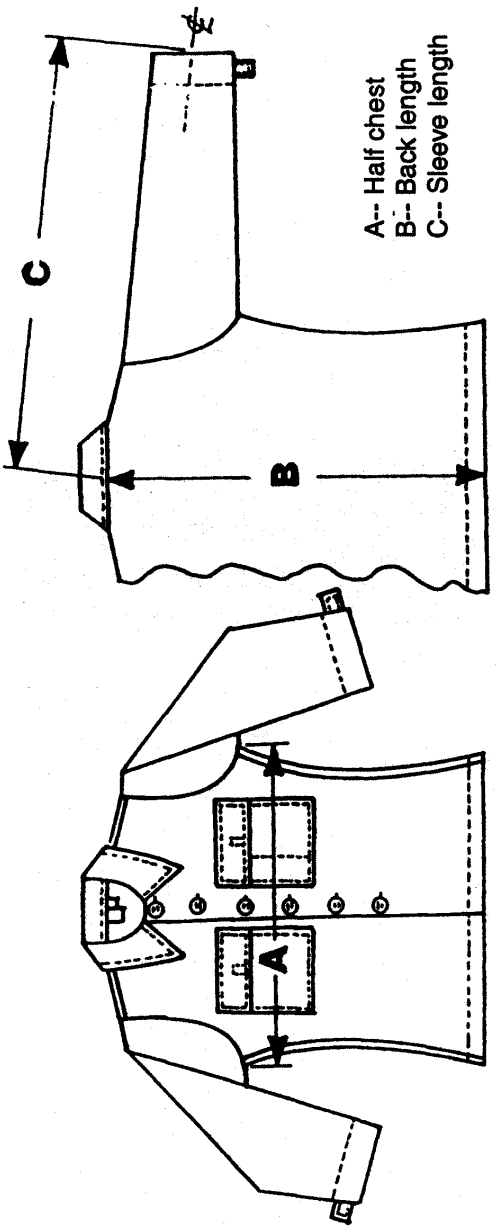


FIGURE 1-- SHIRT, FLAME-- RESISTANT ARAMID



Note: Left sleeve shown

FIGURE 2-- SLEEVE TAB DETAIL



Note: Measurements shall be taken with shirt buttoned.

FIGURE 3-- SHIRT MEASUREMENTS

USDA
Forest Service

Standardization Document Improvement Proposal

This form is provided to solicit beneficial comments that may improve this document and enhance it's use. Contractors, government activities, manufacturers, vendors, and users are invited to submit comments to:

USDA Forest Service
Missoula Technology and Development Center
Building 1, Fort Missoula
Missoula, MT 59804-7294

Attach any additional pertinent information that may be of use in improving this document to this form and mail in a envelope. A response will be provided when the submitter includes their name and address.

NOTE: This form shall not be used to submit requests for waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the document, or to amend contractual requirements.

Document Identification: **5100-91F - Shirt, Flame-Resistant Aramid**

Submitter's Name (Optional. Please print or type): Submitter's Organization and Address:

_____ _____

❑ Vendor ❑ User ❑ Manufacturer _____

Phone Number:_____ _____

Date:_____ _____

❑ Has any part of the Document created problems or required interpretation in procurement use?
❑ Is any part of the Document too rigid, restrictive, loose, or ambiguous? Please explain below:

Give paragraph number and wording: _____

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Recommended change(s):_____

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Reason for recommended change(s):_____

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Remarks:

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Fold and staple for mailing