

**U.S. POSTAL SERVICE SPECIFICATION
FOR
SHIRT, WOMAN'S, DENIM, LONG AND SHORT SLEEVE, WORK CLOTHES**

1. SCOPE. This specification covers the requirements for work shirts worn by female personnel of the Work Clothes Program of the United States Postal Service (USPS).

2. SIZES AND CLASSIFICATION. The shirt shall be of two types in the specified sizes.

Types:

Type I - Long Sleeve

Type II - Short Sleeve

Sizes:

Small to 2X

2.1 Applicable Documents. The following documents form a part of this specification:

INDUSTRY STANDARDS

Technical Manual of the American Association of Textile Chemists and Colorists (AATCC)

(Copies are available from AATCC, P.O. Box 12215, Research Triangle Park, N.C. 27709-9989)

American Society for Testing and Materials (ASTM)

(Copies are available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428).

3. REQUIREMENTS.

3.1 Design Features. The Type I shirt has long sleeves with a one or two button cuff. The Type II shirt has short sleeves with hem. Both types of shirts shall have the minimum design features listed below:

- 100% cotton medium stonewash denim
- garment washed, double needle tailored shirt-tail style

- spread collar with top stitching with collarstand with single horizontal buttonhole
- center front plait with six (6) front buttons closure with vertical buttonholes
- 2 piece back yoke
- double roll hemmed shirt bottom.
- Type I long sleeve with button through doghouse style placket with adjustable button closure and rounded cuffs.
- interlined top collar, collarstand, center front plait, and cuffs (for Type II shirt)
- optional hanger loop at center back neckline seam
- USPS "Work Clothes" emblem
- replacement buttons

3.2 Material. The basic fabric for shirt shall be 100% cotton stonewashed indigo denim. The cotton shall be cleaned, carded, and combed.

3.3 Physical Requirements. The finished cloth shall conform to the requirements specified in Table I when tested as specified.

Table I – Requirements and Verification

	Test Method	Requirement
Weight, oz/yd ²	ASTM D3776 Opt C	6.5 ± 0.3
Weave <u>1/</u>	visual	2/1 right hand twill
Yarns Per Inch (minimum)	ASTM D3775	Warp 76 Fill 46
Break Strength (minimum lbs.)	ASTM D5034	Warp 95 Fill 50
Tear Strength (minimum, gms)	ASTM D1424	Warp 8.0 Fill 4.0
Colorfastness, scale rating		
Light, 40 hours or 170 kilojoules at 420 nanometers (Xenon)	AATCC 16 Option A or E (Xenon)	Not less than grade 4
Accelerated Laundering (3 cycles) <u>2/</u>	AATCC 61, Test 3A	Not less than grade 4
Perspiration <u>3/</u>	AATCC 15	Not less than grade 4
Crocking	AATCC 8	Not less than grade 3.5
Dimensional Stability (Maximum % after 5	AATCC 135 (3)VAiii	3.0

	Test Method	Requirement
cycles)		
Flat Appearance, rating after 5cycles	AATCC 124 (3)VAiii	Not less than 3.5

1/ One determination shall be made from each sample unit and the result shall be reported as "pass" or "fail".

2/ The specimen shall be dried after each of the 3 laundering cycles.

3/ Both acid and alkaline perspiration shall be tested.

3.4 Color. The color shall be Blue 6001. The use of sulfur dyes and a dye containing elementary sulfur or compounds capable of oxidation to sulfuric acid are prohibited.

3.4.1 Standard Sample. The finished cloth shall match the standard sample for shade uniformity and shall be equal to or better than the standard sample for shade, colorfastness, appearance, and finish.

3.4.2 Matching. The color and appearance of the dyed and finished cloth shall match the standard sample when viewed under filtered tungsten lamps that approximate artificial daylight having a correlated color temperature of 7500 (± 200) K, with illumination of 100 (± 20) foot candles, and shall be a good match to the standard sample under incandescent lamplight at 2300 (± 200) K.

3.5 Fusible. Commercial woven or non-woven may be used for collar, front plait and cuffs. The color of the fusible shall be white, neutral or undyed. The interlinings shall be to the top ply of all components. The interlined parts must retain its original appearance for the life of the garment. Interlinings shall not be mixed (fused vs. woven) within a garment.

3.6 Buttons. The buttons used on the shirt's front closure, collarstand, and cuffs (for the Type I) shall be a minimum 19-ligne pearlescent polyester composition, four hole bevel style sewing buttons. The buttons used on the sleeve placket and button down collar shall be a minimum 15-ligne pearlescent polyester composition, four hole bevel style sewing buttons. The color of the buttons shall be off-white, ivory or natural.

3.7 Thread. The thread for seaming, stitching, buttonholes and button attachment shall be commercial rayon-covered polyester core, cotton-covered polyester core, or spun polyester,. The thread color shall be white or natural and be stabilized to prevent shrinkage.

3.8 Labels. All labels located in the collar and yoke areas shall be made of cloth and printing shall be legible, shall not transfer color, and shall remain legible for the life of the garment. Labels may be combined if placed in like areas. Bandstamping of appropriate label information in the collar area is an acceptable alternative.

3.8.1 Size Label. Each shirt shall have a size label located on the inside of the shirt centered on the back yoke or sewn into the neckline seam at the center back collar.

3.8.2 Care Instruction. Each shirt shall have a care label located on the side seam, bottom hem, or placed at manufacturer's commercial practice. The shirt's label shall contain the following information:

CARE INSTRUCTIONS

MACHINE WASH-PERMANENT PRESS CYCLE
WARM WATER (120° MAX), DO NOT MIX COLORS
DO NOT USE CHLORINE BLEACH
TUMBLE DRY WARM SETTING-REMOVE IMMEDIATELY
TOUCH UP WITH WARM IRON, IF NEEDED

Appropriate ASTM Care Symbols as specified in ASTM D5489 may be included on the care label in addition to the care instructions cited above.

3.8.3 Manufacturers Labels. A woven endfolded label or a label used in manufacturer's commercial practice shall be sewn to the inside of the back yoke stating the manufacturer's name and the fiber content of the shirt and shall be clearly visible when the shirt is packaged. A label shall be included stating the date of manufacture of each shirt (month and year of manufacturer) and all shirts shall have a country of origin and manufacturer's registered identification number (RN#).

3.8.4 Certification Label. Each shirt shall have a certification label reading as follows:

"This garment is warranted to meet or exceed the standards of document USPS 149 and was produced under Certificate Number XXX-XXXX-XX from basic materials and controlled components warranted by the manufacturer to have been produced in accordance with the sample under the current certificate." (Example)

3.9 Marking. The component parts may be marked or ticketed to insure uniform shade and size throughout the shirt during production. Corrosive metal fastening devices, sewn on shade tickets, and adhesive type tickets whose adhesive causes discoloration or adheres to the material upon removal of the tickets shall not be used. All shade and manufacturing tickets shall be removed on the completed shirt.

3.10 Construction.

3.10.1 Stitching. The underarm seams and side seams, and sleeve setting seams shall be double needle construction. Edgestitching shall be 1/16 inch from edge. Topstitching shall be 1/4 inch from edge. Stitch gauge for edgestitching and topstitching shall be 10-12 stitches per inch. All general stitching shall have a minimum of 10-12 stitches per inch. For any overedge stitching,

the stitches per inch shall be a minimum of 10-12. Thread breaks and ends of stitching not caught in another line of stitching shall be backstitched at least 1/2 inch. All thread ends shall be trimmed to 1/8 inch and all loose thread shall be removed from the shirt. Raw edges are not acceptable anywhere on the garment, except on the pocket seam and pencil pocket allowances.

3.11 Buttonholes. The buttonholes shall be straight cut, purl or whip type. The stitching shall be securely caught in the fabric, and the ends shall be securely tacked. When a purl-type buttonhole is used, the purling shall be on the outside of the shirt. The buttonholes shall be cut clean with all loose threads shall be trimmed or fused to within 1/8 inch of the tack. Loose threads (floats) in the buttonholes are prohibited.

3.11.1 Buttonhole Placement. The front closure buttonholes shall be placed on the right side of the shirt as worn. One horizontal buttonhole shall be placed on the collarstand centered. For the Type I, one horizontal buttonhole shall be centered in each cuff on the placket side, with the front end of the buttonhole 1/2 inch from the end of the cuff. Each sleeve placket may have a vertical buttonhole vertically and horizontally centered within the placket opening.

3.12 Buttons. The buttons shall be securely sewn by machine to the shirt by lockstitch, be properly aligned, and centered to correspond with its applicable buttonhole. Loose threads from the button stitching shall be trimmed to 1/8 inch.

3.12.1 Button Placement. The buttons shall correspond with the buttonholes as specified. Six on the left front through all plies of the turned back button stay to correspond with the buttonholes. One button shall be centered on the left end of the collarstand. Two buttons shall be centered on each cuff on facing side, with the center of the buttons 1/2 inch and 1-1/2 inch from the end of the finished cuff. One may be placed on each sleeve facing vertically centered and through all plies to correspond with its respective opening. One each replacement buttons placed at the shirt bottom.

3.13 Collar and Collarstand. The collar points shall measure 2-3/4 (\pm 1/4) inch in length and shall be equal. The underside of the collar shall not be visible on the finished side of the shirt. The pointed ends of the collar shall be uniform in shape and the ends equal distance from the shirt front edges. The collar shall be pressed smooth and flat. The collar shall be topstitched. The collarstand shall be edgestitched on all sides. When the collar is in the finished position, the neckline seam shall not be visible.

3.14 Hems.

3.14.1 Sleeve Hem (Type II). The finished sleeve hem shall measure 1 (\pm 1/8) inch.

3.14.2 Shirt Bottom Hem. The finished hem shall be double folded measuring 3/16 (\pm 1/16) inch in width and shall be backtacked 1/2 inch to prevent unraveling.

3.15 Cuff (Type II). The rounded style cuff shall finish 2-1/2 ($\pm 1/4$) inch in width. The finished cuff shall be topstitched or edgestitched along the cuff perimeter. Fullness of the sleeve bottom shall be taken up with two pleats facing the buttonhole side.

3.16 Sleeve Placket (Type II). The button through finished sleeve placket shall finish 1 ($\pm 1/8$) inch wide and 6 ($\pm 1/2$) inch long. The placket shall be edgestitched. Note: Placket lengths shall not vary more than 1/2 inch between sleeves on any one shirt.

3.17 Shirt Front Finish/Plait. The double needle tailored center front plait shall finish 1-1/2 ($\pm 1/8$) inch wide on the plait and shall be placed on the right front of the shirt. The front plait shall be sewn or grown on. A self lined button stand 1 ($\pm 1/8$) inch wide shall be located on the left side of the shirt and extending from the collar stand to the bottom of the shirt.

3.18 Shirt Back and Yoke. The yoke shall consist of either a separate two-piece or a sewn on yoke of the basic fabric. The yoke shall be placed on the back of the shirt and single or double needled tailored on the bottom and shoulder seam. All yoke seams shall be clean finished.

3.19 Finished shirts. Each finished shirt's construction and final appearance shall conform to the finished dimensions under Table I. The shirt shall be pressed, buttoned, and folded with the size label and fiber content information clearly visible on the collar area for packaging.

3.19.1 Workmanship. The shirt shall be manufactured in accordance with good commercial quality and practice. Proper seam allowance and stitching shall be maintained to prevent raw edges, run-offs, twists, pleats, puckers or open seams. All seams shall start and finish evenly. Thread tension shall be maintained so there is no tight or loose stitching. All stitching shall be uniformly gauged throughout the shirt. Thread breaks and ends of stitching not caught in another line of stitching shall be backstitched not less than 1/2 inch. Raw edges are not acceptable anywhere on the garment. All loose threads shall be removed from the shirt.

3.20 Patterns. Standard master pattern in size medium will be furnished by the certifying organization. Commercially available work shirt patterns may be used. The patterns shall be graded by the manufacturer, who is responsible for making garments with proper dimension, size and fit in accordance with the finished measurements specified. Any modifications shall not alter the appearance, serviceability, or dimensional requirements cited in this specification and shall meet the finished dimensions as specified.

4. VERIFICATION.

4.1 Seam Appearance Rating. After the finished shirt has been laundered five times in accordance with AATCC 124 (3)VAiii after 5 cycles the appearance of the seams and stitching shall be as follows:

<u>Part</u>	<u>Requirement</u>
Collar, yoke, armhole	not less than 3

Pocket, cuffs (Type II), and front plait and plackets	not less than 3
Side and underarm seams	not less than 3

4.2 Final Appearance Conformance. Each shirt shall be examined for visual and dimensional defects, which affect the appearance, material, workmanship, and labeling. The shirt's finished pockets shall be examined for size and uniformity. All components, topstitching, and edgestitching shall be measured within the parameters of this purchase description. The top corner pocket reinforcement requirement shall be evaluated against commercially acceptable reinforcements. The shirt's labels shall be examined for content and placement.

4.3 Material Defects. Any material defect or damage on the shirt including the following: holes, cuts, tears, soiling, smash, burned or scorched areas, misweaves, missing yarns, broken yarns, , multiple floats, stripes conspicuously poorly matched at center front or back, visible mends, thin places, loose yarns, snagged threads, woven in waste, needle chews, knots, slubs, embedded creases of a permanent nature in cloth, fabric not cut on correct side of cloth, shaded parts, spots or stains, shall be cause for rejection.

4.4. Component Defects. Any component part, including buttons, buttonholes, eyelets, fused components, and reinforcement stitches damaged or broken, omitted, misplaced; backtacks or bartacks not as specified; buttons out of alignment, loose, broken, improperly stitched; incorrect color, style, type, size and/or dimension not as specified or does not meet the intended end use shall be cause for rejection.

4.5 Sleeve and Pocket Defects. Improperly set in, twisted, excessive puckering, uneven hem, cuffs or plackets not matching, interlining on cuffs visible, undercuff visible below edge of top cuff, plackets uneven, twisted, not of specified size, stitching missing shall be cause for rejection. Pocket not uniform in size or shape; pocket misplaced, pocket edge not parallel to front edge, and stripes of pocket and shirt body not parallel shall be cause for rejection.

4.6 Label Defects. Labels missing, incorrect, not legible, not secure, or not as stated shall be cause for rejection. Fiber content information missing, not in English, incorrect terminology, care label missing or incorrect, not legible or visible, size label incorrect, missing or illegible shall be cause for rejection.

4.7 Construction Defects. Final appearance of shirt not as specified in Section 3, not conforming to templates or marks on pattern, collar points uneven in length or misshapened, shirt not pressed, scorched or burned, buttons not corresponding to buttonholes, placement or drill holes visible on garments, any row of stitching or seam not affecting form fit, or function but affecting design and appearance shall be cause for rejection. Interlining visible through the buttonholes or fabric, any underply of the pocket or collar visible on the topside of the finished garments, open seams or hem, seam allowance not conforming to specification, joining or seam misaligned by more than 1/4 inch, raw edges, unraveling seams, broken, irregular or skipped stitches, needle holes, irregular or uneven topstitching or edgestitching, stitch count less than specified, missing backtacks, improperly set, twisted or puckering at sleeve setting, hems uneven, twisted or poorly sewn, or noticeably twisted, roped or puckered shall be caused for rejection.

Collars visually uneven, illshaped or not uniform, misplaced, excessive fullness or pockets misaligned, uneven in shape or size, missing triangle stitching, not lying flat, and closures not secure, missing, incorrect size or color, poorly constructed buttonholes, incorrect size, misplaced or out of alignment, incomplete stitch coverage, unraveling shall be cause for rejection. Stripes on center front not in vertical alignment with front plait.

4.8 Finished Shirt Conformance. The shirt shall conform to the finished dimensions outlined in Tables I and II. All measurements are in inches.

TABLE I - Finished dimensions for garment washed shirt

	A	B	C	D	E	F
	Chest	Back Length	Cross Shoulder	Sleeve Length Type I	Sleeve Length Type II	Collarstand Length
Size						
Small	38-1/2	28-1/2	17	30-1/8	17	15
Medium	41	29	17-1/2	30-7/8	17-1/2	15-1/2
Large	42	30	18-1/8	31-3/4	18-1/8	16
X-Large	48	31	19-1/4	33-3/4	18-7/8	16-1/2
2X-Large	52	32	20-1/4	33-3/4	19-5/8	17
Tolerance	± 1	± 1	$\pm 1/2$	$\pm 1/2$	$\pm 1/2$	$\pm 1/4$

- A. Chest – Measuring one inch down below armhole, measurement taken across the front at the base of the armholes from folded edge to folded edge with shirt buttoned.
- B. Back Length - Measurement along the center of the back, from center back neckline to the bottom of the shirt.
- C. Cross Shoulder. Measure from junction of yoke and sleeve joining seam to opposite side.
- D. Sleeve Length (Type I) - Measurement taken from center back at neckline to bottom of finished sleeve.
- E. Sleeve Length (Type II) - Measurement taken from center back at neckline to bottom of hem of finished sleeve.
- F. Collarstand Length - Measurement across the inside length of the collarstand from the center of the collar button to the far end of the corresponding buttonhole.

4.8.1. Dimensional Stability (Finished Garments). The finished, garment washed shirts shall not shrinkage or elongate more than 3.0% when tested in accordance with AATCC 150 (3)VAiii after five launderings and drying cycles.

4.9 Finished Dimensions. Any shirt not conforming to the finished dimensions outlined in Table I shall be cause for rejection. Any component of the shirt not conforming to the dimensions cited in Table II affecting form, fit, function or appearance shall be cause for rejection under the manufacturer's certification warranty.

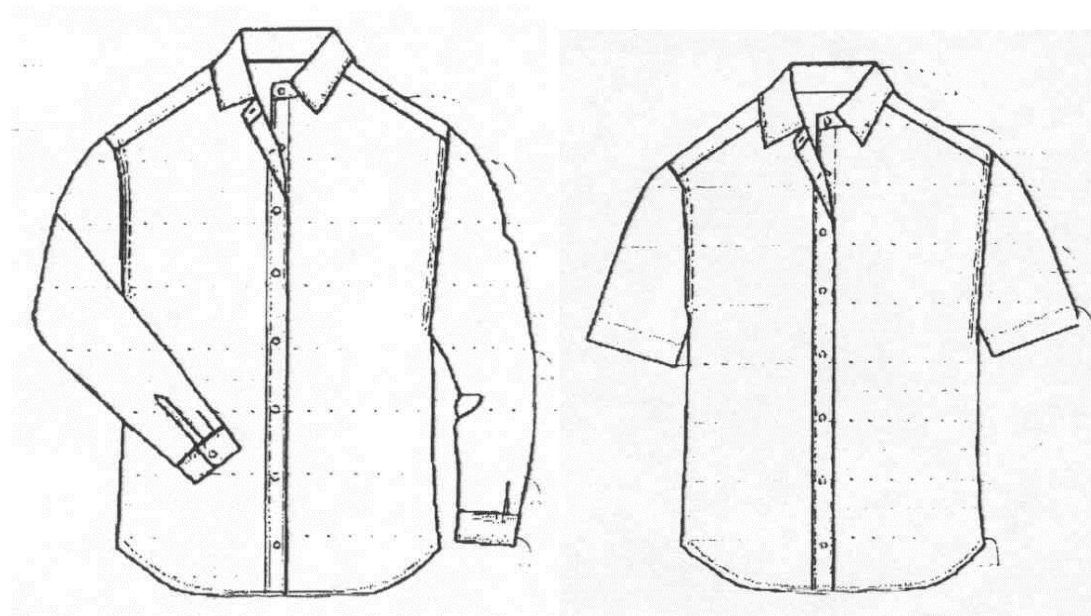
4.10 Emblem. Each shirt shall have an approved U.S. Postal Service "Work Clothes" emblem located above the left breast pocket. The emblem shall be centered approximately 1/2 inch to 3/4 inch above the left breast pocket of the shirt as worn. The emblem shall be in accordance to specification USPS 156, Emblems, Craft Tabs and Badges, Type V, Class 1.

4.11 Packaging. The shirt shall be folded, packed and packaged in accordance with the manufacturer's commercial practice.

4.12 Certificates are not transferable from long sleeve to short sleeve shirts or from shirts with sewn interlinings to shirts with fused interlinings.

Questions or concerns regarding the above should be directed to:

Navy Clothing and Textile Research Facility
Attn: Building 86
Kansas Street
Natick, MA 01760
Telephone: (508) 233-1320



Long and Short Sleeve