

**U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE**

**SPECIFICATION**

**SHIRT, FLAME-RESISTANT ARAMID**

This amendment forms part of Forest Service Specification 5100-91F, dated February 1994.

PAGE 1

1.2, add the following new sizes:

"Small-Long	14-1/2	33
Medium-Long	15-1/2	34
Extra Extra Large	18-1/2	36
Extra Extra Large-Long	18-1/2	37"

PAGE 2

2.1.1, delete reference to MIL-STD-105; add the following:

"MIL-DTL-32075 - Label: For Clothing, Equipage, and Tentage (General Use)"

2.1.2, under Drawings, delete "MEDC-647 - Patterns, Shirt, Men's, M-1979" and replace with "MTDC-960 - Patterns, Shirt, Flame-Resistant, Aramid, M-1998."

PAGE 3

2.2, add the following:

"AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

(Copies are available from the American Society for Quality Control, 611 East Wisconsin Avenue, Milwaukee, WI 53202.)

NATIONAL FIRE PROTECTION ASSOCIATION

NFPA 1977, Protective Clothing and Equipment for Wildland Fire Fighting, 1998 edition

(Address requests for copies to National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.)"

Add the following paragraph:

"3.1.1 Third-party certification. The shirts shall be third-party certified to the requirements of this specification, including the complete requirements of NFPA 1977-1998 with the exception of section 2-6 (regarding ISO Registration) and the wording required by section 3. The third-party certifier shall otherwise meet the requirements of NFPA 1977-1998 section 2."

3.2.1, add the following to the end: "The fabric shall have a soft hand."

3.2.2, delete entire paragraph and substitute:

"3.2.2 Collar interlining. It shall be optional to the contractor to use any of the three materials specified below for the collar interlining.

3.2.2.1 Basic material. Collar interlining shall be basic material (see 3.2.1).

3.2.2.2 Aramid blend. The collar interliner shall be a blend of 95 percent meta-aramid and 5 percent para-aramid. The interlining shall be 4.2 to 6.3 ounces per square yard plain weave. The color shall be natural or yellow. The interlining shall conform to textile fabric requirements specified in NFPA 1977-1998 for protective clothing. The number of fabric defects shall not exceed 200 points per hundred yards when tested in accordance with yard-by-yard inspection for basic material (see 3.2.1).

3.2.2.3 Nonwoven aramid. The collar interliner shall be meta-aramid weighing 1.0 to 1.6 ounces per square yard."

3.2.7.1, delete and replace with the following:

"3.2.7.1 Combination label. The combination identification/care label shall meet the product labeling requirements of NFPA 1977-1998 for laundering and dry cleaning. The label shall include the following warning and information printed in letters at least 1/16th inch in height:

THIS WILDLAND FIRE FIGHTING PROTECTIVE GARMENT MEETS THE  
REQUIREMENTS OF FOREST SERVICE SPECIFICATION 5100-91F.

[Manufacturer's name]1/

[Manufacturer's address]1/

[Country of origin]1/

[Manufacturer's garment identification number, lot number, or serial number]1/

SHIRTS, FLAME-RESISTANT ARAMID

DATE OF MANUFACTURE: [mm/yy]1/

USDA FOREST SERVICE SPECIFICATION 5100-91F

SIZE: [ ]1/

CONTRACT NUMBER: [ ]1/

NSN: [ ]1/

MATERIALS CONTENT: 98% ARAMID, 2% CARBON CORE

[Authorized mark of certifying organization]1/

DATE OF CERTIFICATION [mm/yy (as a minimum) ]1/

CARE INSTRUCTIONS

- a. Machine wash hot. NO BLEACH.
- b. Wash separately from flammable, lint-producing fabrics.
- c. Rinse thoroughly. Soap or detergent residues will burn.
- d. DO NOT STARCH. Starch will burn.
- e. Tumble dry medium. Remove garment promptly.

DO NOT REMOVE THIS LABEL 2/

1/ The manufacturer shall insert the applicable information.

2/ When a split label is used, this legend shall appear as the bottom line of both labels."

Add the following new paragraph:

"3.2.7.1.1 Split combination label. It shall be optional to split the combination label information onto two separate labels providing both labels have 'DO NOT REMOVE THIS LABEL' as the bottom line. When the label is split, the second label shall be sewn to the inside of the front right facing in a location and construction corresponding to the front left facing label (see manufacturing operation 10)."

3.2.7.2, delete the fifth and seventh sentences and substitute the following:

"The size label shall consist of the letter designations for sizes Extra Small, Small, Small-Long, Medium, Medium-Long, Large, Large-Long, Extra Large, Extra Large-Long, Extra Extra Large, and Extra Extra Large-Long, which shall be XS, S, S-L, M, M-L, L, L-L, XL, XL-L, XXL, and XXL-L respectively. Fastness to laundering requirements of MIL-DTL-32075 shall apply."

PAGE 6

Table II, under material for collar interlining, delete "polyester" and substitute "optional aramids".

PAGE 13

Table III, operation 10, second line, after "facing" add "(and front right facing when using split label)".

PAGES 13, 15, 16

In table III, under manufacturing operations 13, 15, and 16, delete existing stitch type and change to "301 or 401"; under seam and stitching type, delete "SSa-1" and replace with "LSc-2"; delete existing needle and bobbin or looper thread requirements and replace with "50" in all instances. Stitches per inch shall remain the same at 10 to 14.

Table III, operation 14f, add the following:

"It shall be optional to catch the upper edge(s) of the woven size label(s) in the collar seam (see operation 14e)."

Table III, operation 19b, change "5/8" to "1/2".

3.7, add the following size information to TABLE IV:

	<b>"Small-Long</b>	<b>Medium-Long</b>
1/2 chest (A) <u>1</u> /	22	24
Back length (B) <u>2</u> /	29-1/2	30-1/2
Sleeve length (C) <u>3</u> /	33	34
	<b>Extra Extra Large</b>	<b>Extra Extra Large-Long</b>
1/2 chest (A) <u>1</u> /	30	30
Back length (B) <u>2</u> /	33-1/2	35
Sleeve length (C) <u>3</u> /	36	37"

4.2, delete "MIL-STD-105" and replace with "ANSI/ASQC Z1.4".

4.3.2, delete paragraph 4.3.2 and replace with the following:

"4.3.2 Certification. As a part of the first article submission the contractor shall provide certificates of compliance (COC) for the materials of the shirts. The COCs shall be supported by test reports on the component, these test reports shall also be submitted as a part of the first article submission. Test reports supplied by the manufacturer are acceptable. The COC shall include the following:

Specification with type, class, etc.  
Quantity purchased  
Purchase source, address, and telephone number  
Purchase date

4.3.2.1 NFPA 1977-1998 Chapter 2, Certification. Copies of all test results shall be submitted by the third party certifier.

5.2.1, delete all references to "PPP-B-636" and replace with "ASTM D 5118" and "ASTM D 1974". Delete the last sentence.

5.3.2, delete the entire paragraph.