

JJ-G-451H

September 28, 1984

SUPERSEDING

Fed. Spec. JJ-G-451G

July 1, 1976

## FEDERAL SPECIFICATION

### GLOVES, MEN'S AND WOMEN'S, CLOTH, LEATHER PALM

This specification is approved by the Assistant Administrator, Office of Federal Supply and Services, General Services Administration, for the use of all Federal agencies.

#### 1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers men's and women's cotton gloves with leather palms and a gauntlet or knitted wristlet.

#### 1.2 Classification.

1.2.1 Types, classes, and styles. The gloves shall be of the following types, classes, and styles, as specified (see 6.2).

##### Type I - Gauntlet

##### Class 1 - Men's ("M" size)

Style A - 5-inch length gauntlet

Style B - 2-1/2-inch length gauntlet

Style C - 2-1/2-inch length gauntlet with knuckle reinforcement

Style D - 5-inch length gauntlet with knuckle reinforcement

##### Type II - Knitted wristlet

##### Class 1 - Men's ("M" size)

##### Class 2 - Women's ("W" size)

#### 2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

FSC 8415

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Federal Specifications:

- V-T-276 - Thread, Cotton
- KK-L-2004 - Leather, Cattlehide, Deerskin and Horsehide, Chrome Tanned
- LU-P-268 - Paper, Kraft, Wrapping
- CCC-C-458 - Cloth, Flannel, Cotton
- DDD-B-1199 - Binding Textile, Cotton, Bias-Cut
- DDD-L-20 - Label: For Clothing, Equipage and Tentage, (General Use)
- PPP-B-636 - Boxes, Shipping, Fiberboard

Federal Standards:

- FED-STD-123 - Marking for Shipment (Civil Agencies)
- FED-STD-191 - Textile Test Methods
- FED-STD-311 - Leather, Methods of Sampling and Testing
- FED-STD-751 - Stitches, Seams, and Stitchings

(Activities outside the Federal Government may obtain copies of Federal specifications, standards, and commercial item descriptions as outlined under General Information in the Index of Federal Specifications, Standards and Commercial Item Descriptions. The Index, which includes cumulative bimonthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal specifications and commercial item descriptions required by activities outside the Federal Government for bidding purposes are available without charge from General Services Administration Business Service Centers in Boston, MA; New York, NY; Philadelphia, PA; Washington, DC; Atlanta, GA; Chicago, IL; Kansas City, MO; Fort Worth, TX; Houston, TX; Denver, CO; San Francisco, CA; Los Angeles, CA; and Seattle, WA.

(Federal Government activities may obtain copies of Federal standardization documents and the Index of Federal Specifications, Standards and Commercial Item Descriptions from established distribution points in their agencies.)

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Military Standards:

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-147 - Palletized Unit Loads

(Copies of Military specifications and standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society for Testing and Materials (ASTM)

- D 1424 - Tear Resistance of Woven Fabrics by Falling-Pendulum (Elmendorf) Apparatus
- D 3951 - Standard Practice for Commercial Packaging

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

## 3. REQUIREMENTS

3.1 Guide sample. Samples, when furnished, are solely for guidance and information to the contractor (see 6.3). Variations from this specification may appear in the sample, in which case this specification shall govern.

3.2 Material (see 6.4).

3.2.1 Leather. The leather shall be cattlehide flesh splits conforming to type VIII of KK-L-2004.

3.2.1.1 Thickness. The thickness of the leather for all parts of the gloves except the welting shall be 3 to 3-1/2 ounces for the class 1 gloves and 2-1/2 to 3 ounces for the class 2 gloves. The thickness of the leather for the welting for both class 1 and class 2 gloves shall be 1-1/2 to 2 ounces. (Note: One ounce is equivalent to 1/64 inch.)

3.2.1.2 Color. The color of all leather components shall be cream or light (pearl) gray. All leather components used in each pair of gloves shall be of the same color.

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3.2.2 Cloth, flannel, cotton. The flannel cloth for the back of the gloves shall conform to type IV, class 5 of CCC-C-458, except that the warp breaking strength shall be a minimum of 85 pounds. The flannel cloth for the palms, fingers, and thumbs shall conform to type IV, class 2 of CCC-C-458.

3.2.3 Knitted cotton tubing. The wristlet for type II gloves shall be made of a 1 by 1 rib-knit, seamless cotton tubing. The tubing shall weigh not less than 12 nor more than 14 yards per pound, have a width not less than 2-1/4 inches, and contain a minimum of 14 wales and 20 courses per inch. Testing shall be as specified in 4.2.1.1.

3.2.4 Laminated gauntlet fabric. The gauntlet for the type I glove shall consist of two fabrics laminated together with synthetic resin, synthetic rubber or natural rubber. Each fabric shall be plain weave construction of cotton or spun polyester yarns. Each fabric shall weigh not less than 2 ounces per square yard when tested as specified in 4.2.1.1. The finished laminated fabric shall conform to the following requirements when tested as specified in 4.2.1.1.

<u>Characteristic</u>	<u>Requirement</u>
Overall weight, oz/sq yd:	
Minimum	16.0
Maximum	19.0
Breaking strength lbs (min):	
Warp direction	100
Filling direction	120
Tearing strength grams (min):	
Warp direction	2200
Filling direction	2600
Stiffness, centimeters (warp direction only):	
Minimum	16.0
Maximum	20.0
Weight of resin or rubber, oz/sq yd (min)	12.0

3.2.5 Thread. The thread for stitching and seaming shall be ticket No. 20, 4 ply; ticket No. 30, 4 ply; and ticket No. 50, 3 ply unbleached cotton thread, as indicated in table I and shall conform to type IA1 or IB1 of V-T-276.

3.2.6 Binding. The binding shall be 1 inch width bias-cut binding conforming to type I, class 1, bleached, or class 2, dyed of DDD-B-1199. As an alternate, unbleached bias-cut binding conforming to type I of DDD-B-1199 may be used,

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except that the minimum yarns per inch requirement shall apply only to the sum of the warp yarns per inch and filling yarns per inch. When dyed binding is used, the color shall approximate the color of the leather. The colorfastness requirements of DDD-B-1199 shall not apply.

3.2.7 Label. Each glove shall be marked with a combination size and identification label conforming to type III or IV, class 4 of DDD-L-20. The size shall be represented by "M" for Men's and "W" for Women's. The label shall show good fastness to laundering as specified in DDD-L-20. The label shall include the information required by the applicable products labeling act.

3.3 Design. The gloves shall be a Gunn cut pattern, leather palm with canton flannel back. Type I shall have a gauntlet and type II shall have a knitted wristlet (see figure 1).

3.4 Patterns. The dies and patterns for cutting all parts of the gloves shall be furnished by the contractor and shall be of the proper proportions to provide good fitting gloves conforming to finished measurements in table II.

3.5 Figure. Figure 1 is furnished for information purposes only. To the extent of any inconsistencies between the written specification and the illustrations, the written specification shall govern.

3.6 Stitches, seams and stitchings. Stitches, seams and stitching types specified in table I shall conform to FED-STD-751. Whenever two or more methods, seams, or stitch types are given for the same operation, any one may be used. The minimum and maximum number of stitches per inch shall be as specified in table I.

3.6.1 Type 301 stitching. Unless otherwise indicated, ends of seams and stitching produced with 301 stitch type, when not caught in other seams or stitching, shall be backstitched not less than 1/2 inch. Thread tension shall be maintained so there will be no loose stitching resulting in a loose bobbin or top thread or no excessively tight stitching resulting in puckering of the materials sewn.

3.6.1.1 Repairs of type 301 stitching. Repairs of type 301 stitching shall be as follows:

a. When thread breaks or bobbin run-outs occur during sewing, the stitching shall be repaired by restarting the stitching a minimum of 1/2 inch back of the end of the stitching.

b. Thread breaks or two or more consecutive skipped or run-off stitches noted during inspection of the item (in-process or end item) shall be repaired by over stitching. The stitching shall start a minimum of 1/2 inch back of the

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defective area, continue over the defective area, and continue a minimum of 1/2 inch beyond the defective area onto the existing stitching. Loose or tight stitching shall be repaired by removing the defective stitching without damaging the material and restitching in the required manner. 1/

1/ When making the above repairs, the ends of stitching are not required to be backstitched.

3.6.2 Type 401, 504 and 505 stitching. Thread tension shall be maintained so that there will be no loose stitching. Where stitch type 401 is used, the looper thread shall be on the inside of the gloves. Both ends of all seams or stitching produced with 401 stitch type, when not caught in other seams or stitching shall have a 1/2 to 3/4 inch chain extending beyond each end. All repairs shall be in accordance with 3.6.1.1a. and 3.6.1.1b.

3.7 Construction. The gloves shall be manufactured in accordance with the operation requirements specified in table I. The contractor is not required to follow the exact sequence of operations.

3.8 Measurements. The finished gloves shall conform to the measurements specified in table II.

NO.	TABLE I. MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	T H R E A D		
					NEEDLE	BOBBIN/ LOOPER	COVER
1.	<p><u>Cutting.</u></p> <p>The leather shall be block or clicker cut. The leather components of the glove shall consist of the following pieces:</p> <p>a. Palm, front of index and small finger, under-side of thumb (and gauntlet reinforcement extension for type I glove) (1 piece).</p> <p>b. Back of thumb (1 piece).</p> <p>c. Front of middle and ring fingers (1 piece).</p> <p>d. One strip of welting for insertion along base of middle and ring fingers (1 piece).</p> <p>e. Four tips for back of fingers (4 pieces).</p> <p>f. Knuckle reinforcement piece (1 piece) for type I, class I, style C and D only).</p>						
2.	<p><u>Reinforcement of defective components.</u></p> <p>During the spreading, cutting and manufacturing process, components having material defects or damages that are classified as defects in 4.2.3 and 4.2.4 shall be removed from production and replaced with non-defective and properly matched components.</p>						

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NO.	MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	T H R E A D		
					NEEDLE	BOBBIN/ LOOPER	COVER
3.	<u>Join middle and ring fingers to palm.</u>  Join base of middle and ring fingers to palm in-seaming with one row of stitching, 1/8 to 3/16 inch margin. The leather welting strip shall be securely caught in the seam joining the fingers to the palm. The welt shall extend on the outside of glove not less than 1/16 nor more than 3/16 inch from the stitching joining fingers to palm. The ends of the welt shall be 3/8 ± 1/8 inch from the closing seam. As an option, the welting may be positioned by basting prior to stitching.	301	SSa-1	8-10	20-4	20-4	
		or 401	SSa-1	8-10	20-4	30-4	
4.	<u>Join back of thumb to underside of thumb and palm.</u>  The back of the leather thumb shall be in-seam sewn to the underside of thumb and leather palm with one row of stitching 1/8 to 3/16 inch margin.	301	SSa-1	8-10	20-4	20-4	
		or 401	SSa-1	8-10	20-4	30-4	
5.	<u>Attach flannel lining.</u>  The leather palm, front and back of thumb, and fingers are to be lined with flannel, as specified in 3.2.2. The flannel shall be securely caught in the cuff joining seams with the closing side seam starting at the cuff joining seam and continuing for a distance of not less than 1-1/2 inches from the cuff joining seam. The flannel shall also be caught in the palm joining seam from cuff joining to within no less than 3/4 inch of the thumb crotch. The lining shall be securely sewn to the entire curvature of the finger tips and to the entire curvature of the tip of the back of the thumb. The lining on the front of	301	SSa-1	8-10	20-4	20-4	
		or 401	SSa-1	8-10	20-4	30-4	

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TABLE I. (cont'd)							
NO.	MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	T H R E A D		
					NEEDLE	BOBBIN/ LOOPER	COVER
5.	<u>Attach flannel lining.</u> (cont'd)  the thumb shall be caught in the seam joining the front and back of thumb to within not less than 1/2 inch of the thumb crotch.						
6.	<u>Attaching knuckle reinforcement piece (styles C and D only).</u>  The leather knuckle reinforcement piece shall be superimposed on the back of the glove and stitched with one row of stitching along top and bottom edges, 1/16 to 3/16 inch from edge. The ends of the reinforcement piece shall be caught in the side seams joining the palm to the back.	301 or 401	SSau-2	8-10	20-4	20-4	
7.	<u>Join palm to back.</u>  Join the leather on thumb side by lapping the leather over the canton flannel and sewing them with a double row of stitching 1/16 to 3/16 inch gage.	301 or 401	LSa-2  LSa-2	8-10  8-10	20-4  20-4	20-4  30-4	
8.	<u>Attach leather finger tips.</u>  The leather tips shall be stitched to the canton flannel across the back of each finger 1-1/4 + 1/8 inches down from tip of finger with one row of stitching using a 1/16 to 3/16 inch margin. The edges of the leather tips shall be caught in the closing seam.	301 or 401	LSa-1  LSa-1	8-10  8-10	20-4  20-4	20-4  30-4	
9.	<u>Closing.</u>  The closing shall be full seamed 1/8 to 3/16 inch from cut edge.	301 or 401	SSa-1  SSa-1	8-10  8-10	20-4  20-4	20-4  30-4	

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NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	T H R E A D		
					NEEDLE	BOBBIN/ LOOPER	COVER
10.	<u>Attaching gauntlet reinforcement extension (type 1 only).</u>  The sides and top of the leather gauntlet reinforcement extension shall be stitched to the outside of the palm side of the gauntlet with one row of stitching using a 1/16 to 3/16 inch margin. The bottom area of the reinforcement extension shall be caught in the seam joining cuff gauntlet to hand portion.	301 or 401	Ssa-1  SSa-1	8-10  8-10	20-4  20-4	20-4  30-4	
11.	<u>Type 1, (gauntlet cuff).</u>  a. The gauntlet shall consist of one piece cut from two thicknesses of laminated fabric (see 3.2.4).  b. The bottom edge (edge attached to wrist) of gauntlet shall be overedged stitched with 3/16 to 1/4 inch stitching gage.  c. Lap the gauntlet over the entire hand portion of the glove at the wrist, except for the area where the gauntlet reinforcement extension overlaps the gauntlet, then attach gauntlet to the hand with a double row of stitching 1/8 to 3/16 inch between rows.  d. Bind top edge (edge at open end of glove) of gauntlet cuff with raw edges of binding turned in 3/16 to 1/4 inch and caught within the seaming.	504 or 505  301 or 401  301 or 401	EFd-1  EFd-1  LSa-2  LSa-2  BSc-1  BSc-1	6-8  6-8  8-10  8-10  8-10  8-10	30-4  30-4  20-4  20-4  30-4  30-4	30-4  30-4  20-4  30-4  30-4  50-3	

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NO.	TABLE 1. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	T H R E A D		
					NEEDLE	ROBBIN/ LOOPER	COVER
12.	<p><u>Type II, (knitted wristlet).</u></p> <p>The knitted cotton tubing shall be cut to a sufficient length to permit the wristlet to be formed double thickness by folding over and inseaming the bottom edge of wristlet to top of hand portion at wrist with a double row of stitching 1/8 to 3/16 inch between rows with 1/4 to 3/8 inch seam allowance.</p>	301 or 401	SSa-2  SSa-2	8-10  8-10	20-4  20-4	30-4  30-4	
13.	<p><u>Label.</u></p> <p>Apply label to back outside of cuff of type I glove and on back outside of hand part of type II glove.</p>						
14.	<p><u>Forming.</u></p> <p>All gloves shall be formed on heated forms. Thumbs and seams shall be worked out over the forms.</p>						
15.	<p><u>Pairing.</u></p> <p>Match and pair gloves. Tack each pair of gloves together with not less than 2 stitches using a cord thread which will permit the pair to be separated without tearing the fabric. As an alternate, the type I gloves only may be laced with a soft metal, non-corrosive staple provided the gloves can be separated without damaging the fabric. Type I gloves shall be laced at closing seam of gauntlet, 1/2 to 1 inch from top of gloves. Type II gloves shall be laced 1-1/4 to 1-1/2 inches from edge of knitted cuff and 1/2 to 1 inch from top of gloves.</p>						

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TABLE II. Measurements 1/

Location	Types				Tolerance
	I		II		
	Class I Style A and D	Class I Style B and C	Class 1 Inches	Class 2 Inches	
A Over-all length, tip of 2nd finger to top of cuff	12-1/2	10	10-1/4	10	$\pm 1/2$
B Hand length, top of 2nd finger to wrist seam	7-1/2	7-1/2	7-1/2	7-1/4	$\pm 1/4$
C Length of thumb, crotch to tip	3-1/8	3-1/8	3-1/8	2-3/4	$\pm 1/8$
D Reach, base of thumb to top of 2nd finger	5-1/2	5-1/2	5-1/2	5-1/8	$\pm 1/2$
E Length of 2nd finger, crotch to tip (length of other fingers to be proportioned in accordance with commercial practice)	3-1/2	3-1/2	3-1/2	3-1/4	$\pm 1/8$
F Length of tips on back	1-1/4	1-1/4	1-1/4	1-1/4	$\pm 1/4 - 1/8$
G Length of cuff, top to wrist seam	5	2-1/2	2-3/4	2-3/4	$\pm 1/8$
H Width of gauntlet reinforcement piece	3-1/4	3-1/4	-	-	$\pm 1/2$
I Width of glove at thumb	5-1/4	5-1/4	5-1/4	4-1/2	$\pm 1/4$
J Width of cuff, top opening	7	6-1/2	3-1/4	2-1/2	$\pm 1/4$
K Depth of gauntlet reinforcement piece	1-3/4	1-3/4	-	-	$\pm 1/4$
L Width of knuckle reinforcement for type I, class I, styles C and D only	1-3/4	1-3/4	-	-	$\pm 1/4$

1/ See figure 1.

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3.9 Workmanship. The finished gloves shall conform to the quality and grade of product established by this specification. The occurrence of defects shall not exceed the applicable acceptable quality levels.

#### 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 as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the 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 assure supplies and services conform to prescribed requirements.

4.1.1 Certificate of compliance. Where certificates of compliance are submitted, the Government reserves the right to check test such items to determine validity of the certification.

4.2 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be in accordance with MIL-STD-105.

4.2.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document. In addition, testing shall be performed on components as specified in 4.2.1.1.

4.2.1.1 Fabric testing. The fabrics shall be tested for the characteristics in table III and tests shall be in accordance with FED-STD-191, wherever applicable. The sample unit for testing the cuff tubing fabric shall be 5 linear yards of tubing. The sample unit for testing the laminated fabric shall be 1/3 yards full width. Testing for all requirements listed in table III is applicable to the sample unit. The sample size shall be as follows:

<u>Lot size (yards)</u>	<u>Sample size (sample units)</u>
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

The lot shall be unacceptable if one or more sample units fail to meet any requirement specified.

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TABLE III. Fabric tests

Component	Characteristic	Requirement reference	Test method
Cuff tubing fabric (type II only)	Material identification	3.2.3	1200 <u>1/</u>
	Type of knit	3.2.3	Visual <u>1/</u>
	Weight (yards per lb)	3.2.3	5041
	Wales per inch	3.2.3	5070 <u>1/</u>
	Courses per inch	3.2.3	5070 <u>1/</u>
	Width (flat)	3.2.3	5020
Gauntlet fabric: (type I only)			
Cotton or polyester fabric (before lamination)	Material identification	3.2.4	1200 <u>1/</u>
	Weight (oz per sq yd)	3.2.4	5041
	Weave	3.2.4	Visual
Finished laminated fabric	Total weight (oz per sq yd)	3.2.4	5041
	Breaking strength	3.2.4	5100
	Tearing strength	3.2.4	D 1424 <u>2/</u>
	Stiffness	3.2.4	5204
Rubber or resin material	Material identification	3.2.4	<u>1/</u>
	Weight (oz per sq yd)	3.2.4	<u>3/</u>

1/ Unless otherwise specified, a certificate of compliance shall be submitted and will be acceptable for the stated requirement.

2/ Refers to ASTM method.

3/ The weight of the rubber or resin shall be determined by subtracting the weight of the two fabrics obtained before they are laminated from the overall weight of the fabric obtained after lamination.

4.2.2 In-process inspection. Inspection shall be made at any point or during any phase of the manufacturing process to determine whether operations or assemblies are carried out as specified. The Government reserves the right to exclude from consideration for acceptance any material or service for which in-process has indicated non-conformance.

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4.2.3 End item visual examination. The end item shall be examined for the defects listed in table IV. The lot size shall be expressed in units of one glove. The sample unit shall be one glove and the selection shall be by pairs. Defects for pairing shall be classified as a single defect. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total (major and minor combined) defects.

TABLE IV. End item visual defects

Examine	Defect	Classification	
		Major	Minor
Pairing	Not properly mated, e.g., not right and left of the same size	X	
	Badly shaded, wide variation in color		X
	Not tacked together or not tacked as specified		X
Cleanliness	An spot, stain, or foreign matter		X
Color	Not as specified		X
	Color not uniform		X
Type	Not type glove specified	X	
Leather	Not split cattlehide leather		X
	Loose, spongy, flanky, open scratch, thin spot, or open vein:		
	Seriously affecting serviceability	X	
	Affecting serviceability but not seriously		X
	Any hole except pinhole, any cut or tear	X	
	Three or more pinholes in a glove		X
	Not soft or pliable	X	
Knitted cotton tubing (type II)	Any scar, brittle, bony area, or abraded area		X
	Any hole, cut, tear, dropped stitch, or run:		
	Seriously affecting serviceability	X	
	Affecting serviceability but not seriously		X
	Slubby yarn		X
	Any thin area or mend		X
	Not seamless	X	

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TABLE IV. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Laminated fabric (type I)	Any cut, hole, tear, or burn: Seriously affecting serviceability	X	
	Affecting serviceability but not seriously		X
	Any evidence of delamination		X
	Any slub or wrinkle		X
Flannel fabric	Any hole, cut, tear, or rip: Seriously affecting serviceability	X	
	Affecting serviceability but not seriously		X
	Not napped		X
	Broken or missing yarn, open place clearly visible		X
Construction and workmanship, general (applicable to all components unless otherwise indicated herein)	Any component omitted, misplaced, or operation omitted: Seriously affecting serviceability. e.g., fingers badly twisted or distorted	X	
	Affecting serviceability but not seriously		X
	Needle chew	X	
	Not assembled as specified: Seriously affecting serviceability	X	
	Affecting serviceability but not seriously		X
Seams and stitching	Any open seam: - In a single stitched seam	X	
	- In both rows of a double stitched seam	X	
	- In one row of a double stitched seam		X
	- Repaired, but not repaired as specified		X

NOTE: A seam shall be classified as open when one or more stitches joining a seam are broken or when two or more consecutive skipped or run-off stitches occur.



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TABLE IV. End item visual defects (cont'd)

Examine	Defect	Classification		
		Major	Minor	
Seams and stitching (cont'd)	Looper thread exposed on outside of glove when 401 stitch type is used		X	
	Not specified seam or stitch type	X		
	Loose stitch tension resulting in a loosely secured seam	X		
	Tight tension resulting in cutting of leather or breaking of stitches when normal pull is applied	X		
	Any row of stitching omitted	X		
	One or two stitches per inch less than specified		X	
	Three or more stitches per inch less than specified	X		
	More than the specified number of stitches per inch, but not damaging material		X	
	More than the specified number of stitches per inch damaging material	X		
	Gauge of stitching irregular or not as specified		X	
	End of seam or stitching (stitch type 301) when not caught in other seam or stitching, backtacked less than 1/2 inch		X	
	End of seam produced with 401 stitch type when not caught in other seam or stitching, having chain extending less than 1/2 inch or more than 3/4 inch beyond each end		X	
	End of seam produced with 401 stitch type when not caught in other seam or stitching, not having chain extend beyond each end	X		
	Welting	Not securely caught in seam	X	
		Width not uniform or does not protrude a uniform distance from seam		X

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TABLE IV. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Fit of parts	Any part or assembly not properly affixed: Seriously affecting serviceability e.g., flannel lining wrinkled or excessive bulk in crotch of fingers	X	
	Affecting serviceability but not seriously		X
Gauntlet reinforcement piece	Gauntlet reinforcement piece not stitched around sides and top edge	X	
Knuckle reinforcement piece	Knuckle reinforcement piece not securely caught in side seams	X	
Knitted wristlet	Not double thickness of material	X	
Finishing	Loose threads not trimmed throughout glove		X
	Not neatly laid off, i.e., glove is wrinkled or does not otherwise present a neat appearance		X
Markings	Missing, incomplete, incorrect, not legible, not specified type or size, not in proper location, or not accom- plished in the specified manner		X

4.2.4 End item dimensional examination. The gloves shall be examined for conformance to the dimensions specified in table II and for the thickness of all leather parts. Any dimension not within the specified tolerance shall be classified as a defect. The lot size shall be expressed in units of one glove. The sample unit shall be one glove and the selection shall be by pairs. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

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NOTE: Each leather part of the glove shall be checked for thickness, i.e., thumb, body of glove, fingers, knuckle reinforcement and welts (where feasible). Any of these parts that are not within the required thickness range shall constitute a defect. Thickness shall be determined in accordance with Method 1011 of FED-STD-311. Where glove parts are lined, the lining should be parted from the leather and the thickness of the leather shall be taken doubled and then divided by two.

4.2.5 Packaging inspection. An examination shall be made to determine that preservation, packing, and marking comply with the section 5 requirements. Defects shall be scored in accordance with table V. The sample unit shall be one shipping container fully packaged. The lot size shall be the number of shipping containers in the inspection lot. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 2.5.

TABLE V. Packaging defects

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 flap, loose strapping, improper taping, or inadequate stapling. Bulged or distorted container.
Content	Number of bundles per container is more or less than required. Number of pairs of gloves per bundle is more or less than required. <u>1/</u>

1/ For this defect, two bundles shall be examined from each shipping container in the sample.

4.2.6 Palletization examination. An examination shall be made to determine that the palletization complies with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one palletized unit load fully packaged. The lot size shall be the number of palletized unit loads in the inspection lot. The inspection level shall be S-1 and the AQL, expressed in terms of defects per hundred units, shall be 6.5.

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<u>Examine</u>	<u>Defect</u>
Finished dimensions	Length, width, or height exceeds specified maximum requirements.
Palletization	Pallet pattern not as specified. Interlocking of loads not as specified. Load not bonded with required straps as specified.
Weight	Exceeds maximum load limits.
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.

## 5. PACKAGING

5.1 Preservation. Preservation shall be level A or Commercial as specified (see 6.2).

5.1.1 Level A. Five pairs of gloves of one type, class, and style (where applicable) only, shall be neatly stacked in a bundle with every other pair reversed end for end. Each bundle shall be secured at each end with cotton tape or twine.

5.1.2 Commercial. The gloves shall be preserved in accordance with ASTM D 3951.

5.2 Packing. Packing shall be level A, B, or Commercial as specified (see 6.2).

5.2.1 Level A packing. One hundred and twenty pairs of gloves of one type, class, and style (where applicable) only, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, grade V2s of PPP-B-636. The inside of each shipping container shall be fitted with a box liner conforming to type CF, class weather-resistant, variety DW, grade V15c of PPP-B-636. Level A bundles shall be packed flat and neatly arranged to form a balanced pack within a shipping container. Each container shall have the contents completely covered on the top and bottom with a sheet of 30-pound minimum basis weight kraft paper conforming to type I, grade B of UU-P-268. Each shipping container shall be closed in accordance with method III, waterproofed in accordance with method V, and reinforced as specified in the appendix of PPP-B-636, except that the inspection shall be in accordance with 4.2.5.

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5.2.2 Level B packing. One hundred and twenty pairs of gloves of one type, class, and style (where applicable) only, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, type CF (variety SW) or SF, class domestic, grade 275 of PPP-B-636. The inside of each container shall be fitted with a box liner conforming to type CF, class domestic, variety DW, grade 275 of PPP-B-636. Level A bundles shall be packed flat and neatly arranged to form a balanced pack within a shipping container. Each container shall have the contents completely covered on the top and bottom with a sheet of 30-pound minimum basis weight kraft paper conforming to type I, grade B of UU-P-268. Each shipping container shall be closed in accordance with method II as specified in the appendix of PPP-B-636, except that the inspection shall be in accordance with 4.2.5.

5.2.2.1 Weather-resistant fiberboard containers. When specified (see 6.2), the shipping container shall be a grade V3c, V3s or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with method III as specified in the appendix of PPP-B-636, except that the inspection shall be in accordance with 4.2.5.

5.2.3 Commercial packing. Gloves preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

5.3 Palletization. When specified (see 6.2), gloves, packed as specified in 5.2, shall be palletized on a 4-way entry pallet in accordance with load type 1a of MIL-STD-147. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means K and L or film bonding O or P. Pallet patterns shall be in accordance with the appendix of MIL-STD-147. Interlocking of loads shall be effected by reversing the pattern of each course. If the container is of a size which does not conform to any of the patterns specified in MIL-STD-147, the pallet pattern used shall first be approved by the contracting officer.

5.4 Marking. Marking shall be in accordance with 5.4.1 or 5.4.2 as specified (see 6.2).

5.4.1 Civil agencies. In addition to any special marking required by the contract or purchase order, shipping containers and palletized unit loads shall be marked in accordance with FED-STD-123 or ASTM D 3951, as applicable.

5.4.2 Military requirements. In addition to any special marking required by the contract or purchase order, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129 or ASTM D 3951, as applicable.

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## 6. NOTES

6.1 Intended use. The gloves are primarily work gloves for use by personnel of the Military services and civil Government agencies.

6.2 Ordering data. Purchasers should select the preferred options permitted herein, and include the following information in procurement documents.

- a. Title, number, and date of this specification.
- b. Type, class, and style required (see 1.2).
- c. Selection of applicable levels of preservation and packing (see 5.1 and 5.2).
- d. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).
- e. When palletization is required (see 5.3).
- f. Marking required (see 5.4).

6.3 Sample. For access to samples, address the procuring office issuing the invitation for bids.

6.4 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of this specification (see 3.2).

## MILITARY INTERESTS:

Custodians

Army - GL  
Navy - NU

Review Activities

Army - MD  
DLA - CT

User Activities

Navy - MC, YD

## CIVIL AGENCY COORDINATING ACTIVITIES:

CSA - FSS  
AFS  
FPI  
NBS

## PREPARING ACTIVITY:

Army - GL

Project No. 8415-0403

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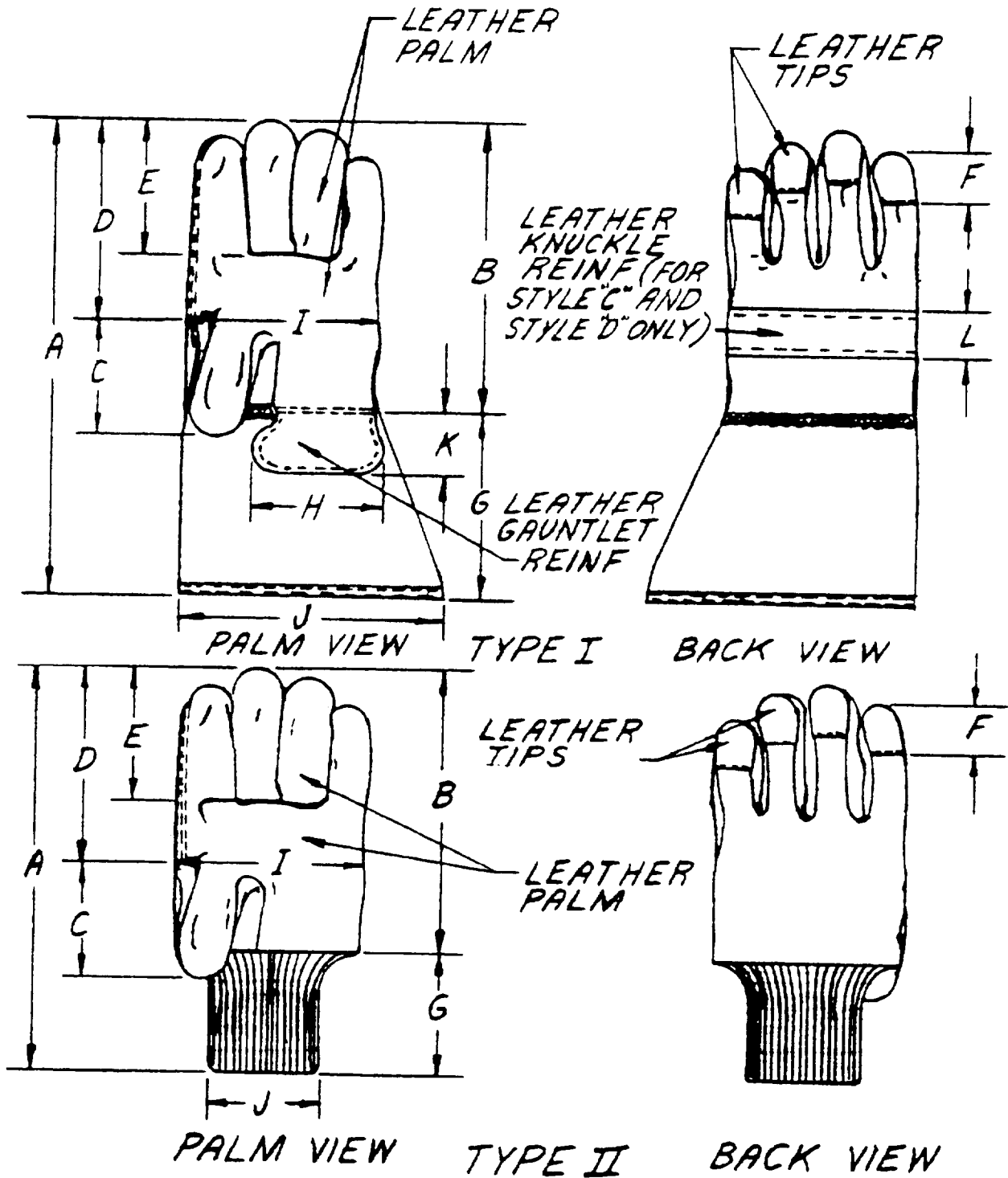


FIGURE 1 GLOVE, CLOTH, LEATHER PALM

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