

INCH-POUND
MIL-J-2963419 May 1992

MILITARY SPECIFICATION

JERSEY, FLIGHT DECK CREWMAN'S (FLAME-RESISTANT)

This specification is approved for use by the Navy Clothing and Textile Research Facility, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for a long sleeve, pullover type, flame resistant jersey for use by flight deck crewmen.

1.2 Classification. The jersey shall be of one type only, in the following sizes and colors (see 6.2):

<u>Sizes</u>			
Small	Medium	Large	Extra Large

Colors

White - 3061
 Blue - 3355
 Green - 3432
 Yellow - 3512
 Brown - 3728
 Red - 3804
 Purple - 3905

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Officer in Charge, Navy Clothing and Textile Research Facility, Post Office Box 59, Natick, MA 01760-0001 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8415

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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 specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATION

FEDERAL

- | | |
|----------|---|
| NN-P-71 | - Pallet, Material Handling, Wood, Stringer Construction, 2 Way and 4 Way |
| DDD-L-20 | - Label, for Clothing, Equipage and Tentage (General Use) |

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- | | |
|-------------|---|
| MIL-P-15011 | - Pallet, Material Handling, Wood, Post Construction, 4 Way Entry |
| MIL-B-17757 | - Boxes, Shipping, Fiberboard (Modular Sizes) |
| MIL-T-43624 | - Thread, Polyester, Spun |

STANDARDS

FEDERAL

- | | |
|-------------|-----------------------------------|
| FED-STD-191 | - Textile Test Methods |
| FED-STD-751 | - Stitches, Seams, and Stitchings |

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- | | |
|----------------|--|
| 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 |
| MIL-STD-1491 | - Glossary of Knitting Imperfections |
| MIL-STD-2073-1 | - DOD Materials Procedures for Development and Application of Packaging Requirements |
| MIL-STD-2073-2 | - Packaging Requirement Codes |

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

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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 are those cited in the solicitation.

U.S. POSTAL MANUAL

(Copies of the manual may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001).

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Association, ATTN: Traffic Department, 1616 P Street, N.W., Washington, DC 20036-1404).

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, Illinois 60606-5808).

TECHNICAL MANUAL OF THE AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS

Method No. 8 - Colorfastness to Crocking: AATCC Crockmeter Method
Method No. 16 - Colorfastness to Light: General Method

(Applications for copies should be addressed to AATCC National Headquarters, P.O. Box 12215, Research Triangle Park, NC 27709-2215).

AMERICAN SOCIETY FOR TESTING AND MATERIALS

D 1059-76 Yarn Number Based on Short-Length Specimens

(Applications for copies should be addressed to American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187).

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

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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 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 First article. When specified, the contractor shall furnish sample unit(s) for first article inspection and approval (see 4.3 and 6.2).

3.3 Material.

3.3.1 Cloth, cotton, knit. The cloth used for all knitted parts of the jersey shall be an interlock knitted from 40/1 combed cotton yarns, when tested as specified in 4.4.1.

3.3.1.1 Physical requirements. The finished cloth shall conform to the physical requirements specified in Table I, when tested as specified in 4.4.1.

Table I - Physical Requirements

<u>Characteristics</u>	<u>Requirements</u>
Weight - oz/yd ² (g/m ²)	5.6 (189.8) minimum 6.8 (230.5) maximum
Wales per inch	39 minimum
Courses per inch	29 minimum
Bursting Strength - lbs (Newtons)	60 (267.0) minimum

3.3.1.2 Color. The color of the finished cloth shall be as specified (see 6.1) and shall approximate the standard guide samples referenced under the following piece numbers:

<u>SHADE</u>	<u>PIECE NO.</u>
White 3061	91248
Blue 3355	91241
Green 3432	91246
Yellow 3512	91249
Brown 3728	91247
Purple 3905	91242
Red 3804	92107

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3.3.1.3 Sulphur content. The use of dyes and compounds containing elementary sulfur capable of oxidation to sulfuric acid is prohibited. The finished cloth shall contain no more labile sulfur than contained in the standard sample when tested as specified. As a limit of acceptability, or when no standard sample is available, the finished cloth shall show no more than a slight trace of labile sulphur as defined in test method specified in 4.4.1.

3.3.1.4 Colorfastness. The colored finished cloth shall show colorfastness to light (20 standard fading hours), laundering, perspiration, and crocking for each color, equal to or better than the standard sample when tested as specified in 4.4.1.

3.3.1.5 Discoloration. The white finished cloth shall not discolor in light (20 standard fading hours), laundering, crocking, or perspiration to a degree greater than that shown by the standard sample when tested as specified in 4.4.1.

3.3.1.6 Color matching. The finished cloth shall match the standard sample when viewed under filtered tungsten lamps which approximates artificial daylight, having a color temperature of 7000° (+500°) Kelvin and shall be a good approximation to the standard sample under incandescent lamplight at 2850° (+ 100°) Kelvin.

3.3.1.7 Finish. The cloth shall be finished with an approved durable flame retardant treatment (see 6.5 and 6.6) and conform to the following when tested as specified in 4.4.1.

Flammability

Initial and after 25 launderings:

After flame	2 seconds maximum
After glow	5 seconds maximum
Char length	5 inches maximum

NOTE: An improperly finished fabric may result in needle chews/holes in the finished garment (see 6.5).

3.3.1.8 Toxicity approval. Only those flame retardant treatments already evaluated and approved by the appropriate medical service in regards to toxicity and so listed in the invitation for bids or request for proposal shall be considered acceptable for the related procurement (see 6.2 and 6.6).

3.3.1.9 pH. The pH value of the water extract of the finished cloth shall be no less than 5.0 and no more than 8.5 when tested as specified in 4.4.1.

3.3.1.10 Non-fibrous material. The cloth, prior to treatment, shall show no more than 3.0 percent starch and protein content including chloroform-soluble and water-soluble material, when tested as specified in 4.4.1.

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3.3.2 Thread, polyester. The thread for seaming and stitching shall be polyester, ticket number 100, 2 ply, conforming to MIL-T-43624. The thread shall be dyed to match the shade of the basic cloth or reflective tape, except that bleached or unbleached may be used on the white jerseys. Dyed thread shall show colorfastness to light, laundering, perspiration, and crocking equal to or better than the standard sample. As a limit of acceptability, or when no standard sample is available, the dyed thread shall show a minimum of "good" colorfastness to light, laundering, perspiration, and crocking.

3.3.3 Reflective tape. The 1 inch wide reflective tape for sleeve shall be 3M Company style #8930 gray, or equal (see 6.4 and 6.7).

3.3.4 Combination label. Each jersey shall have a combination size, identification and instruction label conforming to type VI, class 14 of DDD-L-20. The colorfastness to laundering requirements shall apply. The label shall bear the following inscription:

JERSEY, FLIGHT DECK CREWMAN'S (FLAME-RESISTANT)
 FIBER CONTENT: COTTON (100%) INTERLOCK KNIT
 CONTRACT NO: DLA-100-00-0-0000 (EXAMPLE)
 SIZE: MEDIUM (38-40) (EXAMPLE)
 STOCK NO.: 8415-00-000-0000
 NAME OF CONTRACTOR:
 NAME OF MANUFACTURER: (if other than contractor)

Machine Wash - Hot Water - NO CHLORINE BLEACH
 Tumble Dry

or

Use NAVEDTRA 414-01-45-81, Formula II

3.4 Design. The jersey shall be a pullover type, with a turtle neck collarette and long sleeves with wristlets. The collarette and wristlets shall be double thickness made from flat knit material. The body shall be made from flat knit having a two piece construction with side seams; the back tail piece shall be longer than the front piece. Reflective tape shall surround the lower sleeve above the wristlet (see Figure 1).

3.4.1 Figure. Figure 1 is furnished for information purposes only. To the extent of any inconsistencies between the written specification and the figure, the written specification shall control.

3.5 Patterns. Standard patterns to be used to cut working patterns will be furnished by the Government (see 6.3). The working patterns shall be identical to the Government patterns. Neither the Government patterns nor the working patterns shall be altered in any way, except that additional notches for use during construction are permitted on the working patterns. Minor modifications are permitted where necessary when using automatic equipment. These modifications shall not alter the dimensional, serviceability, or appearance requirements cited in the specification. The patterns allow 5/16 inch seam allowance for all seams, except as otherwise indicated in Table II.

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3.5.1 Pattern parts. The component parts for the jerseys shall be cut from the material as specified, and in accordance with the pattern parts required for the manufacturing process as follows:

Material	Pattern Parts	Cut Parts
Cloth, cotton, interlock knit	Back	1
	Front	1
	Collarette	1
	Wristlet	2
	Sleeve	2

3.6 Construction.

3.6.1 Stitches, seams and stitchings. Stitch, seam, and stitching types specified in Table II shall conform to the requirements of FED-STD-751. Whenever two or more methods for seams or stitchings are given for the same part of the operation, any one of them may be used. Seam allowances shall be maintained with seams properly sewn so that no raw edges, runoffs, twists, pleats, puckers, or open seams result. All seams shall start and finish evenly. Thread tension shall be maintained so there is no tight or loose stitching. The bite of the overedge stitching shall be 3/16 inch. The guide and knife shall be set to trim only the ravelled ends of the fabric. Operations specifying stitch type 516 or 519 may be performed separately, using stitch type 301 or 401 and 504 or 602.

3.6.2 Thread breaks and ends of seams. Ends of all seams and stitchings when not caught in other seams or stitchings shall be backtacked not less than 3/8 inch. The ends of a continuous line of stitching (except label) shall be overlapped not less than 1/2 inch. The ends of the label stitching shall be overlapped not less than 3 stitches. Thread breaks (all stitch types) shall be secured by stitching back of the break not less than 1/2 inch. Skipped stitches or thread breaks on 401 stitch type shall be repaired by using 301 stitch type. When ends of overedge stitching are not caught in other seams or stitching, the ends will be tacked.

3.6.3 Stitches per inch. The minimum and maximum number of stitches per inch shall be as specified in Table II.

3.7 Manufacturing operations requirements. The jersey shall be manufactured in accordance with operation requirements specified in Table II. The contractor is not required to follow the exact sequence of operations listed provided that the finished jersey is identical to that produced by following the sequence of operations as listed in Table II. Minor modifications are permitted where necessary when using automatic equipment. These modifications shall not alter the dimensional, serviceability, or appearance requirements cited in the specification.

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3.7.1 Abbreviations in table of operations. The abbreviations used in Table II are as follows:

Stch	-	Stitch
in	-	inch
Ndl	-	Needle
Bob	-	Bobbin
Lpr	-	Looper
Mchne	-	Machine
Brck	-	Bartack
Comrc1	-	Commercial
smlr	-	similar
Btnhl	-	Buttonhole
incl	-	including
dbl	-	double
chnstch	-	chainstitch

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TABLE II - CONSTRUCTION OF JERSEYS

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD NDL BOB/ LPR
1.	<u>Cutting</u> a. All parts of the jersey shall be cut in strict accordance with patterns furnished which show size, shape, directional lines, and marks for proper assembly. b. All component pattern parts shall be cut from one piece of material.				
2.	<u>Replacement of defective components</u> During the spreading, cutting, and manufacturing process, components having material defects or damages that are classified as defects in Section 4 shall be removed from production and replaced with non-defective and properly matched components.				
3.	<u>Shade and size markings</u> a. All parts shall be marked, ticketed, or bundled to insure a uniform shade, size and proper assembly throughout the jersey. b. The use of corrosive metal fastening devices or sewn-on tickets shall be prohibited. c. The use of ink pad numbering machine, rubber stamp, or pencil will be acceptable provided the numbers do not show through the outside of the garment and the numbers are covered by the seam allowance whenever possible.				
4.	<u>Join shoulder seams.</u> Position the front shoulder seam to the back shoulder seam, face to face and stitch together.	301	SSa-1	8-10	40 40
5.	<u>Make and attach collarette.</u> a. Fold collarette end to end matching notches and stitch with wales parallel to seam. b. Fold collarette in half lengthwise with stitching inside. Stitch to neckline starting and finishing at left shoulder seam.	301	SSa-1	8-10	40 40
		504	SSa-1	8-10	40 40

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TABLE II - CONSTRUCTION OF JERSEYS

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
	c. Turn back seam allowance of collarett toward neckline. Position a 1/2 inch finished reinforcement piece of basic material on inside over shoulders and back neckline. Double stitch using a 3/8 inch gauge.	301	SSag-2	8-10	40	40
	d. Turn front seam allowance of collarett toward neckline and cover stitch extending past shoulder seam approximately 1/2 inch.	406	SSh-2	8-10	40	40
	e. The collarett seam shall finish in line with the left shoulder seam (+ 1/2 inch). Wales of collarett material shall be perpendicular to neckline seam. The collarett shall finish 5 (+1/4) inches in length.					
6.	<u>Attach reflective tape to lower sleeve.</u> Position and double stitch 1/16 to 1/8 inch from edge, a 1 inch reflective tape to lower sleeve approximately 2 inches above the wristlet.	301	SSaa-2	8-12	40	40
7.	<u>Attach sleeves.</u> Stitch sleeve to armhole, securely anchoring the ends of the reinforcement tape in the armhole seam.	516 or 519	SSa-2	8-10	40	40
8.	<u>Join underarm and side seams.</u> Stitch underarm and side seams face to face, in a continuous row of stitching. At step fold front and back vent onto front seam allowance and taper stitching off 1/2 inch below vent step forming a short dart.	516 or 519	SSa-2	8-10	40	40
9.	<u>Make and attach wristlet.</u>					
	a. Fold wristlet end to end matching notches and stitch with wales parallel to seam.	301	SSa-1	8-10	40	40
	b. Fold wristlet in half lengthwise with stitching on inside. Stitch to bottom of sleeve. Wales of wristlet material shall be perpendicular to seam. Wristlet seam shall be in line with sleeve seam (+ 1/2 inch). The wristlet shall finish 3-1/2 (+1/4) inches in length. The width of each wristlet shall measure within 1/8 inch of each other.	504	SSa-1	8-10	40	40

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TABLE II - CONSTRUCTION OF JERSEYS

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
10.	<u>Hem bottom.</u>					
	a. Turn bottom of back and front jersey to inside and stitch, making a hem to finish 1 (+1/16) inch.	503	EFc-1	8-10	40	40
	b. Open vent, fold under 1/2 inch on each side. Stitch in one continuous operation 1/16 inch from edge. Front vent length shall finish 2 (+ 1/4) inches long. The back tail shall be approximately 3 inches longer than the front tail.	301	EFb-1	8-10	40	40
11.	<u>Attach combination label.</u>					
	Position and stitch all four sides of combination size, identification, and instruction label on inside center back of jersey just below collarette seam. No stitching shall go through the label printing.	301	LSbj-1	8-10	40	40
12.	<u>Clean jerseys</u>					
	a. All thread ends shall be trimmed and all loose ends removed throughout the jersey.					
	NOTE: Care shall be taken when trimming thread ends that damage to the fabric does not result.					
	b. All spots and stains shall be removed.					
	c. Remove all shade tickets.					

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3.8 Sizes and measurements. The wristlet shall be 3-3/4 (+ 1/4) inches wide when positioned flat and measured midway between the folded edges. The wristlet shall be 3-1/2 (+ 1/4) inches long when measured vertically between the top seam and the bottom folded edge of the wristlet. Sizes and measurements of the finished jerseys shall be as shown in Table III (see Figure 1). All measurements and tolerances are expressed in inches.

Table III - Finished Measurements

Size	Front Length A	Back Length B	Chest Width C	Sleeve Length D	Collarette Opening E
Small	30	33-1/2	36-3/4	26-3/4	8-1/2
Medium	30-1/2	34	40-3/4	27	8-3/4
Large	31	34-1/2	44-3/4	27-1/4	9
X-Large	31-1/2	35	48-3/4	27-1/2	9-1/2
Tolerance	± 1/2	± 1/2	± 3/4	± 1/2	- 0, +1/4

NOTE: All measurements shall be taken with the jersey flat and smooth, and in a relaxed condition with the front facing up with the sleeves extended horizontally and perpendicular to the body. The sleeve lengths per jersey shall not differ more than 1/2 inch.

- A. Front length - Measure from intersection of the collarette seam and the shoulder seam to the bottom edge of the hem.
- B. Back length - Measure from the intersection of the collarette seam and the shoulder seam to bottom edge of hem.
- C. Chest width - Double the measurement across front, approximately 1 inch below armhole seam from folded edge to folded edge.
- D. Sleeve length - Measure along outside folded edge of sleeve from the intersection of the armhole seam and shoulder seam to the bottom edge of the wristlet.
- E. Collarette opening - Superimpose the front and back of collarette and measure along top edge of finished collarette.

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

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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 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 Certificate of compliance. 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 Classification of inspection. The inspection requirements specified herein are classified as follows:

1. First article inspection (see 4.3).
2. Quality conformance inspection (see 4.4).

4.3 First article inspection. When required, the first article submitted in accordance with 3.2 shall be inspected for compliance with design, construction, workmanship, appearance, and dimensional requirements as specified in 4.4.2.

4.4 Quality conformance inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated.

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4.4.1 Component and material inspection. In accordance with 4.1 above, components and materials shall be tested in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable procurement documents. In addition, testing shall be performed on the interlock knit cotton cloth for the characteristics noted in Table IV. The methods of testing specified in FED-STD-191, wherever applicable, and as listed in Table IV shall be followed. The physical and chemical values specified in Section 3, except where otherwise specified, apply to the average of the determinations made on the sample unit for test purposes as specified in the applicable test methods. All test reports shall contain the individual values utilized in expressing the final results. For all tests except for colorfastness, the sample unit for test purposes shall be five continuous yards full width of finished cloth and 1/4 yard full width of unfinished cloth. The sample unit for colorfastness shall be 1/3 yard, full width, for each color. The lot size shall be expressed in units of pounds. The lot shall be unacceptable if one or more sample units fail to meet any of the test requirements specified. The sample size shall be in accordance with the following:

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

Table IV - Test methods

<u>Characteristic</u>	<u>Requirement paragraph</u>	<u>Test method</u>
Material identification	3.3.1	1/
Knit type	3.3.1	Visual 2/
Yarn ply	3.3.1	Visual 2/
Yarn count	3.3.1	ASTM D1059-76 1/
Physical Requirements		
Weight	3.3.1.1	5041
Wales per inch	3.3.1.1	5070
Courses per inch	3.3.1.1	5070
Bursting strength	3.3.1.1	5120
Sulphur content	3.3.1.3	2020 1/
Colorfastness/Discoloration 6/:		
Light (20 SFH)	3.3.1.4 and 3.3.1.5	5660 3/
Laundering	3.3.1.4 and 3.3.1.5	5610 4/ 5/
Perspiration	3.3.1.4 and 3.3.1.5	5680
Crocking	3.3.1.4 and 3.3.1.5	AATCC TM 8-1988
Flame retardant finish		
Initial	3.3.1.7	5903
After 25 launderings	3.3.1.7	5903/5556
pH	3.3.1.9	2811
Nonfibrous material	3.3.1.10	2611

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- 1/ Unless otherwise specified in the contract or purchase order, the contractor shall submit a certificate of compliance for this characteristic. The certificate shall be accompanied by actual test or inspection report or other verifiable data.
- 2/ One determination shall be performed per sample unit and the results reported as "pass" or "fail".
- 3/ The calibration of the fadeometer and the definition of AATCC Fading Units shall be according to AATCC Test Method 16-1987. Using the formula below, 16 to 22 AFU's are acceptable as 20 SFH's.

$$\text{AATCC Fading Units} = \frac{(\Delta E^*) (20)}{1.7}$$

Where (ΔE^*) is the color difference in CIELAB* units of color difference.

- 4/ Only the stain on the cotton fibers of the color transfer cloth shall be evaluated.
- 5/ The specimen shall be oven dried after each of the 3 laundering cycles.
- 6/ For discoloration, one determination shall be performed per sample unit and the results reported as "pass" or "fail".

4.4.2 Examination of the end item. Examination of the end item shall be in accordance with 4.4.2.1 through 4.4.2.3. The lot size shall be expressed in units of jerseys. The sample unit shall be one finished jersey. The inspection levels and the acceptable quality levels shall be as specified in 4.4.2.3.

4.4.2.1 Visual examination. The jerseys shall be examined for defects in color, design, material, (as defined in MIL-STD-1491) construction, workmanship and marking, and defects classified in accordance with the list below:

Classification of defects

Defects	Classification	
	Major	Minor
I. MATERIAL		
a. Any hole, cut, tear, mend, or drop stitch	X	
b. Any loose knitting, causing sleaziness		X
c. Slubby yarn more than twice the size of the normal yarn		X
d. Any spot, stain, or streak		X
e. Barre mark		X
f. Foreign matter, fly and etc. (score only when condition is visible at a distance of 3 feet)	X	
II. WORKMANSHIP		
Any component or operation omitted or not as specified	X	
III. WRISTLET		
a. Not double thickness	X	
b. Width of each wristlet not within 1/8 inch of each other		X

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Classification of defects

Defects	Classification	
	Major	Minor
IV. COLLARETTE		
a. Not double thickness	X	
b. Improperly attached	X	
V. HEM		
Width of hem not within tolerance		X
VI. LABEL		
a. Missing, incorrect, illegible, or not properly stitched	X	
b. Misplaced		X
VII. THREAD		
a. Not color specified		X
b. Thread ends or floats:		
1. Three or more on outside more than 1/4 inch	X	
2. Five or more on inside 1/2 inch or more		X
VIII. SHADE		
a. Other than specified	X	
b. Off shade		X
c. Shaded part or parts		X
d. Dye streaks		X
IX. REFLECTIVE TAPE		
a. Missing	X	
b. Not covering specified distance		X
c. Not anchored in specified seam allowance		X
X. SEAMS AND STITCHING		
a. Ends of stitching and thread breaks not backstitched or backtacked as specified	X	
b. Any open seam (except on hem) <u>1</u> /	X	
c. Any open seam 1/2 inch or more (on hem or label) <u>1</u> /		X
d. Stitch type not as specified	X	
e. Seam type not as specified	X	
f. A runoff of any seam measuring one inch or more creating a raw edge which protrudes from seam line more than 1/4 inch		X
g. Stitch tension tight - stitches break when normal tension is applied to seams or hem		X
h. Stitch tension loose resulting in loosely secured seam or hem		X

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Classification of defects

Defects	Classification	
	Major	Minor
i. Number of stitches per inch not within tolerances specified		X
j. Any part of garment pleated, caught or twisted in any unrelated row of stitches	X	
k. Any evidence of needle chew along a portion of any seam over 1 inch	X	
l. Gauge of stitching not as specified		X
m. Improper stitch bite creating folds or pleats		X
n. Collarette and left shoulder seam misaligned by more than 1/2 inch		X
o. Wristlet and underarm seam misaligned by more than 1/2 inch		X

1/ One or more broken stitches or two or more continuous skipped or runoff stitches constitutes an open seam. On double stitched seams (516 thru 519), a seam is considered open when either the joining seam (301 or 401) or the overedge seam (504) is open.

4.4.2.2 Dimensional examination. Any measurement deviating from the nominal dimensions and tolerances specified in paragraph 3.8 shall be scored as a measurement defect. Sleeve lengths unequal in length by 1/2 inch or more shall be scored as a size measurement defect.

4.4.2.3 Acceptable quality levels and inspection levels. The inspection levels and acceptable quality levels (AQL's) expressed as defects per 100 units, for visual and dimensional examination shall be as follows:

	<u>AQL's</u>	<u>Inspection level</u>
For defects listed in 4.4.2.1:		
Major defects	2.5	II
Total defects (Major and Minor combined)	6.5	II
For defects listed in 4.4.2.2:		
One class	6.5	S-3

4.4.3 Examination of packaging requirements. An examination shall be made to determine that packaging, packing, and marking comply with Section 5 requirements of this specification. Defects shall be scored in accordance with the list below. The sample unit shall be one shipping container fully prepared for delivery. Defects of closure listed below shall be examined on shipping containers fully prepared for delivery. 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 shall be 2.5 defects per 100 units.

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<u>Examine</u>	<u>Defects</u>
Marking (exterior)	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, improper taping, loose strapping or inadequate stapling.
Content	Number of jerseys per package and shipping container is more or less than specified. <u>1/</u> Size shown on item not as specified on package or shipping container. <u>1/</u>

1/ For these defects, one package from each shipping container in sample shall be examined.

4.4.4 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 end item inspection lot. The inspection level shall be S-1 and the AQL, expressed in terms of defects per hundred units, shall be 6.5 in accordance with MIL-STD-105.

<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 C, as specified (see 6.2).

5.1.1 Level A. Each jersey shall be folded as follows:

1. Place jersey front down.
2. Fold each side of the jersey in approximately 2 to 4 inches according to size so that the folded width is approximately 11-1/2 inches.

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3. Fold sleeves at shoulder and place on top and parallel to the folded sides.
4. Fold in half by bringing the bottom of the jerseys to the top, so that the folded jersey measures approximately 11-1/2 inches by 14-3/4 inches. Five (5) folded jerseys, of one size and color only, with each jersey reversed end to end, shall be neatly stacked and securely tied with cotton tape or twine approximately 4 inches from each end to form a bundle.

5.1.2 Level C. Jerseys shall be preserved to afford adequate protection against physical damage during shipment from the contractor to the first receiving activity. The package and the quantity per package shall be the same as that normally used by the contractor for retail distribution.

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

5.2.1 Level A. Fifty (50) jerseys, (10 bundles of 5 each) of one size and color only, preserved as specified in 5.1, shall be packed in a fiberboard shipping container, assembled, closed and reinforced conforming to type CF, class weather-resistant, variety DW, grade V15c, size 3A of MIL-B-17757. The liner shall be type CF, class domestic in accordance with the requirements specified in MIL-B-17757. Level A packages shall be stacked flat, two in length, one in width, and twenty-five in depth within a shipping container, with the longer dimensions parallel to the end panels of the box. Each container shall have the contents completely covered on the top and bottom with a sheet of commercial grade kraft paper.

5.2.2 Level B. Fifty (50) jerseys, (10 bundles of 5 each) of one size and color only, preserved as specified in 5.1, shall be packed in a fiberboard shipping container assembled, closed, and reinforced conforming to class domestic, type CF, variety DW, grade 200, size 3A of MIL-B-17757. The fiberboard for the liner shall conform to class domestic, type CF of MIL-B-17757. Level A packages shall be stacked flat, one in width, two in length and twenty-five in depth within a shipping container. Each container shall have the contents completely covered on the top and bottom with a sheet of commercial grade kraft paper.

5.2.3 Level C. Jerseys, preserved as specified in 5.1, shall be packed in a manner to insure carrier acceptance and safe delivery to destination at the lowest transportation rates for such supplies. The quantity per shipping container shall be the same as that normally used by the contractor for retail distribution. Containers shall comply with the US Postal Manual, Uniform Freight Classification Rules or National Motor Freight Classification Rules as applicable.

5.3 Marking. In addition to any special marking required by the contract or order, unit packs, intermediate or exterior containers, and palletized unit loads shall be marked in accordance with MIL-STD-129.

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5.4 Palletization. When specified (see 6.2) item packed as specified 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 the bonding methods C and D or Film bonding F or G. Pallet pattern shall be in accordance with the appendix of MIL-STD-147. The pallet shall be 4-way, Type IV; Type V, Class 1, Size 2; or Type VIII, fabricated from wood group I, II, III or IV, Grade A of NN-P-71, or 4-way, Style 1, Size A, Type I, Class 1 fabricated from wood groups specified in MIL-P-15011. 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 be approved by the contracting officer.

5.5 MIL-STD-2073. When specified (see 6.2), Preservation and Packing shall be in accordance with MIL-STD-2073-1 and MIL-STD-2073-2.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The jerseys are intended for wear by flight deck personnel aboard aircraft carriers to designate their assigned duties as follows:

White 3061	Phone talkers
Blue 3355	Plane pushers
Green 3432	Catapult and arresting gear personnel
Yellow 3512	Flight deck officers and plane directors
Brown 3728	Plane captains and mechanics
Red 3804	Ordnance men
Purple 3905	Fuel handlers

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification
- b. Sizes and colors required (see 1.2)
- c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- d. When first article sample is required (see 3.2). The item will be tested and should be a first article sample. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, quantity, testing and approval of the first article.
- e. Flame retardant treatments evaluated and approved by the appropriate medical service in regard to toxicity (see 3.3.1.8).
- f. Levels of preservation and packing required (see 5.1 and 5.2)
- g. When palletization is required (see 5.4)
- h. When all packaging data is to be found in MIL-STD-2073-1 and MIL-STD-2073-2 (see 5.5).

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6.3 Samples and patterns. For access to samples and patterns, address the procuring activity issuing the invitation for bids (see 3.1 and 3.5).

6.4 Reflective tape. A suggested source for the reflective tape described in 3.3.3 is 3M Company, 3M Center, St. Paul, MN 55101.

6.5 Finish. An improperly finished fabric may result in needle chews/holes in the finished garment. It is recommended that a sample seam be sewn for evaluation prior to cutting of the materials using the side seam construction as required in Table II (see 3.3.1.7).

6.6 List of approved treatments. Only those treatments listed in the invitation for bids or request for proposal shall be considered acceptable for related procurements. Information on currently approved material may be obtained from Defense Personnel Support Center, Philadelphia, PA 19101 (see 3.3.1.7 and 3.3.1.8).

6.7 Equal item. Prior to the use of an "equal item", the contractor shall submit the item with supporting data to the contracting officer for subsequent approval or disapproval by the responsible Military Agency.

6.8 Recycled materials. It is encouraged that recycled materials be used when practical as long as it meets the requirements of this specification.

6.9 Subject term (key word) listing.

Clothing, fire retardant treated
Clothing, aircraft carrier personnel
Clothing, turtleneck
Knit, fire retardant treated

Custodian:
Navy - NU

Preparing Activity:
Navy - NU

Review Activity:
DLA - CT
Coast Guard - CG
Navy - AS

Project No. 8415-N685

User Activity:
Navy - SH

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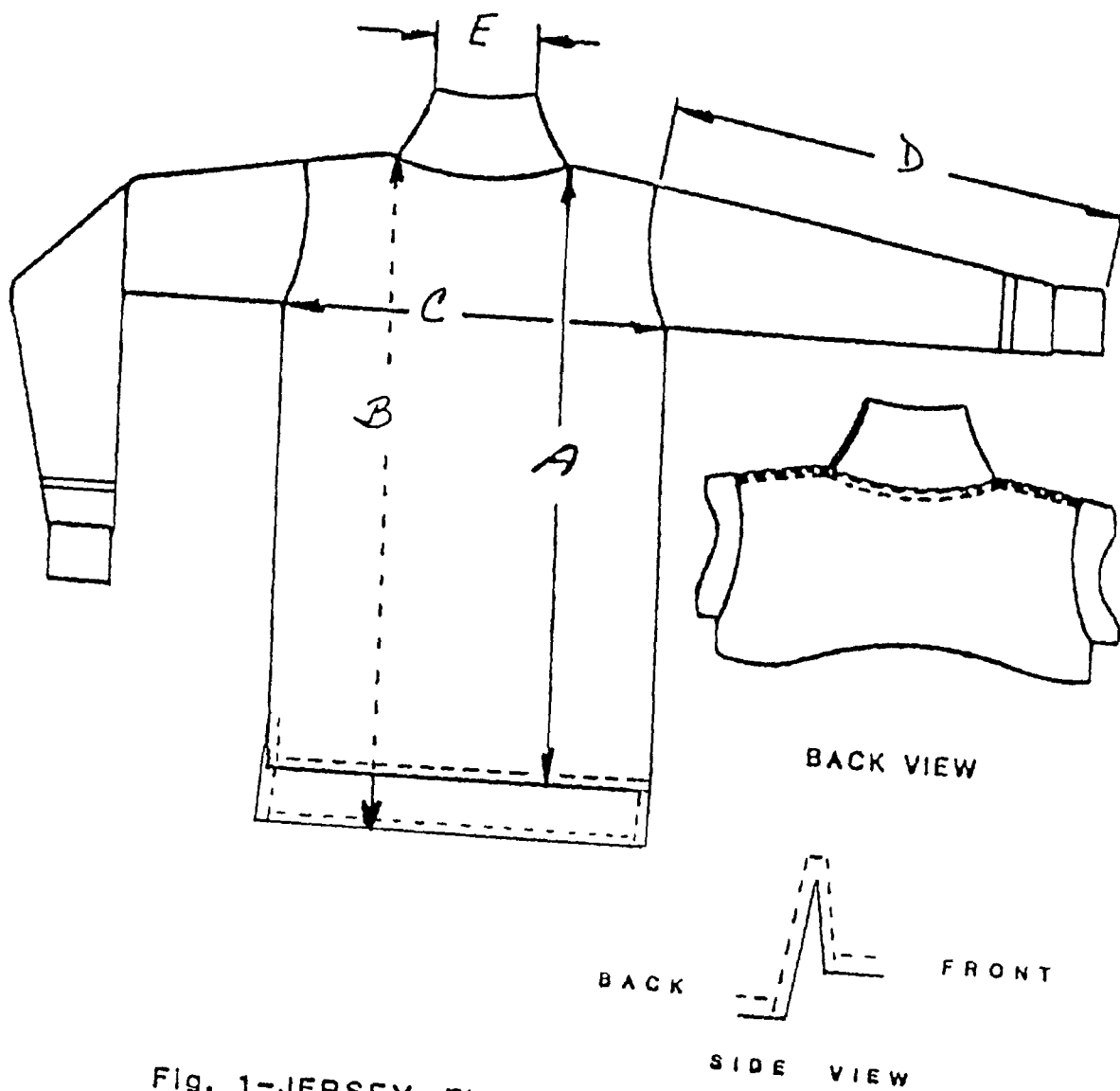


Fig. 1-JERSEY, FLIGHT DECK CREWMAN'S
(FLAME RESISTANT)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

- 1 The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
- 2 The submitter of this form must complete blocks 4, 5, 6, and 7.
- 3 The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	1 DOCUMENT NUMBER MIL-J-29634	2 DOCUMENT DATE (YYMMDD) 92 05 19
3 DOCUMENT TITLE JERSEY, FLIGHT DECK CREWMAN'S (FLAME-RESISTANT)		
4 NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.) NEW		
5 REASON FOR RECOMMENDATION		
6. SUBMITTER		
a NAME (Last, First, Middle Initial) CAULFIELD, LOUISE A.	b. ORGANIZATION NAVY CLOTHING AND TEXTILE RESEARCH FACILITY	
c ADDRESS (Include Zip Code) P.O. BOX 59 NATICK, MA 01760-0001	d TELEPHONE (Include Area Code) (1) Commercial (508)651-4119 (2) AUTOVON (if applicable)	7. DATE SUBMITTED (YYMMDD) 92 05 19
8 PREPARING ACTIVITY		
a NAME	b TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON	
c ADDRESS (Include Zip Code)	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403 Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289 2340	