

INCH-POUND

A-A-55246

22 NOVEMBER 1993

COMMERCIAL ITEM DESCRIPTION

DRAWERS, COLD WEATHER; UNDERSHIRT, COLD WEATHER:
POLYPROPYLENE

The General Services Administration has authorized the use of this Commercial Item Description in preference to MIL-D-44165, Drawers, and MIL-U-44164, Undershirt.

ABSTRACT

Abstract. This document covers the technical requirements for polypropylene underwear. The underwear is intended for servicemen as a component of the extended cold weather clothing system.

Classification. The underwear shall be of one class provided in the following types:

Type I Drawers
Type II Undershirt

Sizes. The underwear shall be provided in the following sizes:

X-SMALL
SMALL
MEDIUM
LARGE
X-LARGE

NOTE: The sizes above may be abbreviated as XSM, SM, MED, LG, and XLG.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Personnel Support Center, Clothing and Textiles Directorate, Attn: DPSC-FSSD, 2800 South 20th Street, Philadelphia, PA 19101-8419, by using the 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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SALIENT CHARACTERISTICS

Type I (Drawers). The drawers shall be constructed of knitted polypropylene cloth for the two ankle length legs and the fly parts, and constructed of 1X1 rib knit polypropylene cloth for the ankle cuffs of double thickness and constructed of elastic polyester webbing for the waistband. See Figure 1 for illustration.

The in-seams, fly reinforcement parts, and leg cuff fabrication and attachment shall be accomplished by means of SSa-1 seam using a 503 or 504 stitch with 12-16 stitches per inch (s.p.i.). The left fly reinforcement piece is additionally topstitched using 12-16 s.p.i. The fly shall be bartacked at top and bottom perpendicular to crotch, the opening shall finish $5\text{-}1/8 \pm 1/4$ inches long and the raw edge of the right fly shall be overedged. The elastic webbing shall be stitched to the drawers using a LSa-1 seam and one of the following stitches: 303, 605, or 607.

Type II (Undershirt). The knitted polypropylene undershirt shall have a front and back body, two long raglan sleeves, a one piece collar that converts to a turtle neck when the center front nylon slide fastener is closed to the top of the collar, and two sleeve cuffs of double thickness. The undershirt shall have a $1 \pm 1/8$ inch hem at the bottom of the body. See Figure 2 for illustration.

The side and underarm sleeve seams, sleeve attachment, collar attachment, and sleeve cuff attachment, shall be accomplished by means of SSa-1 seam using a 503 or 504 stitch with 12-16 stitches per inch (s.p.i.).

Material.

Basic fabric (Types I and II). The basic material for the drawers and undershirt shall be a circular or warp knit terry loop fabric of 100% textured or non-textured multifilament polypropylene for both the face and terry-loop backing. The terry-loop backing shall be brushed and shall be on the inside of the drawers and undershirt. The color shall be Brown 436 and be obtained by use of melt-spun solution dyed fibers. The fabric shall conform to the following requirements:

| CHARACTERISTIC | REQUIREMENT | TEST METHOD |
|------------------------------|-------------|-------------|
| Weight (oz. per square yard) | 5.9 minimum | ASTM-D 3887 |
| Wales per inch | 24 minimum | ASTM-D 3887 |
| Courses per inch | 22 minimum | ASTM-D 3887 |
| Bursting strength (lbs.) | 80 minimum | ASTM-D 3787 |

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| | | |
|--------------------|--------------------|--------------------|
| Dimensional Change | | AATCC 96, |
| Type I | | (Test 1c, A) |
| Wales | 4% maximum | |
| Courses | 4% maximum | |
| Type II | | |
| Wales | 3% maximum | |
| Courses | 3% maximum | |
| Colorfastness to: | | |
| Laundering | Equal to Standard | AATCC 61 |
| (after 3 cycles) | or Grade 4 minimum | (Test 1A) |
| Perspiration | Equal to Standard | AATCC 15 |
| | or Grade 4 minimum | |
| Croaking | Equal to Standard | AATCC 8 <u>1</u> / |
| | or Grade 4 minimum | |
| pH Value | 5.0 to 8.5 | 2811 <u>2</u> / |

1/ AATCC Chromatic Transference Scale Rating.

2/ Test Method shall be as specified in FED-STD-191 - Textile Test Methods.

Cuffs - Type I (Drawers). The cuff fabric for the drawers shall be a 1X1 rib knit from a 140 denier (nominal) multifilament 100 percent polypropylene yarn. As an alternative, up to 10 percent nylon may be used with the remaining percentage being polypropylene. The color shall be Brown 436 and shall be obtained by solution dyeing. The cuff fabric shall conform to the following requirements:

| CHARACTERISTIC | REQUIREMENT | TEST METHOD |
|------------------------------|--------------------|------------------------|
| Weight (oz. per square yard) | 5.3 (-0.5, +1.5) | ASTM-D 3776 (Option C) |
| Wales per inch | 19 minimum | ASTM-D 3887 |
| Courses per inch | 32 minimum | ASTM-D 3887 |
| Dimensional Stability | | AATCC 135 <u>1</u> / |
| Wales | 3% maximum | |
| Courses | 3% maximum | |
| Colorfastness to: | | |
| Laundering | Equal to Standard | AATCC 61 |
| (after 3 cycles) | or Grade 4 minimum | (Test 1A) |
| Perspiration | Equal to Standard | AATCC 15 |
| | or Grade 4 minimum | |
| Croaking | Equal to Standard | AATCC 8 <u>2</u> / |
| | or Grade 4 minimum | |
| pH Value | 5.0 to 8.5 | 2811 <u>3</u> / |

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- 1/ AATCC Method 135, Dimensional Changes in Automatic Home Laundering of Durable Press Woven or Knit Fabrics - Machine Wash Condition II (120 \pm 50 F) Drying Procedure B (Tumble) except that the drying temperature shall not exceed 120 F.
- 2/ AATCC Chromatic Transference Scale rating.
- 3/ Test method shall be as specified in FED-STD-191 - Textile Test Methods.

Cuffs - Type II (Undershirt). The cuff fabric shall consist of the same basic material as all other pattern parts.

Waistband - Type I (Drawers). The elastic webbing for the waistband shall be a woven polyester webbing or a knitted polyester webbing matching Brown Shade 436. The webbing shall meet the following requirements:

| CHARACTERISTIC | REQUIREMENT <u>1/</u> | |
|-----------------------------------|--------------------------------------|------------------------------|
| | WOVEN | KNITTED |
| Width, inches | 1-1/4 \pm 1/16 | 1-1/4 \pm 1/16 |
| Weight, oz./linear yard (minimum) | 0.62 | 0.55 |
| Tension, (pounds) | | |
| Initial | 1.9 \pm 0.3 | 1.70 \pm 0.25 |
| After Accelerate Aging | 1.6 \pm 0.5 | 80% of initial value minimum |
| Colorfastness to: | | |
| Laundrying (after 3 cycles) | Equal to Standard or Grade 4 minimum | AATCC 61 (Test 1A) <u>2/</u> |
| Perspiration | Equal to Standard or Grade 4 minimum | AATCC 15 |
| Crocking | Equal to Standard or Grade 4 minimum | AATCC 8 <u>2/</u> |

- 1/ Unless otherwise specified, a certificate of compliance shall be submitted and will be acceptable for the stated requirements.
- 2/ Omit pressing.
- 3/ AATCC Chromatic Transference Scale Rating.

Slide fastener - Type II (Undershirt). The slide fastener shall be a commercial grade continuous element of coil or ladder configuration, size LS, automatic lock, non-separating chain, nonreversible, open top stop, closed bottom stop. The basic material shall be nylon and the color shall approximate the color of the basic fabric of the undershirt.

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Thread (Type I and II). The thread for the undershirts and drawers shall be spun polyester, with a soft, natural, non-luster finish, 2 ply, approximate Tex 25, with a minimum breaking force of 1.7 pounds, and 20% maximum elongation when tested as specified according to Test Method ASTM-D 2256. The color shall be Brown 436 and shall show colorfastness to laundering (after 3 cycles) and colorfastness to perspiration equal to standard or shall show a minimum of Grade 4 when tested as specified according to test methods AATCC 16, (Test 1A) for Laundering; and AATCC 15 for Perspiration.

Sizes and measurements. The finished measurements shall conform to the following Table I for Type I Drawers and Table II for Type II Undershirt:

TABLE I - FINISHED MEASUREMENTS

| TYPE I DRAWER | XS | S | M | L | XL | Tolerance (inches) |
|-------------------------------------|--------|--------|--------|--------|--------|-----------------------|
| One half waist <u>1/</u> | 11-1/4 | 12-1/4 | 13-1/4 | 14-1/4 | 15-1/4 | +3/4, -1/2 |
| Inseam <u>2/</u> | 28-1/4 | 29-1/4 | 30-1/4 | 31-1/4 | 32-1/4 | ± 3/4 |
| One half cuff width <u>3/</u> | 3-1/4 | 3-1/4 | 3-3/4 | 3-3/4 | 4-1/4 | +3/4, -1/2 |
| Cuff length <u>4/</u> | 2-3/4 | 2-3/4 | 2-3/4 | 2-3/4 | 2-3/4 | +3/4, -1/2 |

1/ Measure along center of waistband from folded edge to folded edge.

2/ Measure inseam of drawers from crotch seam to bottom edge of drawers leg cuff.

3/ Measure width of cuff from folded edge to folded edge at center of cuff.

4/ Measure length of cuff from seam edge of ribbing to bottom edge of hem.

NOTE: All measurements shall be taken with the garment laid out flat with no smoothing of the fabric and under no tension.

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TABLE II - FINISHED MEASUREMENTS

| TYPE II UNDERSHIRT | Tolerance for all measurements is +3/4, -1/2 | | | | |
|-------------------------------|--|--------|--------|--------|--------|
| | XS | S | M | L | XL |
| One half chest <u>1/</u> | 18 3/4 | 20 3/4 | 22 3/4 | 24 3/4 | 26 3/4 |
| Back length <u>2/</u> | 25 | 26 | 27 | 28 | 29 |
| Sleeve length <u>3/</u> | 18 3/4 | 19 3/4 | 20 3/4 | 21 3/4 | 22 3/4 |
| One half neck <u>4/</u> | 7 1/4 | 7 1/2 | 7 3/4 | 8 | 8 1/4 |
| One half cuff width <u>5/</u> | 3 1/4 | 3 1/4 | 3 3/4 | 3 3/4 | 4 1/4 |
| Cuff length <u>6/</u> | 2 1/4 | 2 1/4 | 2 1/4 | 2 1/4 | 2 1/4 |

1/ Measure at base of armhole, from folded edge to folded edge.

2/ Measure along center back from collar seam to bottom of undershirt.

3/ Measure along underarm seam from bottom of cuff to armhole seam.

4/ Measure collar with slide fastener closed, from folded edge to folded edge.

5/ Measure cuff width at center of cuff from folded edge to folded edge.

6/ Measure from base of sleeve to bottom of cuff.

NOTE: All measurements shall be taken with the garment laid out flat with no smoothing of the fabric and under no tension.

Label - Type I (Drawers). The drawers shall have a label sewn on the inside center of the back elastic just below the top edge of the waistband. The labels shall be securely stitched with a lockstitch on all sides 1/16 to 1/8 inch from the edges of the labels. The label shall be printed on a durable non-woven fabric with commercial grade, colorfast, black ink. The instruction/identification label legend shall contain the following information:

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DRAWERS, COLD WEATHER, POLYPROPYLENE

FIXED LAUNDRY: The polypropylene drawers should be laundered utilizing "Natick Formula IV".

NOTE: DO NOT STARCH, BLEACH OR PRESS

FIELD LAUNDRY: The polypropylene drawers should be laundered utilizing "Formula II" of TM 10-280.

NOTE: DO NOT STARCH, BLEACH OR PRESS.

DRYING: The polypropylene drawers should be finished in a tumble-dryer, loaded not more than $\frac{2}{3}$ of rated capacity at low heat cycle (Do not exceed 100 F). Remove immediately from dryer. Avoid over-drying.

MACHINE/HAND LAUNDERING: Use delicate wash cycle or wash by hand in cold water (85 F) and cold water detergent. Rinse in clean cold water. DO NOT BLEACH OR STARCH.

DRYING (HOME): Tumble dry permanent press cycle (100°F) for 30 minutes. Remove immediately. DO NOT OVER-DRY.
DO NOT PRESS.

Label - Type II (Undershirt). The undershirt shall have an instruction label caught in the stitching of the side seam at the center and an identification/size label caught in the stitching, of the collar to body and sleeves, at the center back. The labels shall be printed on a durable non-woven fabric with commercial grade, colorfast, black ink. The instruction/identification label legend shall contain the following information:

UNDERSHIRT, COLD WEATHER, POLYPROPYLENE

FIXED LAUNDRY: The polypropylene undershirt should be laundered utilizing "Natick Formula IV".

NOTE: DO NOT STARCH, BLEACH OR PRESS.

FIELD LAUNDRY: The polypropylene undershirt should be laundered utilizing "Formula II" of TM 10-280.

NOTE: DO NOT STARCH, BLEACH OR PRESS.

DRYING: The polypropylene drawers should be finished in a tumble-dryer, loaded not more than $\frac{2}{3}$ of rated capacity at low heat cycle (Do not exceed 100 F). Remove immediately from dryer. Avoid over-drying.

MACHINE/HAND LAUNDERING: Use delicate wash cycle or wash by hand in cold water (85 F) and cold water detergent. Rinse in clean cold water. DO NOT BLEACH OR STARCH.

DRYING (HOME) Tumble dry permanent press cycle (100°F) for 30 minutes. Remove immediately. DO NOT OVER-DRY.
DO NOT PRESS.

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Label/tag. Each item shall be individually bar-coded with the type VIII, class 17 label/tag of DDD-L-20 - Label: For Clothing, Equipage, And Tentage, (General Use). This label/tag shall be located so that it is completely visible on each item and causes no damage to the item.

Patterns. The government shall furnish a single size pattern. The contractor is responsible for grading patterns for additional sizes. The pattern generally provides for a seam allowance of 1/4 inch for joining seams. Commercial patterns may be used in lieu of the government furnished pattern, provided they conform to the cited design and finished measurements.

Workmanship. The finished drawers and undershirts shall conform to the quality of product established by this document. The occurrence of defects shall not exceed the contractor's own quality assurance standards and the quality assurance standards defined by the technical data in the bid package.

Product demonstration model. When required, offerors shall submit samples of their intended production. The Product demonstration model will consist of units independently developed. Product demonstration models will be analyzed and evaluated by the government. Evaluation criteria and basis for award are contained in the solicitation. Product demonstration models will be retained by the government. One (1) Product demonstration model approved by DPSC under the resultant contract will serve as a manufacturing standard for the corresponding production items delivered under this contract. Offerors are advised that the Product demonstration model does not relieve the successful offeror of his responsibility to perform in accordance with the commercial item description specified above.

Regulatory requirements. The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practicable.

QUALITY ASSURANCE

Certification. The contractor shall certify that the product offered meets the salient characteristics of this description and that the product conforms to the producer's own drawings, specifications, standards and quality assurance practices. The government reserves the right to require proof of such conformance prior to the first delivery, and thereafter, as may be otherwise provided for under the provisions of the contract. Reliance on contractor quality assurance systems 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.

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Visual examination. The underwear lots shall be examined for the defects listed below. The lot size shall be expressed in units of underwear. The sample unit is one garment.

Defects. The underwear shall be examined for the following defects:

Construction: Thread ends not removed; seam twisted, puckered or pulled, needle chews, failure to back-stitch; untrimmed ends, loose or tight seam resulting in unsatisfactory seam, noticeable* at pleating; unspecified seam type; open seam; raw edges; label missing, incorrect, or illegible; measurement of item not as specified; slide fastener improperly or incompletely set; malfunctioning slide fastener; any component part missing, improperly inserted, or other than specified.

Cloth: Any hole, cut, tear, color not as specified; any spot stain or streak abrasions; drop stitch; loose, broken or missing yarn; slub or slug; float; uneven, ridgy, or cockled cloth; foreign matter, noticeable* barre or uneven knitting; rancid or foul odor.

Note: "Noticeable" is deemed readily visible at 3 feet inspection distance.

Label: Missing, misplaced, incorrect, illegible, or not properly stitched; bar-code omitted or not readable by scanner, Human-Readable Interpretation (HRI) omitted or illegible; bar-coded type not as specified, code density not as specified.

Dimensional examination. The finished underwear shall conform to the dimensions specified. Any dimension that is not within the established tolerance shall be classified as a defect. The sample unit shall be one garment.

Packaging examination. The fully packaged shipping containers shall be examined in accordance with defects listed below. The lot size shall be the number of shipping containers in the inspection lot.

| EXAMINE | DEFECT |
|---------------------------------------|--|
| Marking (exterior and interior) | Omitted; incorrect; illegible; of improper size, location, or method of application. |
| Materials | Any component missing, damaged, or not as specified. |
| Workmanship | Inadequate application of components, such as: incomplete closure of flaps, loose strapping, |

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| | |
|---------------|--|
| | improper taping, or inadequate stapling. |
| Content | Number of items in container is more or less than required. |
| | NSN shown on one or more items not as specified on shipping container. |
| Palletization | Length, width, or height exceeds specified maximum requirements. |
| | Pallet type not as specified. |
| | Load not bonded as specified. |

PACKAGING

Preservation, packing, and marking. The preservation, packing, and marking shall be as specified in the contract or order.

NOTES

Standard sample. For information and access regarding the availability of standard samples of shades specified, address inquiry to the procuring activity issuing the invitation for bids.

Component verification. Contractor shall provide Certificates of Compliance from component suppliers to verify compliance to requirements herein described. The government reserves the right to validate these Certificates at any time.

Figures. Figure 1 and 2 are furnished solely for guidance and information. If there are any inconsistencies between the written document and Figure 1 and 2, the written document shall govern.

Source of Government documents. Copies of Military and Federal documents are available from:

Standardization Documents Order Desk
 Building 4D
 700 Robbins Avenue
 Philadelphia, PA 19111-5094

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Source of Non-government documents.

ASTM Test Methods - Applications for copies should be addressed to:

American Society For Testing and Materials
1916 Race Street
Philadelphia, PA 19103

AATCC Test Methods - Applications for copies should be addressed to:

American Association of Textile Chemists and Colorists
P.O. Box 12215
Triangle Park, NC 27709-2215

Custodian:

Army - GL
Navy - NU

Review Activity:

Navy - MC

Civil Agency Coordinating Activity:

GSA - FSS

Preparing Activity:

DLA - CT

Project No.

8415-0937

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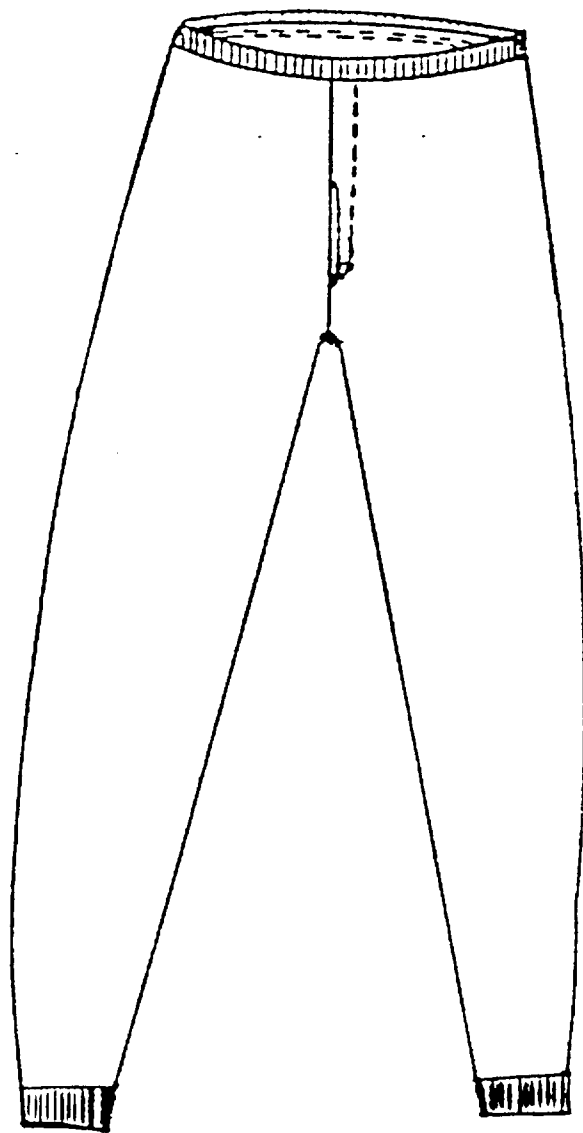


FIGURE 1. DRAWERS, COLD WEATHER, POLYPROPYLENE

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ZIPPERS ALL THE WAY UP THE NECK

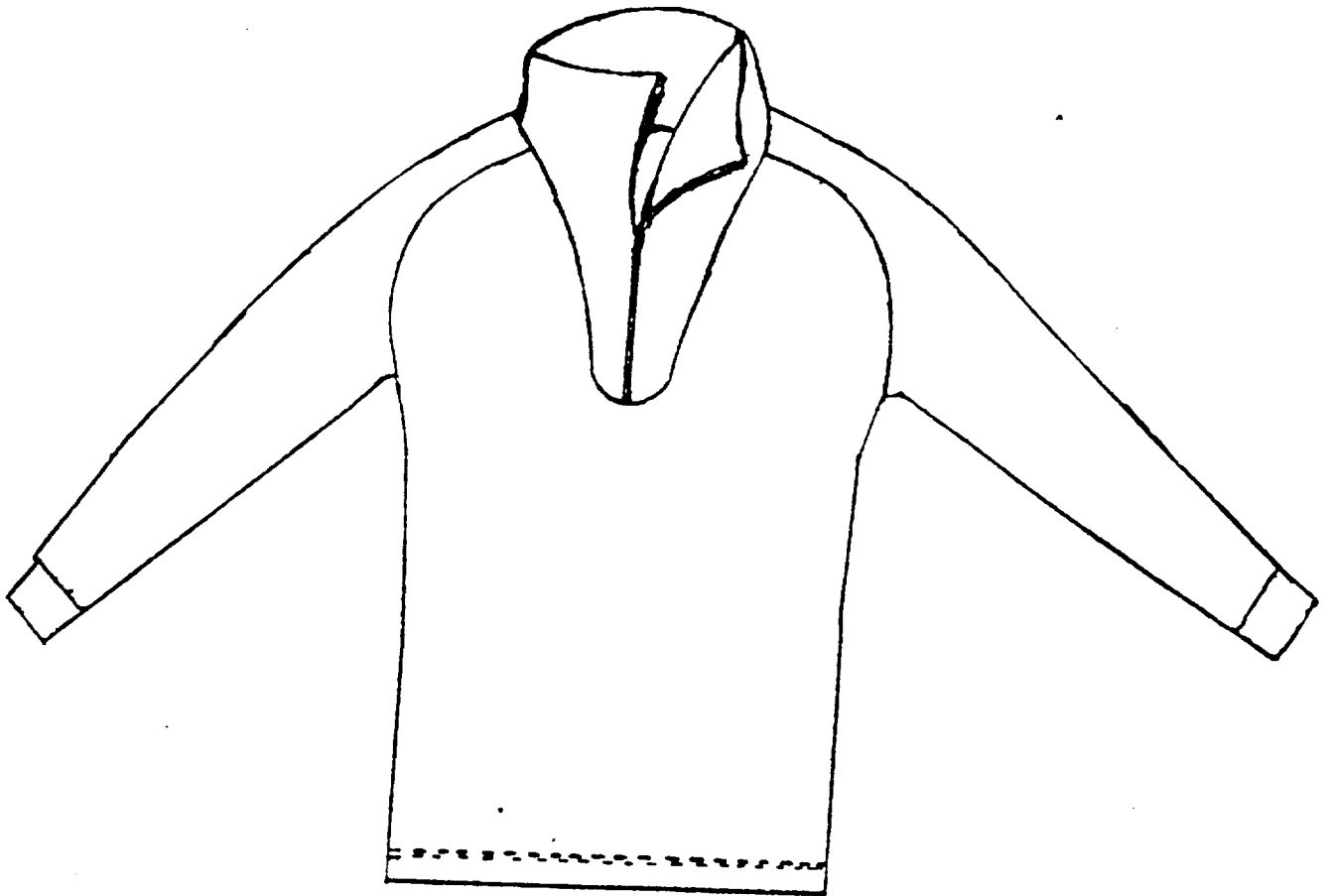


FIGURE 2. UNDERSHIRT, COLD WEATHER POLYPROPYLENE

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 A-A-55246 | 2. DOCUMENT DATE (YYMMDD) 93-11-22 |
| 3. DOCUMENT TITLE DRAWERS, COLD WEATHER; UNDERSHIRT, COLD WEATHER: POLYPROPYLENE | | | |
| 4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.) | | | |
| 5. REASON FOR RECOMMENDATION | | | |
| 6. SUBMITTER | | | |
| a. NAME (Last, First, Middle Initial) | | b. ORGANIZATION | |
| c. ADDRESS (Include Zip Code) | | d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON (If applicable) | 7. DATE SUBMITTED (YYMMDD) |
| 8. PREPARING ACTIVITY | | | |
| a. NAME Defense Personnel Support Center ATTN: DPSC-FSSD (12-3-D) | | b. TELEPHONE (Include Area Code) (1) Commercial (215)737-8105 | (2) AUTOVON DSN-444-8105 |
| c. ADDRESS (Include Zip Code) 2800 South 20th Street P. O. Box 8419 Philadelphia, Pennsylvania 19101-8419 | | 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 | |