

## PURCHASE DESCRIPTION

### CLOTH, WATERPROOF AND MOISTURE VAPOR PERMEABLE

This purchase description is approved by the Navy Clothing and Textile Research Facility,  
Department of the Navy

#### 1. SCOPE

1.1 Scope. This specification covers requirements for camouflage, waterproof and moisture vapor permeable cloths with Anchor, Constitution, and Eagle (ACE) printed logo.

1.2 Classification. The camouflage cloths are provided in the following types.

Type I	See 6.9
Type II	Desert camouflage NWU II with ACE logo
Type III	Woodland camouflage NWU III with ACE logo

#### DISTRUBUTION STATEMENT:

This notice is to advise you that the Government possesses intellectual property / trademark rights in the following Navy patterns and logos: Desert and Woodland digitized pattern; and the anchor / Constitution / eagle (ACE) logo (hereafter collectively referred to as "intellectual property"). The Government claims exclusive ownership of the above-mentioned intellectual property. Therefore, no entity other than the Government, or those contracted by or having obtained proper permission or licenses from the Government to do so, are permitted to produce, sell, or transfer in any manner any items (clothing or non-clothing) containing or copying, in whole or in part, the intellectual property. Doing so will be considered an infringement on the Government's intellectual property rights and will be subject to legal action.

NCTRF CAGE CODE: 32263

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 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 specified in the solicitation or contract.

### FEDERAL STANDARDS

FED-STD-595/23430 Yellow, Semi gloss

(Copies of these documents are available online at <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

### SPECIAL OPERATIONS FORCES SURVIVAL, SUPPORT AND EQUIPMENT SYSTEMS

PM-SOF SSES SPEC 07-11 Camouflage Print Performance Specification For AOR 1, AOR 2, NWU II and NWU III

(Copies of this document are available from U. S Army, Research, Development and Engineering Command, PM-Special Operations Forces Survival, Support and Equipment Systems, Kansas Street, BLDG 4, Natick, MA 01760.) (See 6.7)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those specified in the solicitation or contract (see 6.2).

### AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

#### Evaluation Procedures

AATCC Evaluation Procedure 1, Gray Scale for Color Change

AATCC Evaluation Procedure 2, Gray Scale for Staining

AATCC Evaluation Procedure 8, Nine Step Chromatic Transference Scale Rating

#### Test Methods

AATCC 8 Colorfastness to Crocking; AATCC Crockmeter Method

AATCC 16 Colorfastness to Light

AATCC 22 Water Repellency: Spray Test

- AATCC 96 Dimensional Changes in Commercial Laundering of Woven and Knitted Fabrics Except Wool
- AATCC 118 Oil Repellency; Hydrocarbon Resistance Test
- AATCC 135 Dimensional Change of Fabric After Home Laundering

(Copies of these documents are available on line at <http://www.aatcc.org> from the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709-2215.)

#### ASTM INTERNATIONAL

- ASTM F392 Standard Test Method for Flex Durability of Flexible Barrier Materials
- ASTM D751 Standard Test Methods for Coated Fabrics
- ASTM D1776 Standard Practice for Conditioning and Testing Textiles
- ASTM D2582 Standard Test Method for Puncture Propagation Tear Resistance of Plastic Film and Thin Sheeting
- ASTM D3393 Standard Specification for Coated Fabrics- Waterproofness
- ASTM D3776 Standards Test Methods for Mass Per Unit Area (Weight) of Fabric

(Copies of these documents are available online at <http://www.astm.org> or from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

#### OTHER PUBLICATIONS

Principles and Methods of Toxicology (fourth edition), A. Wallace Hayes (editor), pp 1057-1060, 2001

(Copies of this publication are available from Taylor and Francis, Philadelphia, PA or online at <http://taylorandfrancis.co.uk>)

#### TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY (TAPPI)

TAPPI Method 451 – Stiffness of Paperboard (Clark Stiffness Method)

(Applications for copies of referenced documents are available via <http://www.tappi.org> or should be addressed to TAPPI Press, Technology Park, P.O. Box 105113, Atlanta, GA 30348-5113.)

#### INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO 15496 Measurement of Water Vapor Permeability

(Copies of this document are available on-line at <http://www.iso.org> or from International Organization for Standardization (ISO), 1, Rue de Varembe, Case Postale, 56 CH 1211 Geneva 20, Switzerland)

2.4 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 Standard sample. The finished face of the cloth shall match the standard sample for shade and appearance, and shall, unless otherwise indicated, be equal to or better than the standard sample with respect to all characteristics for which the standard sample is referenced (see 6.6). The back side of Type II and Type III cloths shall be a good match to color chip # 23430.

3.2 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.3 Cloths. The cloths shall a laminated, waterproof and moisture vapor permeable material composed of a Polytetrafluoroethylene membrane, faced with nylon and a knit backing material, and meets the requirements listed in Table I. The cloths shall be dyed a ground shade and shall be printed with a digital camouflage print (see 3.5) in accordance with PM-SOF SSES SPEC 07 - 11 except the authorized testing facility shall be the DLA Product Testing Center – Analytical (see 6.8). Refer to the end item specifications for any specified finishes (See 6.1).

3.4 Color.

3.4.1 Desert camouflage NWU II with ACE logo, Type II. The colors for the Type II desert camouflage print shall be in accordance with the NWU II requirements specified in PM-SOF SSES SPEC 07 -11. The color of the knit backing shall be a good match to color chip #23430.

3.4.2 Woodland camouflage NWU III with ACE logo, Type III. The colors for the Type III woodland camouflage print shall be in accordance with the NWU III requirements specified in PM-SOF SSES SPEC 07 -11. The color of the knit backing shall be a good match to color chip #23430.

3.4.3 Visual shade matching. The color and appearance of the camouflage printed cloths shall conform to the requirements in PM-SOF SSES SPEC 07 -11.

3.5 Pattern execution. The pattern on the printed finished cloths shall reproduce the standard sample in respect to design, colors and registration of the respective areas. The pattern repeat shall conform to PM-SOF SSES SPEC 07 -11.

3.6 Spectral reflectance. The spectral reflectance values for Type II Desert and Type III Woodland materials shall conform to the requirements specified in PM-SOF SSES SPEC 07 -11,

when tested initially and after 20 home launderings when laundered in accordance with footnote 3/ of Table II.

3.7 Physical. The finished cloths shall conform to the requirements specified in sections 3.3, 3.4, 3.5, and 3.6 and Table I when tested as specified in 4.2.2.

TABLE I. Physical requirements.

Characteristic	Requirement
Weight, oz. per sq. yd. (max)	6.0
Tearing resistance, kgf (min)	
Warp	4.0
Filling	4.0
Hydrostatic resistance (to burst) (min psi)	
Initial	110
After diethyltoluamide	90
Hydrostatic resistance (sustained), min.	
Initial	No Leakage
After diethyltoluamide and after laundering	No Leakage
After diethyltoluamide and 1 laundering	No Leakage
Moisture vapor transmission rate (g/m <sup>2</sup> /24 hr) (min)	
Initial	4500
After synthetic perspiration	4500
Stiffness, warp only, cm (max) at 70° F	7.5
Water permeability (min)	
Initial	No Leakage
After Synthetic Perspiration	
Initial and After Laundering	No Leakage
After Physical Surface Appearance	No Leakage
After flex (70°F and -40°F)	
Warp	No Leakage
Fill	No Leakage
After wet flex *	
216 hours	Less than 7%
432 hours	Less than 34%
Spray Rating	
Initial	100,90,90
After Launderings (5 cycles)	90,90,90
Resistance to Organic Liquids	
Initial	No wetting to N-tetradecane
After Laundering (5 cycles)	No wetting to N-tetradecane
Physical Surface Appearance (after 5 launderings & after 96 hrs. continuous wash)	No change when with compared to the unlaundered

TABLE I. Physical requirements. – Continued.

Characteristic	Requirement
Dimensional Stability (warp and fill) max	4%
Colorfastness	
Laundering (5 cycles) min	
Black 519	2-3
All other colors	3-4
Light (40 hrs or 150 kj) (min)	
Black 519	2-3
All other colors	3-4
Synthetic Perspiration (min)	
Black 519	2-3
All other colors	3-4
Crocking (min)	
Black 519	1.5
All other colors	3.5

\*This test need only be performed at the start of each contract and then every 10 production lots or on an annual basis, whichever comes first.

3.8 Disposal of printed seconds/mill seconds/rejected material. All scraps, seconds, irregulars, extra material, and cloth containing the intellectual property and/or trademarks specified in PM-SOF SSES SPEC 07 -11 and are not utilized for government contracts or a purpose authorized in writing by the Government, shall be destroyed and not sold or transferred in any manner. This restriction applies to the prime contractor, as well as all subcontractors, and shall be incorporated into all agreements with subcontractors.

3.9 Toxicity. The finished cloths shall not present a health hazard and shall show compatibility with prolonged, direct skin contact when tested as specified in 4.2.3. Chemicals recognized by the Environmental Protection Agency (EPA) as human carcinogens shall not be used. (see 6.2).

3.10 Workmanship. The finished cloth shall conform to the quality of product established by this specification.

**4. VERIFICATION**

4.1 Classification of Inspection. The inspection requirements specified herein are classified as a Conformance inspection.

4.2 Conformance Inspection. Conformance inspection shall include the examination of 4.2.2 and 4.2.3.

4.2.1 Conformance Samples. Unless otherwise specified in the procurement document, quality conformance samples shall be provided the procuring activity. The cloth shall be tested for the characteristics listed in Table I. The applicable test methods are specified in Table II shall be followed. All test reports shall contain the individual values utilized in expressing the final

results. The sample unit shall be 5 continuous yards full width of the finished cloth for all physical and chemical tests. Each sample unit shall be taken from an individual roll. The lot shall be unacceptable if one or more sample units or the lot average fail to meet any requirement specified. The sample size shall be in accordance with the following:

<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

4.2.2 Requirement testing. The cloths shall be tested for the characteristics listed in paragraph 3.7 and Table I. The applicable test methods specified in Table II shall be followed. All test reports shall contain the individual values utilized in expressing the final results.

TABLE II. End item tests.

Weight	ASTM D-3776(Opt C)
Tear Resistance (PPT)	ASTM D-2582 <u>1/</u>
Hydrostatic Resistance Initial After diethyltoluamide	ASTM D-751 <u>2/</u>
Hydrostatic Resistance (Sustained) Initial After diethyltoluamide After diethyltoluamide and 1 Laundering	ASTM D-3393 <u>2/ , 3/</u>
Moisture Vapor Transmission Rate Initial After Synthetic Perspiration	ISO 15496 <u>4/ , 5/</u>
Stiffness (70°F)	TAPPI T-451 <u>6/</u>
Water Permeability Initial After Synthetic Perspiration After Synthetic Perspiration and 1 Laundering After Physical Surface Appearance After Flex (70°F and -40°F) After Wet Flex (216 hrs and 432 hrs)	ASTM D-751 <u>7/</u>  <u>5/</u> <u>3/ , 5/</u>  <u>8/</u> <u>7a/</u> <u>7b/</u>
Spray Rating Initial After Laundering	AATCC 22 <u>9/</u>  3/
Resistance to Organic Liquids Initial After Laundering	AATCC 118 <u>10/</u>  <u>3/</u>
Physical Surface Appearance	<u>8/ 3/</u>

TABLE II. End item tests. – Continued.

Dimensional Stability	AATCC No. 96, Option 1C2
Colorfastness	
Laundering	AATCC-135 <u>11/</u> , <u>12/</u>
Light	AATCC-16 <u>11/</u> , <u>12/</u>
Synthetic Perspiration	<u>5/</u> , <u>12/</u>
Crocking	AATCC-8/, <u>13/</u>

1/ Tear resistance ASTM D-2582 with exceptions as follows: Five warp and five filling specimens shall be tested. Specimen size shall be 8 inches by 8 inches. Only one tear shall be made on a single specimen. The specimen shall be positioned with the face side toward the probe and with the designated yarns of the face fabric at right angles to the direction of tear. If the tear is not straight on face side of the laminate, the result shall be considered invalid and another specimen shall be tested. The thickness of the specimen shall not be measured.

2/ Hydrostatic resistance.

- a. To Burst. ASTM D-751, Hydrostatic Resistance, Procedure A (Pressure Application by Mullen Type Hydrostatic Tester), Procedure 1 with water pressure applied to the face side of the test specimens.
- b. Sustained. ASTM D-3393 except that a water pressure of 40 psi shall be used and applied to the face side of the test specimens. The test may be performed on any device, which tests the equivalent specimen area at the equivalent pressure.
- c. After diethyltoluamide. (see 6.4) Five specimens shall be laid flat, face side up, on a glass plate 4 by 4 inches by 1/4 inch thick. Three drops of diethyltoluamide containing 75% diethyltoluamide and 25% ethanol shall be applied to the center of each specimen. A glass plate of the same dimensions shall be placed on the specimen (or specimen area) and a pressure of 0.25 pounds per square inch of glass plate contact area be applied to the assembly. After 16 hours, the specimens shall be removed from between the glass plates and tested immediately for hydrostatic resistance.

3/ Laundering procedure. Place  $2.0 \pm 0.2$  pounds of the cloth and if needed, ballast in an automatic washing machine set on permanent press cycle, high water level and warm ( $100 + 10^{\circ}\text{F} - 0^{\circ}\text{F}$ ) wash temperature. Place 0.5 ounce (14 grams) of 1993 AATCC Standard Reference Detergent (non-phosphate) without optical brighteners into the washer. The duration of each laundering cycle shall be  $30 \pm 5$  minutes. After laundering, place sample and ballast in an automatic tumble dryer set on permanent press cycle, 150-160°F and dry for approximately thirty (30) minutes or until dry. The laundering equipment, washer and dryer, shall be in accordance with AATCC No.135.

4/ Moisture vapor transmission rate. ISO #15496, except results are reported in MVTR by using the following formula

$$\text{MVTR } K_{ace} = (2168 \cdot 24) / (1/\text{WVP} + 1/\text{WVP}_{app})$$

Note: with MVTR in g/(m<sup>2</sup>\*24h); WVP in g(Pa\*m<sup>2</sup>\*h)

5/ Synthetic perspiration test. The specimen, 8 inches by 8 inches, shall be cut and exposed to synthetic perspiration as follows: the synthetic perspiration solution shall be made by combining 3.0 grams sodium chloride, 1.0 gram trypticase soy broth powder, 1.0 gram normal propyl propionate, 0.5 gram of liquid lecithin and 500 ml of distilled water. Cover the solution and stir while heating to 50°C until all ingredients are dissolved. Then, cool the solution to 35°C, remove cover and dispense it immediately with a pipette or other suitable measuring device. Dispense 2 ml of perspiration solution at 35°C, onto the center of an 8 inch by 8 inch by 1/4 inch glass plate. Place the specimen on the glass plate with the back side contacting the glass. Dispense an additional 2 ml of the synthetic perspiration solution onto the center of the specimen. Place a second 8 inch by 8 inch by 1/4 inch glass plate on top of the specimen and then place a 4 pound weight on top of and in the center of the assembly. After 16 hours, remove the specimen (do not rinse) and air dry the specimen before testing.

6/ Stiffness at 70°F. TAPPI Method T-451, Preferred Procedure (1) except that five test specimens with the long dimension parallel to the warp direction of the cloth shall be tested and that the standard textile test conditions as specified in ASTM D-1776 shall be used.

7/ Water permeability. ASTM D-751, Hydrostatic Resistance, Procedure B, Procedure 2 with a fixed hydrostatic head of 1 psi applied to the face side of the test specimen for 10 minutes. Five specimens shall be tested. Leakage is defined as any visual appearance of one (1) or more areas where weeping, wicking, or a droplet of water appears within the 4-1/2 inch diameter test area. In case of the weeping or wicking type failure, use blotting paper to confirm wetness or leakage. The test may be performed on any device, which tests the equivalent specimen area at the equivalent pressure.

- a. Water permeability after Flex at 70°F and -40°F. One warp and one fill specimen, 8 inch by 12 inch area, shall be cut from the sample unit with the 8-inch dimension in the indicated direction (warp or filling, as applicable). The specimen shall be conditioned and flexed as specified in ASTM F-392, except that the specimen shall not be aged, the short edges shall not be heat sealed or otherwise joined, and the specimen shall be flexed for 1500 full flex cycles. Two six (6) inch by eight (8) inch specimens shall be cut from the 8-inch by 12-inch flexed specimen and tested for water permeability as described above.
- b. Water permeability after wet flex. (see 6.5) Three 14-inch long by full width (54-58 inches) samples shall be cut from the sample unit. The samples shall be subjected to 216 hours of washing in a Kenmore washer (AATCC Test Method 135, without soap) run in a continuous manner (detangling the samples every 24 hours). After 216 hours of washing is completed, the samples shall be hung to air dry, until fully dry, and then conditioned for 4 hours at 65% RH and 23°C. The samples shall be subsequently subjected to water permeability testing at 5 sites spread equally along the width of each sample in accordance with the requirements above. If less than 7% of the sites fail water permeability (1 leak out of 15 sites tested), the sample unit is passed. Suter areas should be marked and the three samples from the sample unit should be subjected to an additional 216 hours (total of 432 hours on the samples) of continuous wash. After the additional 216 hours of continuous wash, water permeability should be conducted on fives sites per sample as described above. If more than 33% of the sites fail (greater than 5 leaks out of the 15 test sites), the sample

unit is failed. If less than 33% fail, the sample is considered to be passing. This test need only be performed at the start of each contract and then after every 10 production lots or on an annual basis, whichever comes first.

8/ Physical surface appearance.

- a. After Laundering: Conduct 5 home laundering and drying cycles in accordance with footnote 3/. Each sample, 48 inches in length by full width shall be cut in half across the width of the cloth. One half of the sample (24 inches in length) shall be laundered and the remaining half retained as the unlaundered portion for the final evaluation, as necessary. After each drying cycle, examine both sides of the cloth for changes in physical surface appearance when compared to the unlaundered sample.
- b. After Continuous wash: Three 14 inches by full width (54-58 inches) samples shall be cut from the sample unit. The samples shall be subject to 96 hours of Kenmore wash (AATCC Test Method 135, without soap) run in a continuous manner in 24 hour increments (detangling the samples every 24 hours). Samples shall be inspected for signs of delaminating or bubbling. Delamination is defined as an area greater than 1/8" in diameter, and is considered failing.

9/ Spray rating.

- a. Initial. Testing shall be conducted in accordance with AATCC 22.
- b. After 5 launderings. Laundering in accordance with footnote 3/, and testing shall be conducted in accordance with AATCC 22.

10/ Resistance to organic liquids.

- a. Initial. Test in accordance with AATCC 118. Samples must pass a minimum of a 4 rating (N-tetradecane).
- b. After 5 launderings. Laundering in accordance with footnote 3/, and testing shall be conducted in accordance with AATCC 118.

11/ Colorfastness.

- a. After Laundering. AATCC 135 (after 5 home laundering cycles) in accordance with footnote 3/.
- b. After Light. AATCC No. 16, Option A (after 40 fading units) or E (after 150 kilojoules).

12/ Rated using the AATCC Gray Scale for Color Change Evaluation Procedure 1 and AATCC Gray Scale for Staining Evaluation Procedure 2.

13/ Rated using the AATCC Nine Step Chromatic Transference Scale Evaluation Procedure 8.

4.2.3 Toxicity test. When required (see 6.2), an acute dermal irritation study and a skin sensitization study shall be conducted on laboratory animals. When the results of these studies indicate the finished cloth is not a sensitizer or irritant, a Repeat Insult Patch Test shall be performed in accordance with the Modified Draize Procedure. (See 2.3). If the requirement (see 3.9) can be demonstrated with historical use data, toxicity may not be required (see 6.2).

## 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES

6.1 Intended use. These cloths are intended for use in the manufacture of camouflage clothing for military personnel of the United States Navy. The end items requiring these cloths are as follows.

End Item PD	End Item Description	Cloth(s) required
PD 04-09	Parka, Working, US Navy, Desert and Woodland	Type II and Type III, class 1
PD 04-11	Trousers, APEC , Working, US Navy, Desert and Woodland	Type II and Type III, class 1

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number and date of this document, including any amendments.
- b. Types, classes, and styles required.
- c. Applicable Government documents and drawings including revisions.
- d. Specific issue of individual documents referenced.
- e. When toxicity testing is required.
- f. Inspection conditions.
- g. Conformance inspection and acceptance quality limits.
- h. Packaging requirements.

6.3. Colors. Color chip #23430 listed in FED-STD-595, is also known by the color name Khaki P-1.

6.4 Diethyltoluamide (DEET Insect Repellent) reagent. The insect repellent reagent should be a solution of 75% by weight (min) of diethyltoluamide and the remainder denatured alcohol. The diethyltoluamide component of the solution should be a technical grade and contain N, N-diethyl-metatoluamide of not less than 95% purity and the remainder should consist of entirely or a mixture of ortho or para isomers of N, N-diethyltoluamide. The denatured alcohol component of the solution should be ethanol, U.S.P. 94.9% by volume and denatured in accordance with The Code of Federal Regulations 27 CFR 21, Formula 40. The insect repellent must be registered with the U.S. Environmental Protection Agency in accordance with the Federal Insecticide, Fungicide and Rodenticide (FIFRA). (For guidance purposes only, DEET insect repellent conforming to Type II, Concentration A of O-I-503 has been used successfully as a reagent in testing.)

6.5 Instructions for washing machine timer modification (continuous wash). For running the water permeability after wet flex test using AATCC approved washers, the following are the list of modifications:

- a. A single pole, double throw toggle switch is installed on top of the control panel of the washer.
- b. When the toggle switch is in the closed position it is labeled RUN on the side of the toggle.
- c. When the toggle switch in the open position it is labeled BYPASS on the side of the toggle.
- d. Two wires are connected to the posts of the toggle switch and extend down to the timer motor.
- e. One timer motor lead is cut and the wires from the toggle switch is wired in series with the timer motor lead using wire nuts or butt splices.

These changes will allow the operator to divert power from the timer motor and prevent the timer from advancing to the next cycle.

6.6 Information requests. Standard samples and drawings are available through the procuring activity issuing the invitation for bids or request for proposal.

6.7 Contact information. The contact information to obtain PM-SOF SSES SPEC 07-11 - Camouflage Print Performance Specification for AOR 1, AOR 2, NWU II and NWU III is as follows.

U. S Army, Research, Development and Engineering Command  
Charlotte Jennings, Project Officer  
PM-Special Operations Forces Survival, Support and Equipment Systems  
Kansas Street, BLDG 4  
Natick, MA 01760  
Tel:(508) 233-6298  
Fax: (508) 233-4660  
Email: [charlotte.a.jennings2@us.army.mil](mailto:charlotte.a.jennings2@us.army.mil)

6.8 DLA Product Testing Center – Analytical. The address for the DLA Product Testing Center is as follows.

DLA Product Testing Center – Analytical  
700 Robbins Ave.  
Building 5-D  
Philadelphia, PA 19111

6.9 Type I. This document does not cover the requirements for Type I cloth because Type I is the Navy Working Uniform (NWU) blue digital. The requirements for the blue digital cloth, waterproof and moisture vapor permeable are covered in NCTRF PD15-06 Parka, Working Uniform.

6.10 Subject term (key word) listing.

ACE  
Clothing  
Desert  
Digital

NWU II  
NWU III  
Woodland  
Printed cloth

Custodian:  
Navy-NU  
DLA-CT

Preparing Activity:  
Navy-NU