

MIL-C-16489C  
 25 November 1974  
 SUPERSEDING  
 MIL-C-0016489B  
 8 October 1965

## MILITARY SPECIFICATION

### CASE, HOSPITAL LINENS, SMALL

This specification is approved for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

1.1 Scope. This specification covers the requirements for a cotton canvas case suitable for the protective storage of blankets, pillowcases, sheets, towels, and other items.

#### 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:

#### SPECIFICATIONS

##### Federal

V-T-285	Thread, polyester
CCC-C-419	Cloth, Cotton, Duck, Unbleached, Plied-Yarns, (Army Numbered)
CCC-D-950	Dyeing and After-treating Process for Cotton Cloths
DDD-L-20	Label, for Clothing, Equipage, and Tentage, (General Use)
PPP-B-585	Boxes, Wood, Wirebound
PPP-B-601	Boxes, Wood, Cleated-Plywood
PPP-B-621	Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	Boxes, Shipping, Fiberboard

##### Military

MIL-C-496	Clips, End, Strap
MIL-W-530	Webbing, Textile, Cotton, General Purpose, Natural or in Colors
MIL-B-543	Buckles, Tongueless and Web Strap
MIL-L-10547	Liners, Case, and Sheet, Overwrap, Water Vapor proof or Waterproof, Flexible
MIL-T-43566	Tape, Textile, Cotton, General Purpose, Natural or in Colors

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## STANDARDS

### Federal

FED-STD-151	Metals, Test Methods
FED-STD-751	Stitches, Seams, and ...

### Military

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

## DRAWING

### Defense Personnel Support Center (DPSC)

20422	Case, Hospital Linens, Small
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(Copies of specifications, standards, drawing, and publications required by suppliers 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 document forms a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal, shall apply.

THE COLOR ASSOCIATION OF THE UNITED STATES, INC.

Department of Defense Standard Color Card of Official  
Standardized Shades for Sewing Threads (1968).

(Application for copies should be addressed to the Color Association of the United States, Inc. 200 Madison Ave., New York, N.Y. 10016).

## 3. REQUIREMENTS

**3.1 Materials.** Except where otherwise specified, materials shall conform to the applicable portions of the specifications, standards, and drawing specified herein, and as described in 3.2 and shall be capable of meeting the requirements specified therein. In addition, the metals shall conform to the chemical requirements of their applicable specifications when tested as specified in section 4. When materials to be used are not specifically designated, those used shall be of the highest commercial quality, and entirely suitable for the purpose intended.

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3.1.1 Cloth, cotton duck. The cotton duck from which the case is fabricated shall conform to Type I, haid texture No. 10 of CCC-C-419.

3.1.1.1 Color and treatment. Cotton duck shall be vat dved olive drab No. 7, water-repellent and mildew-resistant, conforming to type 1, class B of CCC-D-950, except that the cloth shall be made mildew-resistant by treatment limited to two mildew inhibitors only: (a) 2, 2' Methylene-bis-(4-chlorophenol), or (b) copper-8-quinolinolate, in accordance with the requirements of that specification.

3.1.2 Webbing and tape. All webbing and tape shall be dved olive drab No. 7.

3.1.2.1 Binding. The tape used for binding the body and end pieces shall be Type I, class 4 or 7, of MIL-T-43566.

3.1.2.2 Straps and handles. The webbing used for the straps and handles shall conform to type 11b, class 4 or 7 of MIL-W-530. Width shall be 1-1/2 inches.

3.1.2.3 Reinforcements. The webbing used for the reinforcements shall conform to type III, class 4 or 7, of MIL-W-530. Width shall be 2 inches.

3.1.3 Thread, polyester. Polyester thread for all stitching shall be type I, class 1, subclass B of V-T-285. The thread size for all stitching except binding and bartacking shall be size FF. For binding and bartacking, the thread shall be size F.

3.1.4 Buckles. Buckles shall conform to type II, style 4, class 1, size 1-1/2 inches of MIL-B-543.

3.1.5 End clips. The end clips used for the securing straps shall conform to type I, class 1, size 1-1/2 inches of MIL-C-496. As an alternate, the end clips shall be of molded plastic. The plastic shall be of phenolic resin composition, black in color, and shall conform to the dimensions shown on the drawing. The plastic tip shall be permanently molded on to the webbing.

3.2 Construction. The construction of the case shall conform to the requirements specified herein and to those shown on Defense Personnel Support Center Drawing 20422.

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3.2.1 Stitches, seams, and stitchings. All seams and stitching, except bartacking, shall conform to FED-STD-751 as follows:

For all stitching except binding.	Stitch type 301, 6 to 8 stitches per inch.
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For stitching the binding.	Stitch type 301, 8 to 10 stitches per inch.
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3.2.1.1 Type 301 stitching. Ends of stitching shall be backstitched not less than 1 inch (1/2 inch for cross box stitching) except where ends are turned in a hem or held down by other stitching. Thread tensions shall be maintained so that there will be no loose or tight stitching and the lock will be imbedded in the material sewed. All thread ends shall be trimmed and removed.

3.2.1.2 Bartacking. Unless otherwise specified, bartacks shall be 5/8 to 3/4 inch in length, 1/8  $\pm$  1/32 inch in width, and shall contain 28 stitches. Bartacking shall be free from thread breaks and loose or tight stitching.

3.2.2 Body piece. Each body piece shall have rounded corners, shall be bound with tape as specified in 3.1.2.1, and shall have finished dimensions as shown in the drawing.

3.2.3 End pieces. Each end piece shall have rounded corners, shall be bound with tape as specified in 3.1.2.1, and shall have finished dimensions as shown in the drawing.

3.2.4 Straps. On the outer surface of each case shall be attached four straps positioned as shown in the drawing. Each strap shall have a buckle securely attached as shown, leaving sufficient spare loop to allow free motion of the buckle. In addition, there shall be four other straps, attached as shown in the drawing, each provided with an end clip as shown. The straps shall be made of webbing as specified in 3.1.2.2. The end clips shall be firmly attached without cutting the webbing, which shall be inserted the full depth and shall be flat at the point of entrance.

3.2.5 Handles. Handles shall be fabricated of double thickness webbing as specified in 3.1.2.2, securely stitched around all edges. The handles shall be positioned as shown in the drawing, two handles on each case.

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3.2.6 Reinforcement. Each attachment shall be reinforced on the inner surface of the case with a single ply piece of webbing as specified in 3.1.2.3, and shall be 2 by 2-1/2 inches, finished length, with the raw edges dipped in a resin or butyrate solution for a minimum depth of 3/8 inch.

3.2.7 Formation of case. Each case shall be formed by sewing the lower end and 13-1/2 inches of each lateral margin of each of the two end pieces to the lateral margin of the body piece, with a double row of stitches as shown in the drawing, 1/4 inch apart. As an alternate method, these two rows of stitching shall be 1/4 inch apart, with one row through the binding and canvas pieces, and the other row through the end and body pieces only. All the seams shall be inside the finished case. At the four upper corners where the lines of stitches end, the seams shall be reinforced by bartacks as shown in the drawing.

3.2.8 Dimensions. The body of each case shall be 28 inches long by 13-1/2 inches wide by 15-1/2 inches deep with tolerances as shown in the drawing. Measurements shall be taken on the inside along the lower seams and the top corners of the case.

3.3 Identification marking. Each case shall be permanently and legibly marked in black as shown in the drawing, including the name or registered trademark of the manufacturer, stock number, item identification, and contract or order number. The marking shall be accomplished by using either type III or IV marking as specified in DDD-L-20.

3.4 Workmanship. Workmanship shall be first class throughout. The completed case shall be free from defects which detracts from its appearance or may impair its serviceability. The occurrence of defects shall not exceed the limits set by the applicable acceptable quality levels.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier 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.

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4.1.1 Records. Records of examinations and tests performed by or for the contractor shall be maintained by the contractor and made available to the Government, upon the Government's request, at any time, or from time to time, during the performance of the contract and for a period of 3 years after delivery of the supplies to which such records relate.

4.1.2 Inspection. Inspection, as used in this specification, is defined as both examination (such as visual or auditory investigation without the use of special laboratory appliances or procedures) and testing (determination by technical means of physical and chemical properties) of the item.

4.1.3 Certificates of quality. Certificates of quality, supplied by the manufacturer of the cloth, webbing, tape, and hardware, may be furnished in lieu of actual performance of such testing by the contractor, provided lot identity has been maintained and can be demonstrated to the Government. The certificate shall include the name of the contractor, the contract number, the name of the manufacturer or supplier, the NSN, the item identification, the name of the component/material, the lot number, the lot size, the sample size, the date of testing, the test method, individual test results, and the specification requirements.

4.2 Quality conformance inspection. The examinations and tests required to assure conformance of those items or lots of items to be offered for acceptance are classified as specified in tables I and II (see 4.2.1 and 4.2.2) and 4.2.3.

4.2.1 Sampling for examination.

4.2.1.1 Sampling for visual defects. Sampling for visual defects shall be conducted in accordance with MIL-STD-105. The inspection levels and acceptable quality levels shall be as indicated in table I. Unit of product for examination purposes shall be one case.

Table I. Sampling for Visual Defects

	Inspection level	AQL (defects per 100 units)
Major	II	2.5
Total (Major and Minor combined)	II	6.5

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4.2.1.2 Examination for dimensional defects. During this examination, any measurement deviating from the dimensions and tolerances of the finished case specified in the drawing shall be scored as a size measurement defect. The sample unit for this examination shall be one completely fabricated case. The lot size shall be expressed in units of one case. The sample size shall be selected in accordance with inspection level S-3 of MIL-STD-105. The acceptable quality level shall be 4.0 (one class) defects per 100 units.

4.2.2 Examination. The case shall be examined for defects including, but not limited to, those listed in table II.

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Table II. Classification of Defects

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Major

101	Any component missing.
102	Any required operation omitted or improperly performed.
103	Any hole, cut, tear, mend, patch or unauthorized splice.
104	Needle chews that may develop into a hole.
105	Any weakening defect such as smash, multiple float, or loose slub that may develop into a hole.
106	One or more spots or stains of any obviously permanent nature.
107	Any seam twisted or puckered so severely as to impair appearance or serviceability.
108	Seam type other than specified.
109	Stitch type other than specified.
110	Less than 6 stitches per inch for other than binding.
111	Less than 8 stitches per inch for binding.
112	One or more required rows of stitching omitted.
113	Any open seam 1/4 inch or more.
114	Raw edges.
115	Webbing not size specified.
116	Webbing with frayed or scalloped edges.
117	Hardware items not size specified.
118	Burrs or sharp edges on hardware items.
119	Hardware items broken or malformed.
120	Any specified marking omitted, incorrect or illegible.

Minor

201	One or more removable spots or stains clearly noticeable.
202	Thread ends not trimmed.
203	Any part of case pleated, twisted, or caught in any unrelated row of stitching.

Cont'd

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Table 11. Classification of Defects (Cont'd)

Minor	
204	Broken or skipped stitches, not amounting to an open seam, occurring twice or more in the same row of stitching. Open seams less than 1/4 inch.
205	Ends of stitching backstitched less than 1 inch
206	Finish on hardware items not uniform.
207	Raw ends of reinforcement webbing not dipped in specified solution.
208	Markings not size specified.
209	Markings not located as specified.

4.2.3 Sampling for tests.

4.2.3.1 Sampling for chemical testing of metals. Four ounces of each lot of each metal used in the construction of the cases shall be selected for the chemical analysis as specified in 4.3.1.

4.3 Tests. Tests shall be conducted to determine compliance with specification requirements.

4.3.1 Chemical analysis of metals. The samples selected in accordance with 4.2.3.1 shall be analyzed in conformance with methods 111 or 112 of FED-STD-151. In case of dispute, method 111 shall be used for referee analysis

4.4 Examination of preparation for delivery. An examination shall be made to determine whether the packaging, packing, and marking comply with the requirements of section 5. Defects shall be scored as specified in table 111. Sampling shall be in accordance with MIL-STD-105. The sample unit shall be one container fully prepared for delivery. The lot shall be the number of containers offered for inspection at one time. The inspection level shall be S-2 and the acceptable quality level shall be 4.0 defects per hundred units

Table 111. Examination of preparation for delivery

Examination	Defect
Containers	Not as specified
Quantity	Quantity in interior packages and shipping containers not as specified
Materials	Any component missing or damage.
Workmanship	Inadequate application of components such as incomplete closure of container flaps, tape improperly applied, or containers distorted.
Markings	Omitted; incorrect, illegible, improper size, location, sequence, or method of application.

## 5. PREPARATION FOR DELIVERY

5.1 Packaging. Packaging shall be Level A or C as specified (see 6.1 (b)).

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5.1.1 Unit of issue. One case as specified, constitutes one unit of issue.

5.1.2 Packaging quantities. The number of units of issue indicated in table IV shall be packaged in each unit, intermediate, and exterior container, as applicable, for the required level of protection specified in the procurement document.

Table IV Packaging Quantities

Unit package	Intermediate package	Exterior container
1 unit	Not required	24 units

5.1.2.1 Packing variation permitted. If the required number of units in the entire shipment is less than the number of units specified to be overpacked in an exterior container, such units shall be packed in an exterior container of suitable size and design, acceptable to a common carrier, which shall insure safe delivery to destination.

5.1.3 Level A.

5.1.3.1 Unit package. Each unit shall be wrapped with kraft paper and packaged in a carton of appropriate size constructed in accordance with PPP-B-636, type CF, class domestic. Closure of carton shall be adequate to prevent spilling of contents under normal handling.

5.1.4 Level C. Units shall be packaged in standard commercial containers of the size and kind commonly used, which will afford the degree of protection required for shipment and use of the product for its intended purpose.

5.2 Packing. Packing shall be Level A, B or C as specified (see 6.1 (b) ).

5.2.1 Level A.

5.2.1.1 Exterior container. Exterior container shall be designed for a type 2 load and constructed in accordance with PPP-B-585, class 3, style 3; PPP-B-601, overseas type; PPP-B-621, class 2; or PPP-B-636, class weather-resistant, grade V3c. Closure and strapping shall be as specified in the appendix of the applicable box specification. Special requirements of applicable table shall apply for PPP-B-636 box.

5.2.1.2 Case liner. Each Level A wood box shall be lined with a waterproof case liner conforming to MIL-L-10547. Closure and sealing shall conform to applicable paragraphs of appendix thereto. Case liner shall not be required for fiberboard boxes. Fiberboard box shall be waterproof in accordance with paragraph 30.4 of PPP-B-636.

5.2.2 Level B

5.2.2.1 Exterior container. Exterior container shall be designed for a type 2 load and constructed in accordance with PPP-B-585, class 1, style 3; PPP-B-601, domestic type; PPP-B-621, class 1, or PPP-B-636, class domestic. Closure shall be as specified in the appendix of the applicable box specification. Fiberboard box shall be closed by method II of PPP-B-636. Special requirements of applicable table shall apply for PPP-B-636 box.

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5.2.3 Level C. The subject commodity shall be packed in substantial commercial containers of the type, size, and kind commonly used for the purpose, so constructed as to insure acceptance and safe delivery by common or other carriers, at the lowest rate, to point of delivery called for in the contract or purchase order.

### 5.3 Marking.

5.3.1 Interior packages. Each unit package shall be marked in accordance with MIL-STD-129. When labels are utilized, waterproofing shall be required only when applicable carton is fabricated of water-resistant material. Contract or purchase order number and name of contractor shall be shown.

5.3.2 Exterior container. Exterior container shall be marked in accordance with MIL-STD-129.

## 6. NOTES

6.1 Ordering data. Procurement documents should specify the following

- (a) Title, number and date of this specification.
- (b) Selection of applicable levels of packaging and packing (see 5.1 and 5.2).

6.2 This specification does not include all types, classes, grades, sizes, etc., of the commodity indicated by the title of this specification, or which are commercially available, but is intended to cover the types, etc., which are normally procured to meet military requirements.

6.3 This specification is intended to cover the following item appearing in the Federal Supply Catalog:

#### National Stock Number

6545-00-926-6660

#### Item Identification

CASE, HOSPITAL LINENS, Small

6.4 Supersession Data This specification includes the requirements of Defense Medical Purchase Description No. 8, dated 16 February 1967.

#### Custodians:

Army - MD  
Navy - MS  
Air Force - 03

#### Preparing activity:

Defense Supply Agency - DM  
Project No. 6545-0017

#### Review activities:

Army - MD  
Navy - MS  
Air Force - 03

Review information is current as of the date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current DODISS.

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