

MIL-B-36964B  
 27 August 1973  
 SUPERSEDING  
 MIL-B-36964A  
 18 June 1973

## MILITARY SPECIFICATION

### BLANKET, COMBAT, CASUALTY Lightweight, Waterproof, Aluminized Plastic

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

#### 1. SCOPE

1.1 Scope. This specification covers lightweight, waterproof, aluminized plastic combat casualty blankets which shall also be suitable for use as a windbreak, sunshade, poncho, or position indicator in rescue missions.

1.2 Classification. The blankets covered by this specification shall be of the following types as specified (see 6.2):

##### 1.2.1 Types

Type I	Olive Drab and Silver, 84" x 56"
Type II	Olive Drab and Silver, 96" x 56"
Type III	Fluorescent Orange and Silver, 96" x 56"

#### 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-276	Thread, Cotton.
V-T-285	Thread, Polyester.
DDD-B-331	Binding, Bias Cut.
MMM-A-250	Adhesive, Water-resistant, (For Sealing Fiberboard Boxes).
PPP-B-566	Boxes, Folding, Paperboard.
PPP-B-585	Box, Wood, Wirebound.
PPP-B-601	Box, Wood, Cleated-Plywood.
PPP-B-621	Box, Wood, Nailed and Lock-Corner.
PPP-B-636	Box, Fiberboard.
PPP-T-76	Tape, Pressure-sensitive, (For Carton Sealing).

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## STANDARDS

## Federal

FED-TEST-METHOD STD No. 191	Textile Test Methods.
FED-STD No. 595	Color Requirements.
FED-STD No. 751	Stitches, Seams and Stitching.

## Military

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

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

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

## AMERICAN SOCIETY FOR TESTING MATERIALS STANDARDS

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

## U. S. DEPARTMENT OF COMMERCE

Commercial Standard (CS) 191-53 Flammability of Clothing Textiles

(Application for copies should be addressed to Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.).

## 3. REQUIREMENTS.

3.1 Materials.

3.1.1 Type I. The combat casualty blanket shall be fabricated from a laminate of fiberglass scrim and two thicknesses of nominal 0.00125 inch polyethylene film containing 0.000001 to 0.000010 inch vacuum deposition of aluminum. The corner shall be rounded and the edges reinforced with binding tape, of black or olive-drab color, turned under and stitched down to form a 1/2 inch border around the entire blanket and on both sides. The corners shall be reinforced and contain metal eyelets that have an opening of not less than 5/16 inch. The blanket shall be of non-reflective Olive-Drab color on one side (Shade #34087 of Federal Standard 595) and Silver color on the reverse side. It shall be impervious to moisture, flame retardant, generate negligible noise level, and resistant to tearing or splitting along edges. The finished item shall also conform to the requirements specified in Table I,

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Table I - Requirements

Characteristic	Requirements
Thickness, inch	0.0075 minimum 0.0100 maximum
Weight, ounces	12 $\pm$ 10%
Tensile Strength	Longitudinal 35 oz/in. width, minimum Transverse 20 oz/in. width, minimum
Dimensions	Unfolded (56" x 84") $\pm$ 1 Folded (7-3/4" x 6" x 2-1/2") $\pm$ 1/4
Flammability	1.2 inches/second maximum
Tear Strength	Warp - 2.0 lbs. minimum Fill - 4.0 lbs. minimum
Water Vapor Transmission	5.0 grams/100 sq. in/24 hrs.
Burst Strength	30 lbs. minimum

3.1.2 Type II. The combat casualty blanket shall be fabricated from ethylene-glycol terephthalate film having a nominal thickness of 0.0005 inch containing approximately 0.000001 to 0.000100 vacuum deposition of aluminum, silver color on one side and 0.0002 inch protective coating of non-reflective olive-drab color (Shade #34087 of Fed. Std., 595) on aluminized side. It shall be impervious to moisture, flame retardant, generate negligible noise level, and resistant to tearing or splitting along edges. The finished item shall also conform to the requirements specified in Table II.

Table II - Requirements

Characteristics	Requirements
Thickness, inch	0.0007 (+ .0001)
Weight, ounces	3 $\pm$ 10%
Tensile strength	25,000 psi., minimum
Dimensions	Unfolded (56" x 96") $\pm$ 1 Pleat folded 2-3/4 x 4-1/2 x 1-3/4
Flammability	1.2 inches/second maximum
Tear Strength	1300 lbs./inch, minimum
Burst Strength	30 p.s.i. minimum
Water Vapor transmission	2.0 grams/100 sq. in./24 hrs.

3.1.3 Type III. The combat casualty blanket shall be fabricated from ethylene-glycol terephthalate film having a nominal thickness of 0.0005 inch containing 0.000001 to 0.000100 inch vacuum deposition of aluminum, silver color on one side and 0.0004 inch protective coating of Fluorescent Orange Color (U.S. Army #238) on aluminized side. It shall be impervious to moisture flame retardant, generate negligible noise level, and resistant to tearing or splitting along edges. The finished item shall also conform to the requirements specified in Table III.

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Table III - Requirements

Characteristics	Requirements
Thickness, inch	0.0009 (+ .0001)
Weight, ounces	4 + 10%
Tensile Strength	25,000 psi., minimum
Dimensions	Unfolded (56" x 96") (+ 1") Pleat folded 2-3/4" x 4-1/2" x 1-3/4"
Flammability	1.2 inches, per second maximum
Tear Strength	1300 lbs./inch
Burst Strength	30 p.s.i. minimum
Water Vapor Transmission	2.0 grams/100 sq. in./24 hrs.

3.2 Binding. The binding for Type I combat casualty blankets shall be binding, cotton, bias cut, or vinyl embossed plastic, one inch wide nominal, vat dyed black or olive-drab color.

3.2.1 Thread. The thread for stitching binding to Type I combat casualty blanket shall conform to Specification V-T-276, and shall be type IB3, machine thread, 4 ply, ticket No. 12, as shown in Table II for needle thread, and type IA3, machine thread, 4 ply, ticket No. 12, as shown in table I for bobbin thread. The thread shall be vat-dyed olive-drab or black, conforming to U. S. Army Standard Color Card. As an alternate, polyester thread conforming to type 1, class 1, size E of V-T-285 shall be used.

3.2.2 Construction details. The seam and stitching for Type I combat casualty blanket shall be straight, stitch type 301, conforming to FED-STD-751. Stitches shall be formed by machine, evenly spaced, with not less than six per inch, with cotton binding turned under and stitched down to form a 1/2 inch border around the entire blanket and on both sides.

3.3 Workmanship. Workmanship shall be first class throughout. The blankets shall be free from defects which detract from their appearance or may impair their serviceability.

#### 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 for review 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 components listed in 3.1, 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 FSN, the item identification, the name of the component or material, the lot number, the lot size, the sample size, the date of testing, the test method, individual test results, and the specification requirements. Where certificates of quality are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

4.2 Visual examination of the blanket. Defects found during this examination shall be classified in accordance with table V. The sample unit for this examination shall be one blanket.

4.2.1 Sampling for examination. Sampling for examination shall be performed in accordance with MIL-STD-105. The inspection levels and acceptable quality levels shall be as shown in table IV. The sample unit for examination shall be one blanket.

Table IV

	Inspection level	AQL (percent defective)
Major Defects	S-4	2.5
Minor Defects	S-4	4.0

4.2.2 Classification of defects (blanket). The blanket shall be visually examined for the defects listed in table V.

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Table V Classification of defects.

Major	
101	Blanket not specified color.
102	Blanket dimensions (folded) not as specified.
103	Blanket dimensions (unfolded) not as specified.
104	Blanket not free of holes and tears.
105	Metal eyelet incorrect size or missing (Type I only).
Minor	
201	Outer package torn or ripped.
202	Markings omitted, incorrect or illegible.
203	Binding tape not stitched to form 1/2 inch border as specified.
204	Stitching not as specified.
205	Number of stitches per inch not as specified.

4.3 Tests. Tests of the materials used in fabrication of the blankets shall be made as specified herein, Table VI. Other tests may be made, as necessary, to determine that the finished blankets comply with this specification, and that the materials comply with the applicable portions of the specifications and standards listed in Section 2.

Table VI Test Methods

Characteristic	Test Method	Type
Tensile strength	ASTM D 1682 (with cut strip using CRT Tester at 12" per minute speed)	I
Tensile strength	ASTM D-882-64T	II, III
Bursting strength	ASTM D-774-63T	II, III
Bursting strength	ASTM-D-1117	I
Tear strength	ASTM-D-1004-70	II, III
Tear strength	ASTM-D-2262-71	I
Water Vapor Transmission	ASTM E-96-66	I, II, III
Flammability	CS 191-53	I, II, III

4.3.1 Alternate method. Suppliers conducting tests or designating lots in a manner other than that indicated herein shall submit proof that the alternate method provides equal assurance concerning the compliance of the product. Requests for approval of any alternate method of testing shall be made to the Contracting Officer, and approval obtained before employment of the alternate method on a government contract.

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## 5. PREPARATION FOR DELIVERY

5.1 Packaging. Packaging shall be Level A or C as specified (see 6.2).

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

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

Table VII Packaging Quantities			
	Unit package	Intermediate package	Exterior container
I	1 unit	12 units	48 units
II	1 unit	12 units	288 units
III	1 unit	12 units	288 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 may 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.

5.1.3.1.1 Type I. Each blanket shall be folded to finished dimensions of 6 inches wide by 7-3/4 inches long by 2-1/2 inches thick and packaged in a bag fabricated from polyethylene and sealed. The bag shall be further packaged in a box of appropriate size constructed in accordance with PPP-B-566, except that commercial colors will be acceptable. Closure shall be adequate to prevent accidental opening.

5.1.3.1.2 Type II. Each blanket shall be pleat folded and rolled to finished nominal dimensions of 2-3/4 inches wide by 4-1/2 inches long by 1-3/4 inches thick and packaged in a bag fabricated from polyethylene and sealed. The bag shall be further packaged in a box of appropriate size constructed in accordance with PPP-B-566, except commercial colors will be acceptable. Closure shall be adequate to prevent accidental opening.

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5.1.3.1.3 Type III. Each blanket shall be pleat folded and rolled to finished nominal dimensions of 2-3/4 inches wide by 4-1/2 inches long by 1-3/4 inches thick, packaged in a bag fabricated from polyethylene and sealed. The bag shall be further packaged in a box of appropriate size constructed in accordance with PPP-B-566, except that commercial colors will be acceptable. Closure shall be adequate to prevent accidental opening.

5.1.3.2 Intermediate package. Intermediate package shall be a box of appropriate size and design constructed in accordance with PPP-B-636, type CF, class weather-resistant. Boxes shall be closed by taping the top and bottom flaps with 2 inch wide tape conforming to PPP-T-76. Closing of bottom flap with adhesive conforming to MMM-A-250 or metal stitches is permitted.

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 or C as specified (see 6.2).

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.

5.2.3 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 Unit package. Each unit package and each intermediate package shall be marked in accordance with MIL-STD-129. When labels are utilized, water-proofing shall be required only when applicable carton is fabricated of water-resistant material. Contract or purchase order name and address of manufacturer and color shall be shown.

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

## 6. NOTES

6.1 Intended use. The blankets covered by this specification are suitable for use as a windbreak, poncho or as a position indicator in rescue missions.



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6.2 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). Type and size required (see 1.2 and 6.4).

6.3 Sample. For access to sample U. S. Army #238 or International Orange #238, piece No. Standard Sample 2824 address the procuring activity issuing the invitation for bid.

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

6.5 This specification is intended to cover the following items appearing in the Federal Supply Catalog:

- 7210-00-935-6665 BLANKET, COMBAT CASUALTY, Lightweight, Waterproof, Aluminized Plastic, Olive Drab and Silver: 84" x 56".
- 7210-00-935-6666 BLANKET, COMBAT CASUALTY, Lightweight, Waterproof, Aluminized Plastic, Olive Drab and Silver: 96" x 56".
- 7210-00-935-6667 BLANKET, COMBAT CASUALTY, Lightweight, Waterproof, Aluminized Plastic, Fluorescent Orange and Silver, 96" x 56".

6.6 Supersession data. This specification includes the requirements of Defense Medical Specification Data Sheet No. 4, dated 29 December 1971 and Modification No. 1 dated 27 November 1972.

Custodians:

Army - MD  
Navy - MS  
Air Force - 03

Preparing activity:

Defense Supply Agency - DM  
Project Number: 7210-0816

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.

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL		OMB Approval No. 22-R255	
<p><b>INSTRUCTIONS:</b> The purpose of this form is to solicit beneficial comments which will help achieve procurement of suitable products at reasonable cost and minimum delay, or will otherwise enhance use of the document. DoD contractors, government activities, or manufacturers/vendors who are prospective suppliers of the product are invited to submit comments to the government. Fold on lines on reverse side, staple in corner, and send to preparing activity. 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. Attach any pertinent data which may be of use in improving this document. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity.</p>			
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