

INCH-POUND

MIL-L-16942B
25 June 1989
SUPERSEDING
NOTICE 1
8 August 1974
MIL-L-16942A
2 October 1952

MILITARY SPECIFICATION

LITTER, NONRIGID, POLELESS

Nylon

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

1. SCOPE

1.1 Scope. This specification covers a nonrigid, poleless litter made of nylon for use in the field.

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 document to the extent specified herein. Unless otherwise specified, the issues of these documents are 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).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Headquarters, Defense Personnel Support Center, ATTN: Directorate of Medical Materiel DPSC-RST, 2800 South 20th Street, Philadelphia, PA 19101, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC/NA

FSC 6530

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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SPECIFICATIONS

Federal

V-T-295	Thread, Nylon
PPP-B-601	Boxes, Wood, Cleated Plywood
PPP-B-621	Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	Boxes, Shipping, Fiberboard

Military

MIL-F-495	Finish, Chemical, Black, for Copper Alloys
MIL-C-496	Clips, End, Strap
MIL-B-543	Buckle, Tongueless and Web Strap
MIL-W-4088	Webbing, Textile, Woven Nylon
MIL-C-7219	Cloth, Duck Nylon
MIL-L-10547	Liner, Case, and Sheet, Overwrap, Water Vaporproof or Waterproof Flexible
MIL-F-10884	Fasteners, Snap
MIL-W-27265	Webbing, Textile, Woven Nylon Impregnated
MIL-T-43566	Tape, Textile, Cotton or Polyester General Purpose, Natural or in Colors
MIL-W-43668	Webbing, Textile, Bulked Nylon

STANDARDS

Federal

FED-STD-751	- Stitches, Seams, and Stitchings
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Military

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-794	Part and Equipment, Procedures for Packaging and Packing of

Unless otherwise indicated copies of federal and military specifications, standards, and handbooks are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

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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.

DRAWING

Defense Personnel Support Center (DPSC)

Drawing No. 1303 - Litter, Nonrigid, Poleless, Nylon

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are 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.

THE COLOR ASSOCIATION OF THE UNITED STATES, INC.

Department of Defense Standard Shades for Sewing Threads, 1968

(Application for copies should be addressed to: The Color Association of the United States, Inc., 200 Madison Avenue, New York, NY 10016).

2.3 Order of precedence. In the event of a conflict between the text of this document, and the references cited herein, (except for associated detail specifications, specification sheets or MS standards), 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 First Article. When specified, the contractor shall furnish a sample for first article inspection and approval (see 4.2.1).

3.2 Materials and components.

3.2.1 Cloth, nylon. the basic cloth for the litter shall be cloth, duck, nylon, conforming to type III, class 3 of MIL-C-7219.

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3.2.1.1 Color. The nylon cloth shall be dyed olive green 106 shade.

3.2.2 Thread, nylon. The thread for all stitching shall conform to type I, class B, size E of specification V-T-295.

3.2.2.1 Color. The thread shall be dyed olive drab S-1, C.A. 66022 conforming to The Color Association of the United States, Inc. (see 2.2).

3.2.3 Fastener, snap. Snap fasteners shall be in accordance with MIL-F-10884 for style 2, and MS standard 27980 for components. Components shall be as follows:

<u>Component</u>	<u>MS Standard Part No.</u>
Button	1b
Socket	6b
Stud	7b
Eyelet	8b

The finish shall be a black chemical finish in accordance with MIL-F-495.

3.2.4 Buckles. End clips shall be Type I, Style 2, Class 1, size 1 inch in accordance with MIL-B-543. The buckles shall have a black chemical finish in accordance with MIL-F-495.

3.2.5 Clips, end. End clips shall be ball type, Type I, Class 1, 1 inch in accordance with MIL-C-496. The end clips shall have a non-gloss, black chemical finish in accordance with MIL-F-495.

3.2.6 Webbing.

3.2.6.1 Carrying strap stiffener. The webbing for stiffening the carrying strap shall be natural, Type I, Class 1b, 2 inch, 0.68 ounces per linear yard in accordance with MIL-T-43566.

3.2.6.2 Retaining strap stiffener. The webbing for stiffening the retaining straps shall be natural, Type I, Class 1b, 3/4 inch, 0.26 ounces per linear yard in accordance with MIL-T-43566.

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3.2.6.3 Carrying straps and long crotch straps. As an alternate to the litter body cloth specified in 3.3.3, the carrying straps and long crotch straps shall be 2-1/4 inch nylon webbing, Type VIII C, Class 2, color olive drab 7 in accordance with MIL-W-4088, and may be treated in accordance with Class R of MIL-W-27265.

3.2.6.4 Slings, short crotch straps and retaining straps. As an alternate to the litter body cloth specified in 3.3.3, the sling, short crotch straps and retaining straps shall be 1 inch nylon webbing, Type III, color olive drab 7 in accordance with MIL-W-43668.

3.3 Construction. Construction shall conform in all details to the requirements specified herein and to DPSC Drawing No. 1303. When alternate nylon webbing is used for straps, the dimensions for DPSC drawing 1303 shall be appropriately modified.

3.3.1 Stitches, seams and stitching. All stitching shall be stitch Type 301 of FED-STD-751, with seven to nine stitches per inch. Ends of all stitching shall be backstitched 1/2 inch minimum, except where ends are turned under in a hem or held down by other stitching.

3.3.2 Litter body. The litter body shall be constructed of one piece of cloth (see 3.2.1). A double folded one-fourth inch hem, stitching Type EFW-1, or as an alternate, a single folded one-fourth inch hem, stitching Type EFB-1 shall be made on the ends of the litter body. After the necessary attachment of snap fasteners and the sewing of straps (see 3.2.3), the sides of the litter body fabric, shall be turned to the top and sewn with stitching Type EFZ-1 to form the loops for the litter poles. The sewing shall be two rows of Type 301 stitching. Woven selvages are permitted to be used on one or both edges. Edges with a woven selva are not required to be turned under (cloth from snuttleless looms without clean woven selvages are required to have edges turned). The finished dimensions of the litter body shall be 78 inches long by 26 inches wide, plus or minus one-half inch in either direction.

3.3.3 Straps. The straps shall be made of the same cloth and color as the litter body (see 3.2.1). As an alternate the straps shall be nylon webbing as specified in paragraphs 3.2.6.3 and 3.2.6.4.

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3.3.3.1 Carrying straps. Sufficient width of material shall be folded and stitched to form straps not less than 2 inches nor more than 2-1/2 inches in width. Straps shall be of uniform width and strength throughout. An 11 inch long, 2 inch wide piece of webbing (see 3.2.6.1) shall be inserted within the folds of the material forming the strap and located in such a manner so as to stiffen and add body to the strap as a handhold. Each strap shall extend the entire width of the litter body, 3 inches apart at the inside edges; and sewn to the body of the litter for a distance of 9 inches to either side of the center line. At the point of attachment to the body of the litter, the straps shall be reinforced to prevent tearing by stitching as shown on the drawing. The straps shall form loops extending 6 inches beyond the edge of the litter body. The cut ends of the strap shall overlap and be attached at the center line with a 2 plus or minus 1/8 inch cross-box stitch. The strap end on top shall be turned under a minimum of 1/2 inch. If alternate nylon webbing is used, the carrying strap stiffener is not required.

3.3.3.2 Slings for hoisting and lowering. Sufficient width of material shall be folded and stitched to form straps not less than 2 inches nor more than 2-1/2 inches in width. The straps shall form loops extending above the top edge of the litter. The loops shall be reduced to 1 inch in width without loss of material and stitched to stiffen. The loops shall extend not less than 3 inches nor more than 3-1/2 inches from the top edge of the litter and shall be stitched to the body of the litter for a distance of 7 inches to include in the stitching of the crossing carrying straps as a reinforcement.

3.3.3.3 Crotch straps.

3.3.3.3.1 Long straps. Sufficient width of material shall be folded and stitched to form straps not less than 1-3/4 inches nor more than 2-1/4 inches in width and 34 inches in length. The straps shall be cross stitched to stiffen as shown on the drawing and the free ends for a length of 18 inches shall be reduced in length to fit a 1-inch ball clip (see 3.2.5). The straps at point of attachment to the litter shall be securely sewed to the body of the litter and to the lower center portion of the center carrying strap where it passes under the body of the litter, and attachment shall be reinforced by bar tacks as shown on the drawing. If alternate nylon webbing is used, the reinforcement webbing is not required; however, the ball clip must be attached.

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3.3.3.3.2 Short straps. Sufficient width of material shall be folded and stitched to form straps 1 inch wide by 6 inches long. The free ends shall have buckles attached (see 3.2.4). The straps shall be securely sewn to the body of the litter next to the seam formed by the hem on the pole loops at a point 25 inches from the top of the litter and facing in a direction to receive the free end of the long crotch straps (see 3.3.3.3.1). The exposed ends of the short straps shall be heat sealed to prevent raveling.

3.3.3.4 Retaining straps. Sufficient width of material shall be folded and stitched to form three straps 1 inch wide by 28 inches long. A 17 inch long, 3/4 inch wide piece of webbing (see 3.2.6.2) shall be inserted within the folds of the material forming each strap to stiffen the free end which shall be provided with an end clip (see 3.2.5). Three short straps, similarly formed but not reinforced with webbing, 4 inches in free length, shall be provided opposite the long retaining straps. The short straps shall be fitted with buckles (see 3.2.4). The long retaining straps shall be securely sewn to the underside of the litter body on the seam formed by the hem of the pole loops, 17 inches, 38 inches, and 60 inches from the top of the litter respectively. The short straps shall be sewn to the opposite seam in a like manner and located to receive the free ends of the long straps when passed over the top of litter. The exposed ends of the long and short straps shall be heat sealed to prevent raveling. If alternate nylon webbing is used, the reinforcement webbing is not required, however, the end clips must be attached.

3.3.4 Snap fasteners. Fasteners shall be as specified in 3.2.3 and located as shown on drawing. Fasteners have been aligned so that they will fit the snap attachments of the standard issue poncho. The snap fasteners shall be tightly clinched. When holes are punched before inserting the male and female parts of the fastener, they shall be smaller than the outside diameter of the fastener tube so that the tube must be forced through the hole.

3.4 Identification marking. Identification marking shall be in accordance with DPSC Drawing No. 1303.

3.5 Workmanship. The finished litter shall be free from defects which detract from its appearance or may impair its serviceability.

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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 as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any 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.

4.1.1 Responsibility for compliance. All items must 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 assuring 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 accept defective material.

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

- a. First article inspection.
- b. Quality conformance inspection.

4.2.1 First article inspection. First article inspection shall be performed on the litter when a first article sample is required (see 3.1). This inspection shall include examination of design, construction, workmanship, dimensions and visual examination.

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4.2.2 Quality conformance inspection. Quality conformance inspection shall include the examination and tests of 4.3 and tests of 4.4.

4.2.3 Certificates 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.

4.2.4 Inspection of components. The quality assurance provisions for components, except as otherwise required by this specification, shall be in accordance with the applicable documents referenced herein to the extent applicable. Where there is a conflict in quality assurance provisions, this specification shall govern.

4.3 Examination of the end item. The classification of defects found during examination shall be in accordance with 4.2.2.

4.3.1 For examination. Sampling for examination shall be conducted in accordance with MIL-STD-105 and table I. The unit of product for sampling purposes shall be one litter.

TABLE I. Sampling for examination.

	Inspection level	AQL (defect per hundred units)
For visual examination		
Major defects	II	2.5
Total defects (Major and Minor combined)	II	6.5
For dimensional defects	S-4	2.5

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4.3.2 Examination for visual characteristics of the litter.TABLE II. Examination.

Examine	Defect	Classification	
		Major	Minor
Fabric	Any hole, cut or tear.	X	
	Any abrasion mark, large slub, broken or missing yarn, mend or needle chew.	X	
	Fine or coarse filling bar.		X
Slings and Straps	Cut or frayed edges; not firmly or tightly woven.		
	Any piecing of sling or straps.		X
Seams and stitching			
Open seams	Stitch type 301		
	- More than 1/2 inch.	X	
	- Less than 1/2 inch.		X
	NOTE: A seam shall be classified as open when one or more stitches joining a seam are broken or when two or more continuous skipped stitches or runoffs occur. On double stitched seams, a seam shall be considered open when either one or both sides of the seam are open.		
Raw Edges (When securely caught in stitching)	1/2 inch or less		X
Run-offs (See open seams)			
Seam and Stitch Type	Wrong seams or stitch type.	X	
Stitch Tension	Loose tension, resulting in a loose seam.		X
	Tight tension (Stitches break when normal strain is applied to seam or stitching).		X

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TABLE II. Examination. - Continued.

Examine	Defect	Classification	
		Major	Minor
	NOTE: Puckering is evidence of tight tension. When puckering is evident, test seam by exerting normal pull on puckered area.		
Stitches Per Inch	One or two less than minimum specified.		X
	Three or more stitches less than the minimum specified.	X	
	One or more stitches in excess of the maximum specified.		X
Stitching Ends	Backstitched less than 1/2 inch (except where turned under in a hem or held down by other stitching).		X
Components and Assembly	Seams badly puckered, twisted or pleated.		X
	Needle chews.	X	
	NOTE: Needle chews (caused by run-offs or repairs) which do not weaken the fabric shall not be considered defects.		
	Any component or required operation omitted or not as required.	X	
Identification Marking	Any required marking omitted, illegible, incorrect, misplaced or not specified size.		X
Cleanliness	Spots or stains. Thread ends not removed throughout the litter.		X
Details of Construction Snap fasteners	Not located as specified in drawing.	X	
	Any portion of fasteners broken, bent, missing or not aligned,	X	

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TABLE II. Examination. - Continued.

Examine	Defect	Classification	
		Major	Minor
	making fasteners unuseable. Clinched excessively tight, cutting surrounding fabric. Loosely clinched, permitting cap or stud to rotate.	X	X
	Male or female fastener mis- placed, failing to effect a smooth and secure closure. Any malfunction of snap fasteners.	X	
Bartacks	One or more omitted or loose. Not sewn through materials as shown on drawings.	X	X
Straps	Not formed as shown on drawings. One or more omitted. Any strap set more than 1 inch from dimensions specified on drawing. Any strap not one piece construction. Straps not securely boxstitched as specified.	X	X X X
Hardware	Broken or malformed; finish omitted; corroded areas; burs or sharp edges which may damage the item or cause injury in handling.	X	

4.3.3 Dimensional examination. The litter shall be examined for defects in dimensions. Any dimension not within the tolerances specified herein shall be classified as a defect in accordance with table I.

4.4 Inspection of packaging. The sampling and inspection of the packing and marking for shipment and storage shall be in accordance with the quality assurance provisions of the applicable container specification and the marking requirements of MIL-STD-129.

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5. Packaging.

5.1 Preservation. Preservation shall be level A or C, as specified (see 6.2).

5.1.1 Level A.

5.1.1.1 Unit package. Each litter shall be clean, dry and folded lengthwise with all straps positioned toward the center fold. The folded litter shall be rolled to form a compact roll approximately 12 inches in length and 4 inches in diameter. The rolled litter shall be further packaged in a snug fitting box conforming to PPP-B-636, class domestic. Closure shall be as specified in the box specification.

5.1.2 Level C. The level C preservation for litters shall conform to the MIL-STD-794 requirements for this level.

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

5.2.1 Level A. Twenty-four unit packages shall be packed in an exterior container designed for a type 2 load and conforming to PPP-B-601, overseas type; PPP-B-621, class 2 or PPP-B-636, class weather-resistant. Closure and strapping shall be as specified in the applicable box specification.

5.2.1.1 Case liner. Each level A wood box shall be lined with a waterproof case liner conforming to MIL-L-10547. Closure and sealing shall be as specified in the liner specification. Case liner shall not be required for fiberboard boxes. Each fiberboard box shall be waterproofed as specified in PPP-B-636.

5.2.2 Level B. Twenty-four unit packages shall be packed in an exterior container designed for a type 2 load and conforming to PPP-B-601, domestic type; PPP-B-621, class I or PPP-B-636, class domestic. Closure shall be as specified in the applicable box specification.

5.2.3 Level C. The level C packing for litters shall conform to the MIL-STD-794 requirements for this level.

5.2.4 Packing variation permitted. If the required number of units to be shipped 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 will insure safe delivery to destination.

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5.2.5 Unitized loads. Unitized loads, commensurate with the level of packing specified in the contract or order, shall be used whenever total quantities for shipment to one destination exceed 250 pounds or 20 cubic feet. Loads shall be unitized on pallets conforming to MIL-STD-147. Quantities less than 20 cubic feet need not be unitized. Pallet loads including the pallet shall not exceed 43 inches in length, 52 inches in width, and 54 inches in height. Pallet shall conform to type IV or type V.

5.2.5.1 Levels A and B. Litters packed as specified in 5.2.1 and 5.2.2 shall be unitized on pallets conforming to MIL-STD-147.

5.2.5.2 Level C. Litters packed as specified in 5.2.3 shall be unitized as specified in MIL-STD-794.

5.3 Marking.

5.3.1 Levels A, B and C. Each unit pack, exterior container and unitized load shall be marked as specified in MIL-STD-129.

5.4 General.

5.4.1 Exterior container. Exterior container (see 5.2.1, 5.2.2 and 5.2.3) shall be of minimum tare and cube consistent with the protection required and shall contain equal quantities of identical stock numbered items to the greatest extent practicable.

5.4.2 Packaging inspection. The inspection of these packaging requirements shall be in accordance with 4.3.

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 poleless litter covered by this purchase description is for military personnel of the Department of Defense for the evacuation of sick or wounded. Snap fasteners have been provided so that it can be used with the standard issue camouflaged poncho.

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6.2 Acquisition requirements. Ordering data procurement documents should specify the following:

- a. Title, number and date of the specification.
- b. Issue of DODISS to be cited in the solicitation and if required, the specific issue of individual documents referenced (see 2.1 and 2.2).
- c. When a first article is required (See 3.1 and 4.2.1).
- d. Selection of applicable levels of packaging and packing (see 5.1 and 5.2).
- e. National Stock Number.

6.3 Standard and shade samples. For access to standard samples of thread and shade samples of materials, address the procuring activity issuing the invitation for bids.

6.4 This purchase description covers the following item appearing in the Federal Supply Catalog.

<u>National Stock Number</u>	<u>Item Identification</u>
6530-00-783-7510	LITTER, NONRIGID, POLELESS, Nylon

6.5 Key word listing.

Stretcher
Carrier
Nylon
Without poles
Flexible

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify, modifications, additions, and deletions from the previous issue, due to the extensiveness of the changes.

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Custodians:

Army - MD
Navy - MS
Air Force - 03

Preparing activity:

DOD-MB

Agent:

DLA-DM

Civil Agency Coordinating Activities:

FDA-MPQAS
USPHS
VA

Project No. 6530-1770

Location:
MILSP/LITTER/H1A-34

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1 DOCUMENT NUMBER MIL-L-16942B		2 DOCUMENT TITLE LITTER, NONRIGIG, POLELESS, Nylon	
3a NAME OF SUBMITTING ORGANIZATION		4 TYPE OF ORGANIZATION (Mark one)	
b ADDRESS (Street City State ZIP Code)		<input type="checkbox"/> VENDOR	
		<input type="checkbox"/> USER	
		<input type="checkbox"/> MANUFACTURER	
		<input type="checkbox"/> OTHER (Specify):	
5 PROBLEM AREAS			
a Paragraph Number and Wording			
b Recommended Wording			
c Reason/Rationale for Recommendation			
6 REMARKS			
NAME OF SUBMITTER (Last, First, MI) - Optional		b WORK TELEPHONE NUMBER (Include Area Code) - Optional	
MAILING ADDRESS (Street City State ZIP Code) - Optional		8 DATE OF SUBMISSION (YYMMDD)	

INSTRUCTIONS In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (**DO NOT STAPLE**) and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification 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.

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