

INCH-POUND

MIL-S-44221A

**3 March 1989**

SUPERSEDING

MIL-S-44221(GL)

27 June 1986

## MILITARY SPECIFICATION

### STAND, CANTEEN CUP

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

#### 1. SCOPE

1.1 Scope. This specification covers aluminum stands for heating water and individual ration components in canteen cups.

1.2 Classification. The stands shall be of the following types as specified (see 6.2).

Type I - Without bottom

Type II - With bottom

#### 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: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8465

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## SPECIFICATIONS

## FEDERAL

- PPP-B-26 - Bag, Plastic (General Purpose)
- PPP-B-601 - Boxes, Wood, Cleated Plywood
- PPP-B-636 - Boxes, Shipping, Fiberboard

## STANDARDS

## 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

(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.)

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.

## DRAWINGS

## U.S. ARMY NATICK RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER

- 2-9-329 - Stand, Canteen Cup, Type I
- 2-9-336 - Stand, Canteen Cup, Type II

(Copies are available from the U.S. Army Natick, Research, Development, and Engineering Center, Natick, MA 01760-5014.)

2.2 Non-Government publications. The following document forms 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 (see 6.2).

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- D 3951 - Standard Practice for Commercial Packaging

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

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(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 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 shall take precedence. Nothing in this document, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.2 Materials. Materials shall be as specified herein and on Drawing 2-9-329 or Drawing 2-9-336 as applicable. It is encouraged that recycled material be used when practical as long as it meets the requirements of this specification.

3.3 Design and construction. The design and construction of the stand shall conform to Drawing 2-9-329 or Drawing 2-9-336 as applicable and to the requirements herein (see 6.4).

3.4 Instruction sheet. Each canteen cup stand shall be furnished with an instruction sheet conforming to figure 1 or figure 2 as applicable. The instruction sheet shall be clearly and legibly printed on plain white paper.

3.5 Fit (type II). The type II stand shall fit the canteen cup securely, the bottom of the stand shall be in contact with the bottom of the canteen cup, and the stand shall remain attached to the cup when the cup is lifted but shall be capable of being pulled from the cup with minimal force, when tested as specified in 4.4.4.

3.6 Marking. The letters US, the year of manufacture, the National Stock Number, and the manufacturer's name or trademark shall be stamped on the stand as shown on Drawing 2-9-329 or Drawing 2-9-336 as applicable.

3.7 Government furnished property. Sample canteen cups will be furnished for fit testing type II stands (see 4.5.1 and 6.5).

3.8 Workmanship. The finished stand shall be clean and free of any dents, unspecified bends or folds, scales, ripples, fractures, diemarks, or draw mark. There shall be no evidence of pitting, corrosion, stains, or spotting.

### 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 (examinations and tests) as specified herein.

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Except as otherwise specified in the contract or purchase order, the contractor 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 this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall 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 ensuring 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 inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 First article inspection. When a first article is required (see 3.1 and 6.2), the canteen cup stand shall be examined for the defects listed in table I, and for the dimensions specified on Drawing 2-9-329 or Drawing 2-9-336 as applicable. The presence of any defects listed in table I, or any dimensions not as specified on Drawing 2-9-329 or Drawing 2-9-336 as applicable shall be cause for rejection of the first article.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be preformed in accordance with MIL-STD-105.

4.4.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.4.2 End item visual examination. The end items shall be examined for the defects listed in table I. The lot size shall be expressed in units of stands. The sample unit shall be one stand. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 4.0 for major defects and 6.5 for total (major and minor combined) defects.

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TABLE I. End item visual defects

Examine	Defect	Classification	
		Major	Minor
Finish	Not as specified		201
	Evidence of pitting, corrosion, stains, or spotting (slight water spotting easily removed by washing shall not be considered a defect)	101	
Design, construction and workmanship	Not design specified	102	
	Seam lap, lamination, crease, or ripple	103	
	Stand dented		202
	Stand fractured	104	
	Sharp edges, burrs, cracks, slivers, or rough spots	105	
	Stand bent		203
	Die or draw marks		204
Marking	Missing, illegible, or incomplete		205

4.4.3 End item dimensional examination. The end items shall be examined for conformance to the dimensions specified on Drawing 2-9-329 or Drawing 2-9-336 as applicable. Only those dimensions that can be evaluated without damaging or disassembling the end items shall be examined. Any dimension not within the specified tolerance shall be classified as a defect. The lot size shall be expressed in units of stands. The sample unit shall be one stand. The inspection level shall be S-4 and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

4.4.4 End item testing (type II only). The type II stand shall be tested as specified in 4.5.1 for conformance to the requirements in 3.5.1. The lot size shall be expressed in units of stands. The sample unit shall be one stand. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 1.0.

4.4.5 Packaging examination. The fully packaged end items shall be examined for the defects listed below. The lot size shall be expressed in units of shipping containers. The sample unit shall be one shipping container fully packaged. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 2.5.

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<u>Examine</u>	<u>Defect</u>
Marking (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application
Materials	Any component missing, damaged or not as specified
Workmanship	Inadequate application of components, such as end of polyethylene bag not secured by tucking into the bottom of stand
Content	Number of stands is more or less than that required Stands not arranged in container as specified Instruction sheet missing, incorrect, or illegible

4.4.6 Palletization examination. The fully packaged and palletized end items shall be examined for the defects listed below. The lot size shall be expressed in units of palletized unit loads. The sample unit shall be one palletized unit load, fully packaged. The inspection level shall be S-1 and the AQL, expressed in terms of defects per hundred units, shall be 6.5.

<u>Examine</u>	<u>Defect</u>
Finished dimensions	Length, width, or height exceeds specified maximum requirement
Palletization	Pallet pattern not as specified Load not bonded with straps as specified
Weight	Exceeds maximum load limits
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application

#### 4.5 Methods of inspection.

4.5.1 Fit test (type II only). The canteen cup (see 6.5) shall be pushed inside the stand with a minimal amount of force, and inspected to determine whether the bottoms are in contact. The cup shall then be lifted to determine whether the stand remains attached. Finally, the stand shall be pulled from the cup with minimal force. Any nonconformance with the requirements specified in 3.5.1 shall constitute failure of this test.

### 5. PACKAGING

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

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5.1.1 Level A. Each stand shall be placed top down in an end opening plastic bag conforming to type II of PPP-B-26. The plastic bag shall measure 8-1/4 inches minimum by 8-1/2 inches minimum and have a minimum film thickness of 0.001 inch. The excess bag material shall be tucked into the stand. The folded instruction sheet (figure 1 or figure 2) shall be placed on the inside bottom of the plastic bag, in such a manner so as not to interfere with the nesting of the stands. Eight stands shall be nested together in the most compact manner practical.

5.1.2 Commercial. The stands shall be preserved in accordance with ASTM D 3951.

5.2 Packing. Packing shall be level A, B, or Commercial, as specified (see 6.2).

5.2.1 Level A packing. One hundred forty-four stands, preserved as specified in 5.1, shall be packed in a cleated plywood shipping container conforming to overseas type, type 3 load of PPP-B-601. Groups of eight nested stands (see 5.1.1), shall be arranged six groups in length, three groups in width, and one group deep in the shipping container. Closure and strapping shall be in accordance with PPP-B-601.

5.2.2 Level B packing. One hundred forty-four stands, preserved as specified in 5.1 shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, grade V3c, V3s, or V4s of PPP-B-636. The inside of each shipping container shall be fitted with a box liner conforming to type CF, class weather-resistant, variety DW, grade V15c of PPP-B-636. Groups of eight nested stands (see 5.1.1), shall be arranged six groups in length, three groups in width, and one group deep in the shipping container. Each shipping container shall be closed in accordance with method III, waterproofed in accordance with method IV, and reinforced as specified in the appendix of PPP-B-636.

5.2.3 Commercial packing. The stands preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

5.3 Palletization. When specified (see 6.2), stands packed as specified in 5.2.2 and 5.2.3, shall be palletized on a 4-way entry pallet in accordance with load type I or Ia, as applicable of MIL-STD-147. Pallet type shall be type I (4-way entry), type IV, or type V in accordance with MIL-STD-147. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means K and L or film bonding means O or P. Pallet patterns shall be in accordance with the appendix of MIL-STD-147. If the container is of a size that does not conform to any of the pallet patterns specified in MIL-STD-147, the pallet pattern shall first be approved by the contracting officer.

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5.4 Marking. In addition to any special marking required by the contract or purchase order, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129 or ASTM D 3951, as applicable.

## 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 stand is intended for use with the cup of the water canteen, and compressed ration heating fuel to heat water and individual components of the Meal, Ready-to-Eat. The stand is designed to be carried in the water canteen cover, with the canteen cup nested inside the stand, and the canteen nested in the cup.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Type required (see 1.2)
- c. When first article is required (see 3.1, 4.3, and 6.3)
- d. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- e. Selection of the applicable levels of preservation and packing (see 5.1 and 5.2).
- f. When palletization is required (see 5.3).

6.3 First article. When a first article sample is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should include specific instructions in all acquisition instruments regarding arrangements for selection, inspection, and approval of the first article.

6.4 Hydroforming. Hydroforming has been found to produce acceptable canteen cup stands (see 3.3).

6.5 Government furnished property. For access to sample canteen cups address the contracting activity issuing the invitation for bids.

6.6 Subject term (key word) listing.

Compressed ration heating fuel  
Food  
Heater  
Meal, Ready-To-Eat  
Water



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6.7 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:

Army - GL  
Navy - SA  
Air Force - 99

Preparing activity:

Army - GL

(Project 8465-0020)

Review activities:

Army - MD  
Navy - MC  
Air Force - 82  
DLA - CT

User activity:

Air Force - 45

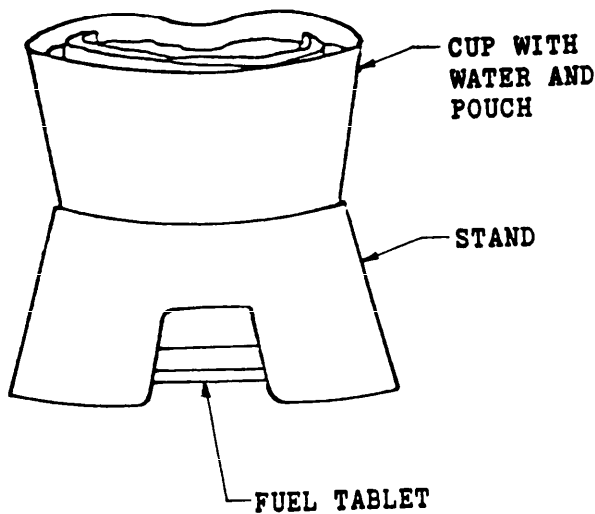
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# CANTEEN CUP STAND

USE STAND WHEN HEATING WATER AND MEAL READY TO EAT POUCHES IN CANTEEN CUP.  
 PUT WATER AND POUCH IN CUP.  
 PLACE STAND ON GROUND WITH SIDE OPENING AT BOTTOM AND PUT FILLED CUP  
 ON TOP.  
 INSERT FUEL, COMPRESSED TRIOXANE THROUGH SIDE OPENING. FOLLOW  
 DIRECTIONS ON FUEL TABLET PACKAGE.  
 ALLOW STAND AND CUP TO COOL BEFORE TOUCHING.  
 INVERT STAND AFTER USE. SLIP CUP INSIDE STAND AND CANTEEN INSIDE CUP.  
 INVERT INTO CANTEEN COVER.

WARNING: DO NOT TOUCH STAND OR CUP IMMEDIATELY AFTER HEATING.  
 DO NOT PLACE STAND IN A DIRECT FLAME.  
 USE FUEL TABLET IN ACCORDANCE WITH PACKAGE DIRECTIONS.

## TO USE



## TO CARRY

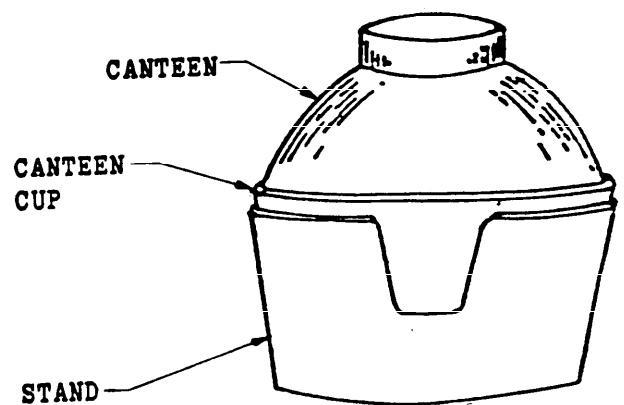
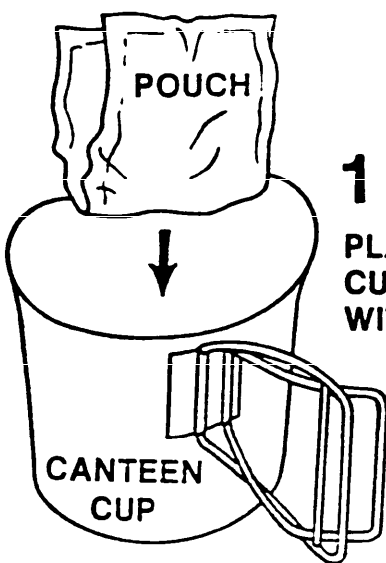


FIGURE 1  
 INSTRUCTION SHEET  
 STAND CANTEEN CUP, TYPE I

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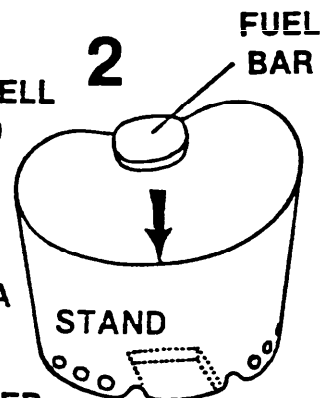
## CANTEEN CUP STAND WITH BOTTOM

USE STAND WHEN HEATING WATER AND MEAL, READY-TO-EAT (MRE)



**1**

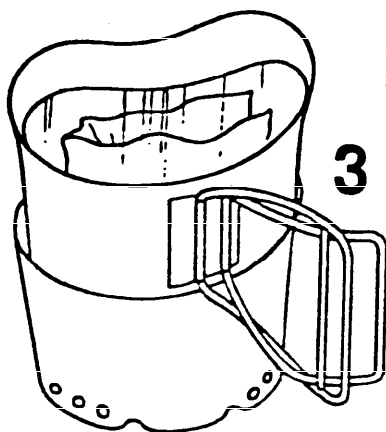
PLACE FOLDED MRE POUCH IN CUP AND COVER POUCH WITH WATER



**2**

PLACE FUEL BAR IN WELL AT BOTTOM OF STAND AND LIGHT. FOLLOW DIRECTIONS ON FUEL BAR PACKET

NOTE: IF YOU ARE USING A 30 GRAM BAR, BREAK IT IN HALF, AND PLACE ONE HALF ON TOP OF THE OTHER HALF IN THE WELL.



**3**

PLACE CUP IN STAND. FUEL BAR WILL BURN OUT AFTER SEVEN OR EIGHT MINUTES

**4**

WAIT FOR STAND AND CUP TO COOL BEFORE STOWING CUP INSIDE STAND

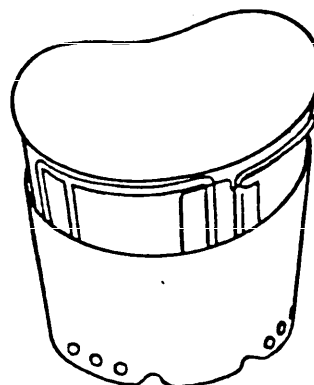


FIGURE 2. INSTRUCTION SHEET  
STAND, CANTEEN CUP, TYPE II

## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-S-44221A		2. DOCUMENT TITLE STAND, CANTEEN CUP	
3a. NAME OF SUBMITTING ORGANIZATION		4. TYPE OF ORGANIZATION (Mark one)	
		<input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER (Specify): _____	
b. ADDRESS (Street, City, State, ZIP Code)			
5. PROBLEM AREAS			
a. Paragraph Number and Wording:			
b. Recommended Wording:			
c. Reason/Rationale for Recommendation:			
6. REMARKS			
7a. NAME OF SUBMITTER (Last, First, MI) - Optional		b. WORK TELEPHONE NUMBER (Include Area Code) - Optional	
c. 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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