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SUPERSEDING
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MILITARY SPECIFICATION

COFFEE MAKERS, PERCOLATOR: ELECTRIC

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

1. SCOPE

1.1 This specification covers automatic, percolator-type coffee makers equipped with integral electric heating elements.

1.2 Classification. The coffee makers shall be of the following types, sizes, and classes, as specified (6.2.1).

Type I - Percolator with pouring spout.

Size 8 - 8-cup capacity.
Size 10 - 10-cup capacity.
Size 12 - 12-cup capacity.

Class 1 - Corrosion-resisting material body with thermostatically-controlled dual heating elements, and flavor selector control.

Class 2 - Polished aluminum body with thermostatically-controlled dual heating elements, and flavor selector control.

Class 3 - Heat-resistant color or polished aluminum body with single heating element and cycling thermostat.

Type II - Percolator with draw-off faucet.

Size 30 - 30-cup capacity.
Size 55 - 55-cup capacity.
Size 80 - 80-cup capacity.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 7310

DISTRIBUTION STATEMENT A.

Approved for public release; distribution is unlimited.

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2. APPLICABLE DOCUMENTS

2.1 Government documents.

* **2.1.1 Specifications and standards.** Unless otherwise specified (see 6.2.1), the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of the specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

PPP-B-636 - Boxes, Shipping, Fiberboard.

MILITARY

MIL-P-116 - Preservation, Methods Of.

STANDARDS

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129 - Marking for Shipment and Storage.

MIL-STD-794 - Parts and Equipment, Procedures for Packaging of.

(Copies of specifications, and standards, required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. The issues of the documents which are indicated as Department of Defense (DoD) adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.

B209 - Aluminum and Aluminum-Alloy Sheet and Plate.

D3951 - Standard Practice for Commercial Packaging.

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

NATIONAL SANITATION FOUNDATION (NSF)

NSF No. 4 - Electric Commercial Cooking and Warming Equipment.
Listing of Food Service Equipment.

(Applications for copies should be addressed to the National Sanitation Foundation, NSF Building, 3475 Plymouth Road, Ann Arbor, MI 48106.)

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UNDERWRITERS LABORATORIES, INC. (UL)

UL 197 - Commercial Electric Cooking Appliances.

UL 1082 - Household Electric Coffee Makers and Brewing-Type Appliances.

(Applications for copies should be addressed to the Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062.)

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

* 2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Description. The coffee makers shall consist essentially of a body, cover, base, handle(s), coffee basket and stem assembly, heating element(s), and a flexible power supply cord. Particular types, classes, and sizes of coffee makers shall be equipped with additional items as specified herein.

3.1.1 Type I. Type I coffee makers shall be furnished with a pouring spout and full grip handle. The pouring spout may be molded plastic in accordance with the manufacturer's current standard practice. Classes 1 and 2 coffee makers shall be equipped with a manually adjustable strength control; a brewing element; a separate warming element; and a thermostat. Class 3 coffee makers shall be equipped with a single heating element which shall act under the automatic control of a cycling thermostat to provide both brewing and warming cycles. Type I, Classes 1 and 2 coffee makers may be furnished with either of the following accessories at the option of the contractor unless the contract specifies that one or both of the accessories are required (see 6.2.1).

- a. Signal light.
- b. Handle-mounted, liquid level sight gage.

* 3.1.2 Type II. Type II coffee makers shall be equipped with a draw-off faucet and two lifting handles, or for size 30, a single bail-type handle. The bodies for Type II coffee makers shall be fabricated of aluminum or corrosion-resisting material, at the option of the contractor, unless the contract specifies that corrosion-resisting material is required (see 6.2.1). The covers for Type II coffee makers shall be fabricated of aluminum, corrosion-resisting material, heat resistant phenolic resin or polypropylene molded plastic material, at the option of the contractor. All Type II coffee

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makers shall be equipped with a brewing element, a separate warming (keep-hot) element, and suitable controls for the brewing and keep-hot cycles. In addition, the coffee makers shall be equipped with at least the following:

- a. Size 30 - Signal light.
- b. Size 55 - Signal light, gage glass.
- c. Size 80 - Signal light, gage glass, ON-OFF switch.

3.2 Standard commercial product. Each coffee maker of the same classification shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product. Additional or better features which are not specifically prohibited by this specification, but are a part of the manufacturer's standard commercial product, shall be included in the coffee maker being furnished. A standard commercial product is a product, which has been sold or is being currently offered for sale on the commercial market through advertisements or manufacturer's catalogs, or brochures, and represents the latest production model.

3.3 First article. When specified (see 6.2.1), the contractor shall furnish one coffee maker for first article inspection and approval (see 4.2.1 and 6.3).

* **3.4 Interchangeability.** All units of the same classification furnished with similar options under a specific contract shall be identical to the extent necessary to interchangeability of component parts, assemblies and accessories. No deviations shall be acceptable without prior approval of the contracting officer.

* **3.5 Standards compliance.** The coffee makers shall meet the applicable requirements of UL 197 and UL 1082. Unless exempted (see 6.2.1), coffee makers shall conform to NSF Standard No. 4.

* **3.5.1 Certification.** Prior to approval of the first article, if one is submitted, or prior to approval of the first shipment, the contractor shall submit satisfactory evidence to the contracting officer or his authorized representative that the coffee maker he proposes to supply under this specification meets the requirement of UL 197, UL 1082, and when required (see 3.5), NSF Standard No. 4 (see 6.2.1).

* **3.5.1.1 UL certification.** Acceptable evidence of meeting the requirements of UL 197 and UL 1082 shall be the UL label, UL listing mark, or a certified test report from a nationally recognized independent testing laboratory, acceptable to the contracting officer, stating that the coffee makers have been tested and conform to these UL's.

* **3.5.1.2 NSF certification.** Acceptable evidence of meeting the requirements of NSF Standard No. 4 shall be the NSF seal on the finished coffee maker and a listing in the NSF Seal of Approval Listing of Food Service Equipment, or a test report, acceptable to the contracting officer with the advice of the Army Surgeon General, from an independent testing laboratory indicating that the items have been tested and conform to NSF Standard No. 4.

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3.6 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. None of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this specification unless otherwise specifically specified.

3.6.1 Corrosion-resisting material. Corrosion-resisting material shall conform to ASTM A167, Classes 302 or 304, annealed or tempered to suit the intended application. The following materials, with finishes indicated, may be substituted for corrosion-resisting material bodies on Class 1 coffee makers:

- a. Aluminum body with electrolytically applied anodized coating.
- b. Copper body with an interior and exterior chromium plating.

3.6.2 Aluminum. Aluminum shall conform to ASTM B209, with mechanical properties, formability, and finish to suit the intended application.

* 3.6.3 Molded plastic. Heat resistant phenolic resin or polypropylene molded plastic material may be used for knobs, handles and bases in accordance with manufacturer's standard practice.

* 3.6.4 Hardware and fittings. Hardware and fittings such as bolts, nuts, washers and screws, shall be corrosion-resistant in accordance with the manufacturer's standard practice.

3.7 Design. The coffee makers shall be suitable for operation on a nominal 120 volt, alternating current (ac), 60 Hertz power source. Coffee makers equipped with two heating elements (a high-heat brewing element and a low-heat warming element) shall be controlled by a thermostat which shall automatically de-energize the brewing element and initiate or sustain operation of the warming element when the brewing cycle is completed. Signal lights on coffee makers so equipped shall light when the warming cycle commences.

* 3.7.1 Capacity. The capacity of the coffee makers furnished under this specification shall be established on the basis of a 5-fluid ounce serving per cup. Capacities shall be as specified in Table I and shall be interpreted in accordance with the following:

- a. The manufacturer's rated 5-ounce cup capacity for the size specified shall not be less than the nominal capacity of Table I.

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- b. The manufacturer's rated 5-ounce cup capacity may be greater than the applicable nominal capacity provided the larger capacity does not exceed the number of cups specified in Table I under maximum capacity; e.g., a coffee maker rated by the manufacturer as having a capacity of 36, 5-ounce cups will be acceptable for size 30.
- c. Coffee maker shall be capable of satisfactorily brewing coffee when operating with a volume of water equal to the number of cups specified in Table I under minimum capacity.

TABLE I. Coffee maker requirements.

Class	Size	Capacity (see 3.7.1)				Minimum power input, (watts) (see 3.7.2)
		Nominal		Minimum	Maximum	
		Cups	Quarts	Cups	Cups	
1&2	8	8	1.25	4	9	500
3	8	8	1.25	6	9	450
1&2	10	10	1.56	6	12	600
3	10	10	1.56	6	12	450
1&2	12	12	1.87	6	12	800
3	12	12	1.87	6	12	450
-	30	30	4.68	12	40	1000
-	55	55	8.59	30	60	1300
-	80	80	12.50	40	101	1300

3.7.2 Power input. The total power input of single- and dual-element coffee makers, expressed in watts, shall not be less than the applicable wattage ratings specified in Table I. Warming elements shall have a rating adequate to maintain a full coffee maker at the serving temperature specified in 3.8.

* 3.7.3 Safety hazards. The design shall be such that no fire or electrical shock hazard is present when the coffee maker is connected to a power source. The leakage current of the coffee maker shall not exceed 0.5 milliamperes when connected to a nominal 120 volt supply, when tested as specified in 4.5.6.

3.8 Performance. The coffee maker shall meet the performance requirements specified herein. The operation shall be completely automatic when the coffee maker, filled to rated capacity with cold water at a temperature of 65 degrees Fahrenheit ($^{\circ}\text{F}$) $\pm 5^{\circ}\text{F}$, is connected to the electrical power supply. At the completion of the brewing cycle, the temperature of the beverage shall be not less than 170°F and not more than 205°F . The serving temperature shall be not less than 170°F when the coffee maker has been filled to rated capacity and the finished brew has remained in the coffee maker for a period of 1 hour in an ambient temperature of 75°F $\pm 5^{\circ}\text{F}$. The soluble solids content, as a measure of brew quality shall be between 1.10 and 1.35 percent of the beverage when tested in accordance with 4.5.3.3. The amount of sediment passing into prepared coffee beverage shall be not more than 75 milligrams for 100 milliliters of brewed coffee.

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3.9 Details of components.

3.9.1 Body. The body shall be fabricated from corrosion-resisting material, anodized aluminum, chromium plated copper, polished aluminum, or polypropylene as specified herein. For sizes up to and including size 30 coffee makers, the nominal thickness of the metal shall be not less than 0.025 inch for corrosion-resisting material and 0.0320 inch \pm .002 for aluminum or copper. The body may be of molded polypropylene if the material is in conformance with NSF Standard No. 4. For size 55 and size 80 coffee makers, the nominal thickness of the metal shall be not less than 0.0375 inch for corrosion-resisting material and 0.0403 inch for aluminum. The body of the size 30 coffee maker shall be marked to indicate the intermediate cup capacities.

3.9.2 Base. The body of the coffee maker shall be mounted on a round or oval, pedestal-type base, a leg supported base, or a combination of the leg and pedestal base. The base shall enclose the electrical components and the wiring. The base shall be fabricated from the same material as the body, or plastic (see 3.6.3) that is regularly used by the manufacturer for this application, or a combination of the two. For Type II coffee makers, the base shall be so constructed as to allow filling a cup setting on a 5-7/8 inch diameter saucer. For Type II coffee makers, the base shall provide sufficient height under the draw-off faucet (see 3.9.5), to permit filling a cup or mug with a height of approximately 3-1/2 inches when the coffee maker is mounted on a table or counter.

* **3.9.3 Coffee basket and stem.** The perforated coffee basket shall be corrosion-resisting material, aluminum, phenolic resin or polypropylene plastic, in accordance with the manufacturer's standard practice. The stem shall be the manufacturer's standard stem. When required (see 6.2.1), the coffee basket shall be provided with a spreader to provide a uniform delivery of brewing water across the entire surface of coffee.

* **3.9.4 Power cord.** Each coffee maker shall have a flexible attachment cord equipped with attachment plugs. The power cord shall conform with the applicable requirements of UL 197.

3.9.5 Draw-off faucet. Each Type II coffee maker shall have a self closing, nondrip type draw-off faucet. The draw-off faucet shall have a suitable heat-resistant handle.

3.9.6 Strength control. The strength control on Type I, Classes 1 and 2 coffee makers shall be actuated by a manually operated lever or knob on the side of the coffee maker base. The control settings shall be marked to indicate the strength of the brew.

3.9.7 Heating elements. Unless otherwise specified (see 6.2.1), the heating element shall be countersunk and shall not protrude more than 3/8 inch from the bottom of the coffee maker body.

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3.10 Finish. Surface materials in the food zone shall be smooth, corrosion-resisting, nontoxic, stable and nonabsorbent under use conditions and shall not impart odor, color, or taste to the beverage. Exposed surfaces in the food zone shall be finished so as to be easily cleanable. Corrosion-resisting material shall have a No. 3 or better finish. Other materials, including plastics, shall be as cleanable as a No. 3 finish on corrosion-resisting material.

* 3.11 Identification marking. Each coffee maker shall be marked in accordance with UL 197 and shall include the following:

- a. Manufacturer's name or trademark.
- b. Manufacturer's model number or equivalent identification.
- c. Electrical rating.
- d. Date of manufacture.

* 3.12 Precautionary markings. The words "DO NOT IMMERSE BASE IN WATER", if applicable, shall be marked on the bottom of the coffee maker. Other precautionary markings as required by the UL's or as recommended by the manufacturer shall be marked on the coffee maker and components.

3.13 Commercial publications. Manufacturer's standard commercial publications shall be furnished (see 6.2.2).

3.14 Service. Service parts shall be furnished as specified (see 6.2.1).

3.15 Workmanship.

3.15.1 Metal fabrication. The metal used in fabrication shall be free from kinks, sharp bends, and other conditions that may be deleterious to the finished product. Manufacturing processes shall not reduce the strength of the metal to a value less than intended by the design. Manufacturing processes shall be done neatly and accurately. All bends shall be made by controlled means to insure uniformity of size and shape.

* 3.15.2 Bolted connections. Boltholes shall be accurately punched or drilled and shall have the burrs removed. Washers or lockwashers shall be provided in accordance with good commercial practice, and all bolts, nuts, and screws shall be tight. Bolts, nuts, washers and screws, shall be corrosion-resistant in accordance with the manufacturer's standard practice.

* 3.15.3 Riveted connections. Rivet holes shall be accurately punched or drilled and shall have the burrs removed. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads, when not countersunk or flattened, shall be of approved shape and of uniform size for the same diameter of rivet. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member.

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* 3.15.4 Welding. Welding procedures shall be in accordance with a nationally recognized welding code. The surfaces of parts to be welded shall be free from rust, scale, paint, grease, or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subjected to proof and service loadings.

3.15.5 Castings. All castings shall be sound and free from patching, misplaced coring, warping, or any other defect which reduces the casting's ability to perform its intended function.

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 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.

* 4.1.1 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements specified herein and in applicable referenced documents.

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

- a. First article inspection (see 4.2.1).
- b. Quality conformance inspection (see 4.2.2).

4.2.1 First article inspection. The first article inspection shall be performed on one coffee maker when a first article is required (see 3.3, 6.2.1, and 6.3). This inspection shall include the examination of 4.4 and the tests of 4.5. The first article may be either a first production item or a standard production item from the supplier's current inventory, provided the item meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.4, the tests of 4.5, and the packaging inspection of 4.6. This inspection shall be performed on the samples selected in accordance with 4.3.

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* 4.3 Sampling. Sampling and inspection procedures shall be in accordance with MIL-STD-105. The unit of product shall be one coffee maker. All coffee makers of the same classification offered for delivery at one time shall be considered a lot for the purpose of inspection. If an inspection lot is rejected, the contractor may rework it to correct the defects, or screen out the defective units, and resubmit for a complete inspection. Resubmitted lots shall be reinspected using tightened inspection. If the rejected lot was screened, reinspection shall be limited to the defect causing rejection. If the lot was reprocessed, reinspection shall be performed for all defects. Rejected lots shall be separated from new lots, and shall be clearly identified as reinspected lots.

4.3.1 Sampling for examination. Examination shall be based on inspection level II and an Acceptable Quality Level (AQL) of 2.5 for major defects and 4.0 for minor defects expressed in defects per hundred units.

4.3.2 Sampling for tests. Tests shall be based on inspection level S-3 and an AQL level of 4.0 expressed in defects per hundred units.

* 4.4 Examination. Each coffee maker selected shall be examined for defects listed in Table II. Each attribute within each classification of multiple defects shall constitute one defect.

TABLE II. Classification of defects.

Classification	Defects	Requirement paragraph
Critical:	None defined.	
Major:		
101	Type, size and class not as specified.	1.2, 3.1.1, and 3.1.2
102	Component parts, assemblies and/or accessories are not interchangeable.	3.4
103	Material not as specified, and obviously damaged, defective or not properly suited for the purpose intended. Hardware and fittings not corrosion-resistant.	3.6
104	Design not as specified.	3.7
105	Capacity not as specified.	3.7.1 and Table I
106	Power input not as specified; warming element(s) rating not adequate.	3.7.2 and Table I
107	Performance not as specified; operation not automatic as required; water temperature not as specified; beverage temperature not as specified for brewed coffee; serving temperature less than specified; soluble solids content not as specified; amount of sediment excessive.	3.8

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TABLE II. Classification of defects. continued

Classification	Defects	Requirement paragraph
108	Components not as specified; metal thickness less than specified; cord not as specified; draw-off faucet for Type II not as specified; strength control for Type I, Classes 1 and 2 not as specified; and control settings not marked. Heating element not as specified or not countersunk as specified.	3.9.1 through 3.9.7
109	Finish not as specified; exposed surfaces in food zone not easily cleanable; corrosion-resisting steel less than No. 3 finish; other materials not as cleanable as No. 3 finish on corrosion-resisting material.	3.10
110	Identification or precautionary markings missing, when required.	3.11 and 3.12
111	Service parts not furnished as specified.	3.14
112	Sharp edges and corners, burrs, dents and deformities.	3.15.1
113	Boltholes not as specified. Missing bolts, nuts, or screws. Stripped or crossed threads.	3.15.2
114	Incompletely filled holes, burrs, cracks or fractures.	3.15.3
115	Welds incomplete, burn holes, cracks or fractures.	3.15.4
116	Castings not as specified.	3.15.5
Minor:		
201	Identification marking not as specified.	3.11
202	Manufacturer's standard publications missing.	3.13

* 4.4.1 Standards compliance. The contractor shall make available to the contracting officer or his representative evidence of compliance with the applicable standards cited in 3.5. The Government reserves the right to examine and test all coffee makers to determine the validity of the certification.

4.5 Tests. The first article shall receive the tests of 4.5.1 through 4.5.6. Each production unit selected shall receive the tests of 4.5.4 and 4.5.5.

4.5.1 Capacity test. The coffee maker shall be checked to verify compliance with the capacity requirements of 3.7.1 and Table I.

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4.5.2 Power input test. The coffee maker shall be checked at 120 volts ac to verify compliance with the power input requirements of 3.7.2 and Table I.

* 4.5.3 Performance test. The coffee maker shall be tested to verify compliance with performance requirements of 3.8. Testing shall be as indicated in 4.5.3.1 through 4.5.3.4.

4.5.3.1 Brew temperature. This test shall be performed at the manufacturer's rated capacity and at minimum capacity. The temperature of the brewed beverage shall be measured at the completion of the brewing cycle. Testing at the minimum capacity shall be performed using 9 grams of coffee per cup, and the manufacturer's rated capacity or minimum capacity of water, as applicable, at a temperature of $65^{\circ}\text{F} \pm 5^{\circ}\text{F}$, indicated in Table I. Failure of the temperature to be within the range specified in 3.8 shall be cause for rejection.

4.5.3.2 Serving temperature. The serving temperature shall be measured at the end of 1 hour after the brew temperature has been determined. The temperature shall be obtained only for manufacturer's rated capacity. Failure to meet the requirement of 3.8 shall be cause for rejection.

4.5.3.3 Brew strength. The brew strength shall be determined by measuring the amount of soluble solids in the beverage. The oven drying method shall be used to measure the soluble solids when the coffee maker is filled to manufacturer's rated capacity and at minimum capacity. The beverage shall be prepared as specified in 4.5.3.1. After the brew cycle is complete, cool a well mixed sample of beverage to $75^{\circ}\text{F} \pm 5^{\circ}\text{F}$, and filter the sample through a hard type filter paper to remove any insoluble sediment. Weigh a small, clean dry aluminum dish to the nearest tenth of a milligram on an analytical balance. Add 10 milliliters of the filtered beverage to the dish. Place the dish in a constant temperature oven held at 220°F to 230°F for at least 3 hours to evaporate the water and dry the residue. After drying is complete, transfer the dish to a desiccator, and allow to cool to room temperature. Weigh the dish on the balance. The difference between this reading and that of the empty dish represents the amount of soluble solids contained in 10 milliliters of beverage. The percent soluble solids, obtained by multiplying the difference between the weights by 10 shall be as specified in 3.8. In order to determine uniform performance of the coffee maker, five batches of beverage shall be prepared at the manufacturer's rated capacity, and five batches at minimum capacity. Failure of the soluble solids content to meet the requirements of 3.8 shall be cause for rejection.

4.5.3.4 Sediment. A batch of coffee beverage shall be brewed as specified in 4.5.3.1 for manufacturer's rated capacity. Upon completion of the brew cycle, the beverage, including all of the sediment, shall be transferred to a graduated glass beaker. The yield shall be recorded. A magnetic stirring rod shall be placed in the beaker to stir beverage at the rate that will uniformly distribute the sediment. A sample of approximately 100 milliliters shall be removed and its precise volume determined. The complete sample shall be

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passed through a preweighed filter paper. The sampling container shall be thoroughly rinsed to transfer all of the sediment to the filter. The filter shall be dried to a constant weight. The increase in weight is equivalent to the amount of sediment in the sample. Failure to meet the requirement of 3.8 shall be cause for rejection.

4.5.4 Operation test. The coffee maker shall be filled with water to the required capacity and connected to a power source. The coffee maker and components shall be examined during the test to determine that the coffee maker and component, such as heating element(s), signal light, thermostat, gage glass, faucet, and ON-OFF switch function as required. Any nonconformance to the specified requirements shall constitute failure of this test.

4.5.5 Leakage test. The coffee maker shall be tested for leaks. This test may be performed during the operation of 4.5.4. Any visible leakage shall constitute failure of this test.

* 4.5.6 Leakage current test. The coffee maker will be tested for leakage current in accordance with the test procedure of UL 197 (see 3.7.3). This test shall be performed at full capacity, half capacity, and with less than one cup of the brew remaining in the coffee maker. Failure to meet the requirements of 3.7.3 shall be cause for rejection.

4.6 Packaging inspection. The preservation, packing, and marking of the item shall be inspected to verify conformance to the requirements of section 5.

5. PACKAGING

5.1 Preservation. Preservation shall be level A or C as specified (see 6.2.1).

* 5.1.1 Level A. Each coffee maker shall be packaged method III, in accordance with MIL-P-116, in a close-fitting fiberboard box conforming to PPP-B-636, class weather-resistant. The coffee maker and components shall be cushioned, blocked, and braced to prevent movement and damage. The box shall be closed in accordance with the appendix to the box specification, method V. The publications for each coffee maker shall be preserved method IC-3 and packaged inside the unit container with the coffee maker.

* 5.1.2 Level C. Material shall be packaged in accordance with ASTM D3951. When specified (see 6.2.1), flammable, combustible, or toxic packaging materials (e.g., loose-fill polystyrene, wood excelsior, shredded paper, newspaper, wax paper, etc.) shall not be used.

5.2 Packing. Packing shall be level A, B, or C as specified (see 6.2.1).

* 5.2.1 Levels A, B, and C. Packing shall be in accordance with MIL-STD-794 for the applicable level specified. Containers shall be selected from Table I of MIL-STD-794 for the appropriate level. Open containers shall not be used for Level A or B packing.

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5.3 Marking. Marking shall be in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. Coffee makers covered by this specification are intended for use in coffee messes, clubs for military personnel, exchanges, small galley messes where larger spray-over or pour-over coffee urns are not required, and for stand-by off-hour service in larger mess-halls.

6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Type, size, and class of coffee makers required (see 1.2).
- c. When specifications and standards shall be other than as specified (see 2.1.1).
- d. When a signal light or height gage or both are required for Type I, Classes 1 and 2 coffee makers (see 3.1.1).
- e. When corrosion-resisting material bodies are required for Type II coffee makers (see 3.1.2).
- f. When a first article is required for first article inspection and approval (see 3.3, 4.2.1, and 6.3).
- g. When coffee maker is not required to conform to NSF Standard No. 4 (see 3.5 and 3.5.1).
- h. When coffee basket is required to be provided with a spreader (see 3.9.3).
- i. When the heating element shall be positioned on the coffee maker other than as specified (see 3.9.7).
- j. When service parts are required (see 3.14).
- k. Level of preservation and level of packing required (see 5.1 and 5.2).
- l. When flammable, combustible, or toxic packaging materials shall not be used (see 5.1.2).

6.2.2 Data requirements. When this specification is used in an acquisition which incorporates a DD Form 1423, Contract Data Requirements List (CDRL), the data requirements identified below shall be developed as specified by an approved DD Form 1664, Data Item Description (DID), and delivered in accordance with the approved CDRL incorporated into the contract. When the provisions of DoD Federal Acquisition Regulations Supplement 27.410-6 are invoked and the DD Form 1423 is not used, the data specified below shall be delivered by the contractor in accordance with the contract or purchase order requirements. Deliverable data required by this specification is cited in the following paragraphs:

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<u>Paragraph No.</u>	<u>Data requirements title</u>	<u>Applicable DID No.</u>	<u>Option</u>
3.5.1 & 4.4.1	Certificate of Compliance	DI-E-2121	
3.13	Publications, Commercial	DI-M-24006E	

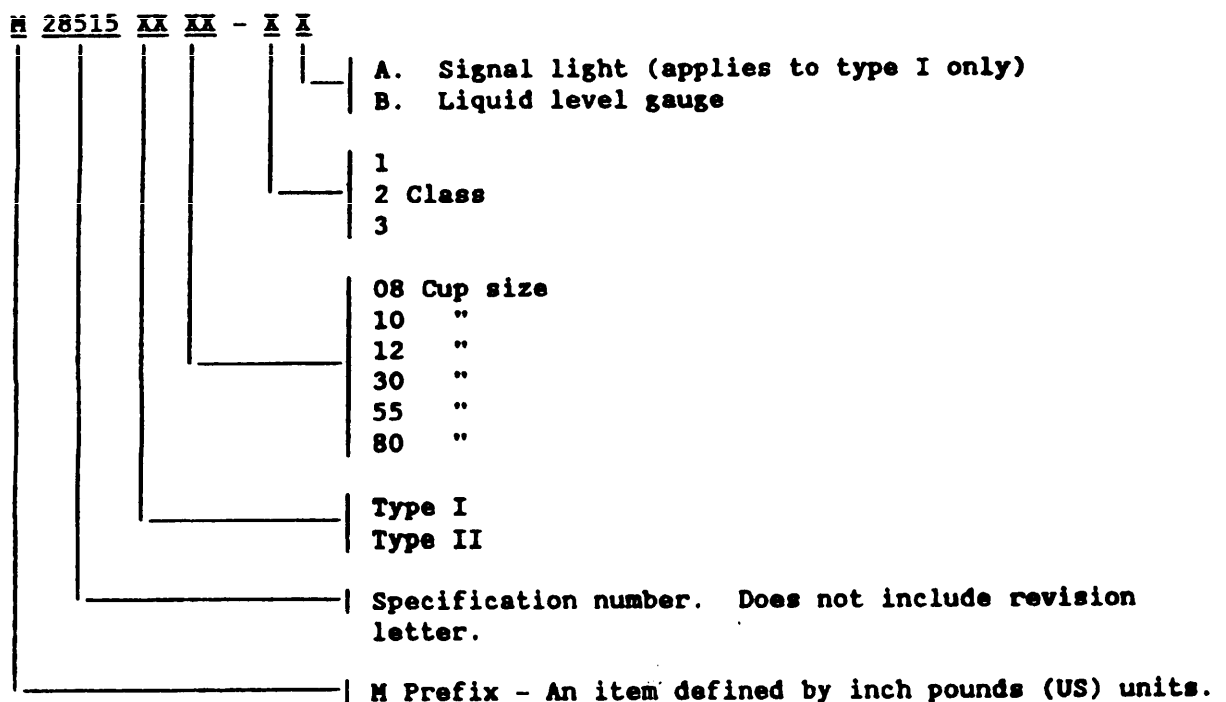
(DID's related to this specification, and identified in section 6 will be approved and listed as such in DoD 5000.19L, Vol. II, Acquisition Management Systems and Data Requirements Control List. Copies of DID's required by the contractors in connection with specific acquisition functions should be obtained from the Naval Publications and Forms Center, or as directed by the contracting officer.)

6.3 First article. When a first article inspection is required, the item will be tested and should be a first production item, or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The first article should consist of one coffee maker. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

6.4 Definitive military specification part number. The military specification part number which corresponds to the type, style, and other specific classification data applicable to units covered by this specification, and defines the requirements of the options presented under this specification. The military specification part number, the type and style code number, and the units other applicable code numbers are combined to form the definitive military specification part number.

6.4.1 Cataloging data. The military part number system shall provide for a definitive number indicating a specific item of supply.

Example: M28515108-2A, A Type I, 8 cup, Class 2, signal light, coffee maker. The format is:



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6.5 Changes from previous issue. The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and the relationship to the last previous issue.

Custodians:

Army - GL
Navy - ID
Air Force - 90

Preparing Activity:

Navy - ID
(Project 7330-0591)

Review Activities:

Army - 80
Navy - 82, 84
Air Force - 84

Draw Activities:

Army - 82
Navy - 82, 84
SLA - 82

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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DEPARTMENT OF THE NAVY
 Commanding Officer (156)
 Naval Construction Battalion Center
 Port Hueneme, CA 93043-5000



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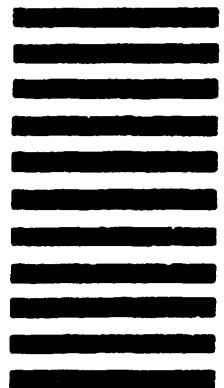
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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER

MIL-C-28515B

2. DOCUMENT TITLE

COFFEE MAKERS, PERCOLATOR: ELECTRIC

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)

☐

VENDOR

☐

USER

☐

MANUFACTURER

☐

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)

TO DETACH THIS FORM, CUT ALONG THIS LINE