

W-H-636G
March 20, 1988
SUPERSEDING
W-H-636F
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FEDERAL SPECIFICATION

HOTPLATES, ELECTRIC

This specification was approved by the Commissioner, Federal Supply Services, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers electrically heated hotplates for use on counter tops.

1.2 Classification.

1.2.1 Types, styles, and sizes. The hotplates shall be of the following types, styles, and sizes, as specified (see 6.2).

- Type I - With extension cord for portable use.
- Type II - With outlet box for permanent connection.
- Type III - Shipboard use (style 2, size 3 only).

- Style 1 - One heating-unit hotplate.
- Style 2 - Two heating-unit hotplate.

- Size 1 - 1000-1050 watts (each unit).
- Size 2 - 1200-1250 watts (each unit).
- Size 3 - 2000-2500 watts (each unit).

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 7310

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W-H-636G

2. APPLICABLE DOCUMENTS

2.1 Government documents. Unless otherwise specified, 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.

Federal Specification

PPP-B-636 - Boxes, Shipping, Fiberboard

Federal Standard

FED-STD-123 - Marking for Shipment (Civil Agencies)

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, US Government Printing Office, Washington, DC 20402.)

(Single copies of this specification and other Federal specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington DC, Atlanta, Chicago, Kansas City, Fort Worth, Denver, San Francisco, Los Angeles and Seattle.)

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standards

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

(Copies of Military specifications and standards required by contractors 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 a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

Underwriters Laboratories Inc. (UL)

- UL 197 - Commercial Electric Cooking Appliances
- UL 197-S1 - Commercial Electric Cooking Appliance for Marine Use
- UL 1030 - Sheathed Heating Elements
- UL 1262 - Laboratory Equipment

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

National Sanitation Foundation (NSF)

Standard No. 4 - Cooking and Hot Food Storage Equipment

Listing of Food Service Equipment

(Application for copies should be addressed to the National Sanitation Foundation, 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, MI 48106.)

American Society for Testing and Materials (ASTM)

- A 167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
- A 176 - Stainless and Heat-Resisting Chromium Steel Plate, Sheet, and Strip
- C 282 - Acid Resistance of Porcelain Enamels (Citric Acid Spot Test)
- 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.)

(Technical society and technical association documents 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 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 in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.3, 6.2, and 6.3).

3.2 Standard product. Hotplates delivered under this specification shall be the manufacturer's current standard product except for any changes necessary to comply with this specification.

W-H-636G

3.3 Codes and Standards. The hotplates shall comply with the applicable requirements of NSF Standard No. 4 and UL 197, UL 197-S1, UL 1030 and UL 1262.

3.4 Data name plate. The hotplate shall be furnished with a data name plate in accordance with the applicable requirements of MIL-STD-130 except the requirements for; (a) Methods of applying, (b) Identification tags, (c) Information not required, and (d) Optional marking information shall not apply. The data name plate shall be made of minimum 20 gauge corrosion resisting metal, and attached to hotplate by rivets, screws, or by welding, in such a manner as to meet the applicable National Sanitation Foundation requirements for this equipment. The plate shall bear the following information which shall be stamped, engraved, or applied by photosensitive means:

National Stock Number
Procurement Instrument Identification Number
Specification Data
Manufacturer's Name, Address, and Telephone Number
Supplier's Name, Address, and Telephone Number (If different from manufacturer.)
Manufacturer's Model Number
Government Approved Manual Number (see 6.2)

Each plate shall be placed so as to be readily visible to the operator during normal operation and use, and so as to not adversely affect the life or utility of the hotplate.

3.5 Compliance. Prior to commencing production the supplier shall submit satisfactory evidence to the contracting officer or his authorized representative that the hotplates he proposes to furnish under this specification meet the applicable requirements of NSF Standard No, 4 and UL 197, UL 197-S1, UL 1030, and UL 1262 (see 4.5.1 and 4.5.2).

3.6 Materials. Materials not definitely specified shall be of quality normally used by the manufacturer for his standard commercial hotplates, provided the completed item complies with all provisions of this specification (see 6.4).

3.6.1 Stainless steel. Stainless steel shall conform to type 302 or 304 or any of the type 300 series of ASTM A 167 or type 400 series of ASTM A 176 (except type III, see 3.9).

3.6.2 Welding rod. Welding rod shall be compatible with the basic material welded (see 3.6.1).

3.7 Design and construction. Hotplates shall be of the types, styles and sizes listed in 1.2.1. Hotplates shall be designed for use on counter tops, with controls on the front panel. Maximum overall dimensions shall be as follows: width - 15 inches; depth (front to back) - 26 inches, height

(without legs) - 12 inches. Heating units(s) shall be of solid plate or tubular design. Style 1 hotplates shall have one heating unit and style 2, two heating units. Sizes 1 and 2 shall have nominal 5-inch diameter units and size 3 shall have nominal 8-inch diameter unit. Provisions shall be made to allow for adjustment, service and replacement of all components, including electrical components, accessories and controls without disturbing or disassembling any major component or equipment. The hotplate body shall be capable of supporting an evenly distributed weight load of 125 pounds over the surface of the style 1 heating unit, and 250 pounds over the surface of the style 2 heating unit, without permanent deformation or damage, when tested as specified in 4.6.1.

3.7.1 Electrical characteristics, types I and II. Unless otherwise specified (see 6.2), the type I and II hotplates shall be designed for operation on the following electrical characteristics:

Type I and II, style 1 size 1 and 2.....120V, 1Ph, 60 Hz

Type I and II, style 1 size 3 and

Type I and II, style 2 size 1 and 2.....208V, 1Ph, 60 Hz

Type I and II, style 2 size 3.....208V, 3Ph, 60 Hz

3.7.2 Supports. Hotplates shall be mounted on legs or base, except type III hotplates shall be mounted on legs only (see 3.9). Legs shall be either stainless steel specified in 3.6.1, or cast aluminum.

3.7.3 Top and body, types I and II. The top shall be white porcelain enamel on carbon steel, or stainless steel specified in 3.6.1 at least 22 gauge (0.030 inch) thick. The body shall be white porcelain enamel, or white baked enamel on carbon steel, or stainless steel specified in 3.6.1 at least 22 gauge (0.030 inch) thick. Enamel shall be acid resistant when tested as specified in 4.6.3. For Navy use, top and body shall be stainless steel as specified in 3.6.1.

3.7.4 Heating units. Heating units shall be either inclosed helical coil type, or solid plate type. Helical coil type heating units shall conform to the applicable requirements of UL 1030. The surfaces shall be unbroken by seams, joints or openings. Solid plate heating units shall have inclosed type coils mounted in, or attached to, the underside of the plate. The top of all heating units shall be horizontal, capable of supporting in a vertical position in any location, a flat-bottomed cooking or heating vessel 3 inches in diameter at its base, when tested as specified in 4.6.1.

3.7.5 Reflector pan-and drip-tray. Hotplates shall be equipped with a reflector pan or a drip-tray, or with both reflector pan and drip-tray. Reflector pans and drip-trays shall be aluminized steel, corrosion-resisting steel, chrome-plated steel, polished aluminum, or carbon steel finished with

W-H-636G

porcelain enamel. Porcelain enamel shall be acid-resistant when tested as specified in 4.6.3.

3.8 Electrical characteristics.

3.8.1 Wiring and connections. All hotplates shall be electrically grounded. Type I hotplates shall be supplied with a power cord not less than 6 feet long with a grounding conductor and NEMA approved three-prong attachment plug. Type II or III hotplates shall be designed for permanent electrical connection.

3.8.2 Switches. Each heating unit shall be equipped with a three-heat "off-high-medium-low" indicating reversible switch, or an infinite position switch having integral "ON and OFF" positions, or an infinite position switch in conjunction with a separate "ON" - "OFF" switch. For three-heat switches, the voltage rating of the switch at the "medium" and "low" positions shall be the same as at the "high" position. The hotplate load at the "medium" and "low" positions shall be one-half and one-fourth plus or minus 5 percent, respectively, of that at the "high" position, when tested as specified in 4.6.2. Gravity type switches (mercury, etc.) are not acceptable for type III hotplates. On three-heat, 3-phase, 208 volts, hotplate units in open phase on each heating unit is allowed. Switches shall have a signal light to indicate when heating units are energized.

3.9 Hotplates for shipboard use (type III). Hotplates for shipboard use shall be type III, style 2, size 3 and shall be designed for operation on nominal 120-volt, 60 Hertz (Hz) single phase, or nominal 440-volt, 60 (Hz), 3-phase, or 120-volt direct current (dc) system, as specified (see 6.2), with outlet box for permanent connection. Type III hotplates shall have tapped holes in the feet, lugs with bolt-holes, or other means for fastening the hotplate in place. Plastic parts shall not be used for securing the mounting bolts unless metal inserts are provided. The design shall provide for entrance of the power cable at the rear of the hotplate. A cable clamp shall be provided on the hotplate for securing cables having an outside diameter of 1/4 inch to 5/8 inch. Sea rails shall be provided around the perimeter of the top of the hotplate to prevent cooking vessels from sliding off the top. The body of the hotplate shall be formed or fabricated of type 302 or 304 stainless steel conforming to ASTM A 167. The body shall be at least 0.0272 inch thick. The reflector pan shall be made of the same material as referenced in 3.7.5.

3.10 Finish. The carbon steel top and sides of the hotplate shall be finished with (1) white porcelain enamel or (2) white porcelain enamel top with white baked enamel sides. Both porcelain enamel and baked enamel shall be acid-resistant (see 4.6.3). Porcelain enamel shall be 16 mils +0, -3 mils in thickness. Baked enamel shall be 5 mils +0, -1 mils in thickness (see 4.6.4). Baked enamel and porcelain enamel shall be glossy with no discoloration, cracks, holes, flakes, peels or sags, runs, wrinkles, blisters or stains, as applicable. Stainless steel shall be given a 2B or 3 finish, or No. 4 polish. Type III hotplates shall have a No. 4 polish.

3.11 Operation. All hotplate switches and controls shall operate smoothly, without binding or other defects, when tested as specified in 4.6.2.

3.12 Workmanship. All components and assemblies of the hotplate, as applicable, shall be free from dirt and other harmful extraneous material, burrs, slivers, rough die, tool and grind marks, dents, and cracks. Castings, molded parts, and stampings, as applicable, shall be free of sand, fins, pits, blow holes, and sprues. External surfaces shall be free from sharp edges and corners except when corners are required.

3.12.1 Metal fabrication. Metal used in fabrication of the hotplate as applicable, shall provide for original quality surface finish and shall be free from kinks and unspecified bends. Forming and shearing shall not cause damage to the metal and shall be done neatly and accurately. Corners shall be square and true and all bends of major nature shall be made with dies or fixtures to insure uniformity of size and shape.

3.12.2 Welding. Welding shall be made with welding rods (see 3.6.2) having the same chemical composition as the welding material. The surfaces of the parts to be welded shall be free from rust, scale, paint, grease, and other foreign matter. Welds shall be smooth and free from cracks, burn holes, undercuts, or incompleting fusion. All scale and flux shall be removed from the finish weld area.

3.12.3 Fastening devices. Thread fasteners and rivet holes shall be accurately punched or drilled and shall have burrs removed. Thread fasteners shall be drawn tight and torqued, and not be broken, cracked, or stripped. Rivets, when employed, shall be tight, fully peened, fill the hole completely, and the heads shall be in full contact with the surface of the member and concentric with the hole.

3.12.4 Wiring. Wiring shall be enclosed, supported, and adequately protected from food spillage and against mechanical damage. Metal edges with which wire may come in contact shall be smooth and free of sharp edges.

W-H-636G

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 this document 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 document shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the document 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 in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for assuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point, or at all points in the manufacturing process necessary to assure compliance with all dimensional requirements.

4.1.3 Certificates of compliance. When certificates of compliance are submitted, the Government reserves the right to inspect such items to determine the validity of the certification.

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 6.2), it shall be examined for the defects specified in 4.4.2, 4.4.3 and tested for the characteristics specified in 4.6. The presence of any defect or failure to pass any test shall be cause for rejection of the first article.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed 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 document or applicable purchase document.

4.4.1.1 Certification. The contractor shall furnish a certificate of compliance for Government approval for the requirements specified in 4.5.1, and 4.5.2.

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 hotplates. The sample unit shall be one hotplate. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 2.5 for major defects and 6.5 for total (major and minor combined) defects.

TABLE I. End item visual defects

Examine	Defect	Classification	
		Major	Minor
Porcelain enamel	Not clean and glossy; discolorations		X
	Holes, flakes, cracks, peels, or bare spots	X	
Baked enamel	Not smooth and uniform in appearance and color		X
	Sags, runs, wrinkles, blisters, stains or bare spots	X	
Construction, design, and workmanship (general)	Any component missing	X	
	Any component fractured, dented or or malformed	X	
	Component not accesible for servicing, adjustment, or replacement	X	
	Not mounted on legs or base (when applicable)	X	
	Any rough or sharp edges, burrs, slivers or scratches; rough die or grind marks	X	
	Any components not readily accessible for servicing, where required	X	

W-H-636G

TABLE I. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Welding	Missing, incomplete, burn holes, pin holes, cracked, or not fused	X	
	Slag inclusion, undercut, incomplete fusion, not smooth; scale or flux deposits not removed	X	
Casting	Not sound and free of patching	X	
	Any evidence of blowholes, sand, fins, pits, sprues or warping	X	
Rivets (if applicable)	Missing, broken, stripped or peened	X	
	Loose	X	
Threaded fasteners	Missing, broken, stripped or fractured	X	
	Loose	X	
Heating units	Surfaces broken by seams, joints, or openings	X	
	Sheathing not as specified	X	
Reflector pans	Not equipped with a removable reflector pan	X	
	Not equipped with a removable drip tray	X	
Sea rails	Not provided on type III hotplates	X	
	Not functionally adequate	X	
Wiring and connections	Type I hotplates not supplied with a grounded power supply cord and plug	X	
	Provisions not made for grounding type II and III hotplates	X	
	Provisions not made for permanent electrical connection for types II and III hotplates	X	
	Cable clamp not provided (where applicable)	X	
Controls	Controls not on front panel	X	
Marking for identification	Missing, incomplete, not legible, not as specified	X	

TABLE I. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Data name plate	Omitted or not as specified	X	
	Information incomplete or illegible		X
	Not located so as to be readily visible to the operator		X

4.4.3 End item dimensional examination. The end items shall be examined for conformance to the maximum overall dimensions specified (see 3.7). Any overall dimension exceeding the specified maximum shall be classified as a defect. The lot size shall be expressed in units of hotplates. The sample unit shall be one hotplate. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 6.5

4.4.4 End item testing. The hotplates shall be tested as specified in 4.6.1 and 4.6.2. Enameled hotplates shall be additionally tested as specified in 4.6.3 and 4.6.4. The lot size shall be expressed in units of hotplates. The sample unit shall be one completely assembled hotplate. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

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-4 and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

<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: incomplete sealing or closure of flap, improper taping, loose strapping or inadequate stapling. Bulged or distorted container.
Content	Weight of contents exceeds specified maximum.

W-H-636G

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 requirements.
Palletization	Pallet pattern not as specified. Interlocking of loads not as specified. Load not bonded with required straps as specified.
Weight	Exceeds maximum Load Limits.
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.

4.5 Certification compliance examination. Certifications, certified test reports, or listing marks for codes and standards, as applicable, submitted in accordance with 3.5, shall be examined and validated as proof of compliance.

4.5.1 Underwriter's Laboratories, Inc. (UL). Acceptable evidence of meeting the applicable requirements of the Underwriter's Laboratories standards specified in 3.5 shall be the UL label, a UL listing mark, or a certified test report from a recognized independent laboratory, acceptable to the Government, indicating that the hotplate conforms to the applicable requirements of the specified UL standards (see 3.5).

4.5.2 National Sanitation Foundation (NSF). Acceptable evidence of meeting the applicable requirements of the National Sanitation Foundation standards specified in 3.5 shall be one of the following.

- a. A listing in the current edition of the National Sanitation Foundation "Listing of Food Service Equipment", and display of the NSF seal on the finished unit (see 3.5).

- b. A certification for the unit issued by NSF under their special onetime contract evaluation/certification service (see 3.5).
- c. A certified test report acceptable to the contracting officer with the advice of the Army Surgeon General, from an independent testing laboratory, indicating that the unit has been tested and conforms to the specified NSF standards (see 3.5).

4.6 Methods of inspection.

4.6.1 Load tests. The top surface of the hotplate shall be uniformly loaded with 125 pounds for style 1, and 250 pounds for style 2, for 10 minutes and the hotplate examined for compliance with 3.5. Any evidence of permanent deformation, weld failure or damage to components shall constitute failure of this test. A cooking vessel with a base 3 inches in diameter shall be placed on the center of the heating unit(s) to determine compliance with coil design requirements specified in 3.7.4. Any nonconformance shall constitute failure of this test for the sample unit involved.

4.6.2 Operation and power input test. The hotplate shall be connected to the appropriate power source and the switches operated through all positions to check compliance with the operation requirements of 3.11. The power input shall be measured at "high", "medium", and "low" positions to determine compliance with the electrical load requirements of 3.8.2. Inability to meet requirements shall constitute failure of this test for the sample unit involved.

4.6.3 Acid resistance test. When applicable, porcelain enamel and baked enamel shall be tested for acid resistance in accordance with class A of ASTM C 282 to determine compliance with 3.10. Enameled drip trays shall be tested for acid resistance in accordance with class B or better of ASTM C 282, to determine compliance with 3.7.5. Inability to meet acid resistance requirements shall constitute failure of this test for the sample unit involved.

4.6.4 Thickness test for enamel coating. The thickness of the enamel coating shall be tested for compliance with 3.10 using a properly calibrated magnetic type thickness gage or any type industrial gage suitable for measuring coating thicknesses. Inability of the hotplate to meet the enamel coating thickness requirement of 3.10 shall constitute failure of the test for the sample unit involved.

5. PACKAGING

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

5.1.1 Level A. Each hotplate shall be unit packed in a snug fitting fiberboard box conforming to style RSC, type CF (variety SW) or type SF, class domestic, grade 200 of PPP-B-636. Inner packaging such as buffer pads, cell

W-H-636G

spacers die-cut pads formed from scored sheets of the same material as the box, wood braces, or a combination of wood braces and fiberboard pads shall be used to provide clearance for projecting parts of the hotplate, and to prevent damage to the hotplate from shock or vibration while in transit. Closure shall be in accordance with the appendix of the box specification.

5.1.2 Commercial. The hotplates 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. Hotplates of one type, style, and size only, preserved as specified in 5.1, shall be packed in snug fitting fiberboard shipping containers conforming to style RSC, grade V2s of PPP-B-636. Each fiberboard container shall be closed in accordance with method III, waterproofed in accordance with method V by means of tape, and reinforced as specified in the appendix of PPP-B-636. The weight of contents of each fiberboard container shall not exceed 65 pounds.

5.2.2 Level B packing. Hotplates of one type, style, and size only, preserved as specified in 5.1, shall be packed in snug fitting fiberboard shipping containers conforming to style RSC, type CF, variety SW or type SF, class domestic grade 275 of PPP-B-636. Each shipping container shall be closed in accordance with method II as specified in appendix of PPP-B-636. The weight of contents of each fiberboard container shall not exceed 65 pounds.

5.2.2.1 Weather-resistant shipping containers. When specified (see 6.2), the shipping container shall be V3c, V3s, or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with method III as specified in the appendix of PPP-B-636.

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

5.3 Palletization. When specified (see 6.2), hotplates packed as specified in 5.2, shall be palletized on a 4-way entry pallet in accordance with load type Ia of MIL-STD-147. Pallet types 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 the bonding means K and L or film bonding O or P. Pallet patterns shall be in accordance with the appendix of MIL-STD-147. Interlocking of loads shall be effected by reversing the pattern of each course. If the container is of a size which does not conform to any of the patterns specified in MIL-STD-147, the pallet pattern shall first be approved by the contracting officer.

5.4 Marking. Marking shall be in accordance with 5.4.1 or 5.4.2, as specified (see 6.2).

5.4.1 Civil agencies. In addition to any special marking required by the contract or purchase order, unit packs, shipping containers, and palletized unit loads shall be marked in accordance with FED-STD-123 or ASTM D 3951, as applicable.

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

6. NOTES

6.1 Intended use. The hotplates are intended for use in the preparation of foods, keeping foods warm, preparation of hot beverages, and also for certain laboratory purposes.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

- a. Title, number, and date of this specification
- b. When a first article is required (see 3.1)
- c. Type, style, and size of the hotplate required (see 1.2.1)
- d. Electrical characteristics for types I and II, if other than specified (see 3.7.1)
- e. When types I and II hotplates are for Navy use (see 3.7.3)
- f. Electrical characteristics for type III, shipboard use (see 3.9)
- g. Selection of the applicable levels of preservation and packing (see 5.1 and 5.2)
- h. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1)
- i. When palletization is required (see 5.3)
- j. Marking required (see 5.4.1 or 5.4.2)
- k. Government approved manual number to be included on Data Name Plate (see 3.4)

6.3 First article. When a first article 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 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of this document (see 3.6).

W-H-636G

6.5 Subject term (key word) listing.

Heaters
Hotplates, electric

MILITARY INTERESTS:

CIVIL AGENCY COORDINATING ACTIVITIES:

Custodians:

GSA-FSS

Army - GL
Navy - YD
Air Force - 99

PREPARING ACTIVITY:

Review Activities:

Army - GL

Army - MD
Navy - SH, SA
Air Force - 84

Project No. 7310-0732

User Activity:

Navy - MC