

MIL-T-62049C
 AMENDMENT 2
 30 November 1988
 SUPERSEDING
 MIL-T-82049C
 AMENDMENT 1
 18 November 1987

MILITARY SPECIFICATION

TABLES, HOT FOOD, ELECTRIC, MOBILE

This amendment forms a part of Military Specification MIL-T-82049C, dated 19 April 1984, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

ADD

"1.3 Definitive specification part number. The specification part number is definitive to identify each item covered by selecting from the options available (see 1.2). The part number is formatted and designated as follows:

M82049 X X

Military specification number ————┐

Type-designator —————┐

Size designator —————┘

Option type	Designator
I (Without Drain)	1
II (With Drain)	2
Size	
3	3
4	4
5	5
6	6

Example: A size 4 mobile hot food table without a drain is designated, M82049-1-4.

AMSC N/A

FSC 7310

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

PAGE 5

3.7.1, delete second sentence in its entirety.

3.7.4, in the second sentence delete the word "deep" and substitute "drop."

3.7.5, delete second sentence in its entirety and substitute:

"Heating compartments shall be fabricated of corrosion-resistant steel conforming to ASTM, class 302 or 304, having a minimum thickness of 0.050 inches."

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3.7.5, delete fifth sentence in its entirety and substitute:

"The top edge of the compartment shall be fabricated in accordance with FIGURE 1."

Delete seventh sentence in its entirety and substitute:

"The heating compartments shall conform to MIL-W-43896 and NSF No. 2 or 4."

3.7.6, delete fourth and fifth sentences in their entirety and substitute:

"Electrical input power shall either be 208 to 240 volt (V) 60 Hertz (Hz), or 480V, 60 Hz and provide for either single or three phase alternating current, as specified (see 6.2)."

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3.7.8.1, in the next to last sentence delete the word "trail" and substitute "tray."

3.7.8.1, add the following to the end of the paragraph:

"The tray rails shall be capable of supporting the weights listed below distributed uniformly over their full length with no evidence of deformation when tested as specified in 4.6.5:

Size 3 - 75 pounds (lbs)
Size 4 - 100 lbs
Size 5 - 125 lbs
Size 6 - 150 lbs

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3.7.9,1. delete third sentence in its entirety and substitute:

"The sides of the shelf inside the end panels shall be turned and fastened to the top per the manufacturer's standard procedure; the juncture of the sides and back thus formed shall be welded."

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Add

"4.6.5 Tray rail weight bearing test. One unit shall be selected at random from each lot and tested for the tray rail weight bearing requirement of 3.7.8.1. The required weight for the size being tested shall be equally distributed over the full length of the tray rail for a full ten minutes before being removed. Any evidence of bending, distortion, deflection, or other deformation of the tray rail after removal of the weight shall be cause for rejection of the lot."

Custodians:

Army - GL
Navy - YD
Air Force - 99

Preparing activity:

Navy - YD

(Project 7310-0756)

Review activities:

Army - CE, MD
Navy - MS, SA
Air Force - 84
DLA - GS

User activity:

Air Force - 03

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AMENDMENT 1
18 November 1987

MILITARY SPECIFICATION

TABLES, HOT FOOD, ELECTRIC, MOBILE

This amendment forms a part of Military Specification MIL-T-82049C, dated 19 April 1984, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 7

3.7.8.1, add the following to the end of the paragraph:

"The tray rails shall be capable of supporting the weights listed below distributed uniformly over their full length with no evidence of deformation when tested as specified in 4.6.5:

Size 3 - 75 lbs
Size 4 - 100 lbs
Size 5 - 125 lbs
Size 6 - 150 lbs"

PAGE 13

Add the following paragraph:

"4.6.5 Tray rail weight bearing test. One unit shall be selected at random from each lot and tested for the tray rail weight bearing requirement of 3.7.8.1. The required weight for the size being tested shall be equally distributed over the full length of the tray rail for a full ten minutes before being removed. Any evidence of bending, distortion, deflection, or other deformation of the tray rail after removal of the weight shall be cause for rejection of the lot."

Custodians:

Army - GL
Navy - YD
Air Force - 99

Preparing activity:

Navy - YD

(Project 7310-0733)

Review activities:

Army - CE, MD
Navy - SA
Air Force - 84
DLA - GS

User activity:

Air Force - 03

AMSC N/A

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MIL-T-82049C
10 April 1984
SUPERSEDING
MIL-T-82049B
9 January 1978

MILITARY SPECIFICATION

TABLES, HOT FOOD, ELECTRIC, MOBILE

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

1. SCOPE

1.1 Scope. This specification covers mobile, electrically heated, food service tables having multiple compartments for accommodating specified sizes of food serving pans. The tables are designed for nesting within counter-front bays of types A and B service lines in standard subsistence buildings.

1.2 Classification. The food service tables shall be of the following type and sizes, as specified (see 6.2):

Type B - With drain.

- Size 3 - Three food-storage compartments for three 12 inch by 20-inch pans.
- Size 4 - Four food-storage compartments for four 12 inch by 20-inch Pans.
- Size 5 - Five food-storage compartments for five 12 inch by 20-inch pans.
- Size 6 - Six food-storage compartments for six 12 inch by 20-inch pans.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks 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 this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander 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.

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SPECIFICATIONS

* FEDERAL

PF-C-77 - Caster, Institutional Duty.

* MILITARY

MIL-P-116 - Preservation, Methods of.

MIL-V-173 - Varnish, Moisture-and-Fungus-Resistant (for Treatment of Communications, Electronic, and Associated Equipment) .

MIL-W-43896 - Well, Hot Food Storage Electric.

MIL-P-43940 - Pan, Food Serving, Rectangular and Insets, Round.

STANDARDS

FEDERAL

FED-STD-H28 - Screw Thread for Federal Services.

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, standards, handbooks, drawings, and publications 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 Government documents, drawings, and publications. The following other Government documents form a part of this specification to the extent specified herein.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A167 - Standard Specification for Stainless and Rest-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.

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

AMERICAN WELDING SOCIETY, INC., (AWS)

Applicable Codes, Standards, Specifications, and Books on Welding Published or Recommended by AWS.

(Application for copies should be addressed to the American Welding Society, Inc., 2501 N.W., 7th Street, Miami, FL 33125).

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NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

- WD 1 - General Purpose Wiring Devices.
- WD 5 - Locking Type Plugs & Devices.

(Application for copies should be addressed to the National Electrical Manufacturers Association, 2101 L Street, N.W., Washington, DC 20037.)

NATIONAL SANITATION FOUNDATION (NSF)

- No. 2 - Food Service Equipment.
- No. 4 - Commercial Cooking and Hot Food Storage Equipment, Listing of Food Service Equipment.

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

UNDERWRITERS LABORATORIES INC. (UL)

- UL 197 - Commercial Electric Cooking Appliances.

(Application 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 hot food tables shall be constructed for wet or dry operation and consist essentially of a body, top, heated food storage compartments, work shelf, overshelf, dishshelf, undershelf, casters, and electric cord assembled in a manner to form integrated, mobile, hand-propelled, electrically heated food serving tables.

3.2 First article. When specified (see 6.2), the contractor shall furnish a sample for first article inspection and approval (see 4.2.1 and 6.4).

3.3 Standards compliance.

3.3.1 Safety standards. Each hot food table shall conform to the applicable requirements of UL 197.

3.3.1.1 UL certification. Prior to approval of the first article, when specified, or prior to approval of the first shipment, the contractor shall submit to the contracting officer or his authorized representative satisfactory evidence that the hot food tables he proposes to furnish under this specification meet the requirements of UL 1147 will be the UL listing mark on the hot food tables, or a certified test report from a recognized independent testing laboratory, acceptable to the Government, indicating that the hot food tables have been tested and conform to UL 197.

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3.3.2 Sanitation standards. The hot food tables shall conform to the applicable requirements of NSF No. 2 or 4.

3.3.2.1 Certification (NSF). Prior to approval of the first article, if one is specified, or prior to approval of the first shipment, if a first article is not specified, the contractor shall submit to the contracting officer or his authorized representative, satisfactory evidence that the hot food tables he proposes to furnish under this specification meet the requirements of NSF No. 2 or 4. Acceptable evidence of meeting the requirements of this standard shall be a listing in the current edition of the NSF "Listing of Food Service Equipment" and display of the NSF seal on the finished table, or a certified inspection report from an independent testing laboratory acceptable to the cognizant medical authority indicating the hot food tables have been inspected and conform to NSF No. 2 or 4.

3.4 Standard-commercial product. The hot food table 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 which are a part of the manufacturer's standard commercial product, shall be included in the table 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.

3.5 Interchangeability. All units of the same classification furnished with similar options under a specific contract shall be identical to the extent necessary to insure interchangeability of component parts, assemblies, accessories, and spare parts.

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 specified.

3.6.1 Corrosion-resistant steel. Corrosion-resistant steel shall conform to class 302 or 304 of ASTM A167.

3.6.2 Structural steel. Structural steel, when used, shall be commercial grade, galvanized by the hot-dip process or zinc electroplating methods.

3.6.3 Fasteners. Bolts, nuts, washers, self-tapping screws, rivets and other fasteners exposed to food shall be corrosion-resistant steel, and in other respects shall conform to standards used commercial for the intended purposes.

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3.7 Construction. Construction of all components and assemblies shall conform to the applicable, requirements of NSF No. 2 or 4 and to the requirements of this specification. All threaded parts shall be in the inch system and shall conform to FED-STD-H28. Unless otherwise specified (see 6.2), the dimensions of the table shall be as indicated in Figure 1.

3.7.1 Sheet metal components. Except as otherwise specified, sheet metal components shall be fabricated from corrosion-resistant steel, as specified in 3.6.1, and have a minimum thickness of 0.050 inches. Heating compartments shall be fabricated from corrosion-resistant steel, as specified in 3.6.1 and have a minimum thickness of 0.050 inches, or shall be single surface, corrosion-resistant steel, clad carbon steel, and have a minimum thickness of 0.060 inches.

* 3.7.2 Table. The table shall be designed and constructed in accordance with Figure 1. The table shall consist of the specified number of heating compartments with thermostatically controlled electric heater(s).

* 3.7.3 Body and framework. End-panels shall be of one-piece construction. The table shall be open all around except for the end panels. Front and back skirt panels shall be used to cover the depth of the heating compartment area. The framework shall be fabricated from galvanized or galvanized channel, angles, etc., except when providing exterior surfaces, in which case they shall be corrosion-resistant steel. The body framework shall be welded throughout and shall be of sufficient strength to preclude distortion in any and all components when the tables are fully loaded with pans containing food. When specified for Army use (see 6.2), frameless tables using standard industry practice corrosion-resistant steel shall be furnished. The center of gravity shall be low enough to prevent the hot food table from tilting when tested as specified in 4.6.4. When the dish shelf is loaded to capacity, the hot food table shall show no evidence of permanent distortion or parts failure, and shall not tip over when tested as specified in 4.6.4. When fully loaded, the hot food table shall roll easily and dishes shall remain in place when the table is moved.

3.7.4 Top. The top, fabricated in one piece, shall be at least 0.073-inch thick corrosion-resistant steel and shall accommodate the required number and size of pans. The pan cutouts shall be sized to accept deep in heating compartments as per MIL-W-43896. The top shall be fabricated in accordance with figure 1. The overhanging lip shall function as a work shelf. The edge of the work shelf facing the operator shall be rolled out and down to form a full 180 degree 1-1/2 inch diameter section. The material of the work shelf shall be turned down on each side to form enclosing and reinforcing panels with the dish shelf below the work shelf. These panels shall be welded to the dish shelf and shaped to close and be welded to the rolled edges of both shelves. As an alternative construction, separate corrosion-resistant steel panels, at least 0.073-inch thick, shall be welded in place as described, and ground smoothly and polished to conform to NSF requirements. When specified for Army use (see 6.2), tables shall be furnished without shelves, and conform to Figure 1.

3.7.5 Heating compartments. Heating compartments shall be fabricated of corrosion-resistant steel conforming to ASTM A167, class 302, having a minimum thickness of 0.050 inch or single surface corrosion-resistant stainless steel, having a minimum thickness of 0.060 inch. Each compartment shall have sufficient depth to accommodate 6-inch deep pans flush. One compartment,

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having insulated sides and bottom a minimum thickness of 1 inch, in accordance with 3.7.13, shall be furnished for each cutout. The insulation shall be held in place by an attached galvanized sheet. The top edge of the compartment shall be offset outwardly, so as to permit the flange surface of the cutout to be in the same plane as the inner surface of the compartment. A silicone rubber seal shall be inserted, as per manufacturers' standard practice, between the contacting areas of the compartment and the table top. The heating compartments shall conform to MIL-W-43896, except as specified herein for built-in installation and NSF No. 2 or 4. A drain and valve shall be installed in each compartment. All drains shall connect to a common manifold for discharge to waste. Valves shall be easily shut off from the operator's side.

3.7.6 Heating elements. Each compartment shall be fitted with a concealed thermostatically-controlled electric heater. The heating element shall be an enclosed type consisting of a helically coiled wire or ribbon-type resistance element embedded in magnesium oxide with a metal shield. Unless otherwise specified (see 6.2), each compartment shall have a minimum input of 1500 watts. When water is placed in a full-size 2-1/2 inch deep pan to a depth of 1-1/2 inches, the heat source shall be capable of raising the water temperature from 80 degrees Fahrenheit (F) to 150 degrees F in 50 minutes. Electrical input power shall either be 208/240 volt (V), 60 Hertz (Hz), or 480V, 60 Hz and initially connected for either single or three phase alternating current, as specified (see 6.2). Provision shall be made to reconnect the unit for either single phase or three phase operation. The heating element circuit shall be so wired as to maintain approximately an equal distribution of load current to each element. The heating elements shall be accessible from underneath the table by a removable, galvanized, sheet steel panel. The heating element shall be removable for replacement. Each compartment shall have a metal heat distributing plate welded or clamped to and covering the entire bottom surface. Heating elements shall be clamped to the bottom surface of the heat distributing plates.

3.7.6.1 Heating element controls. Each heating element shall be controlled by an automatic, adjustable thermostat of the remote-bulb type having an indicated range to encompass 140 degrees F to 220 degrees F compartment temperature. Temperature indicating knob shall have graduations clearly marked in degrees with graduation intervals not greater than 25 degrees F. The average temperature in the pan shall be held to within +/- 12 degrees F of the thermostat setting and the amplitude (difference between maximum and minimum temperatures) shall not exceed 24 degrees F. Each thermostat shall have a pilot light indicating when the element is energized. The table shall have a master pilot light to indicate when the master switch is on. An ON-OFF switch for each element shall be provided and may either be a separate unit or incorporated as part of the thermostatic control at the option of the contractor. All controls and pilot lights shall be mounted front-center of each compartment or shall be panel-mounted on a corrosion-resistant steel box of 0.050-inch minimum thickness on the front of the table facing the operator, shall be recessed to avoid damage, and shall be readily accessible.

3.7.7 Bottom shelf. The bottom shelf shall be corrosion-resistant steel, at least 0.062-inch, shall run the inside length and width of the table, and shall be 8 inches above-the floor. The shelf edge shall be turned down a depth of 2 inches on the side of the table facing the operator, and shall be turned-up a height of 2 inches at the opposite side of the table. The shelf shall be welded or spot-welded to a supporting frame. The exposed edges of

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the shelf shall be chamfered and smoothed. Frame members shall be 1-1/2 inch by 1-1/2 inch by 1/8-inch galvanized or galvanized annealed angled section.

3.7.8 Overhead shelf. The overhead serving shelf shall be corrosion-resistant steel at least 0.050 inch thick, having a width of at least 9 inches, have a full 1-inch skirt, end shall be supported on corrosion-resistant steel pillars front and rear of suitable strength and stiffness. When specified (see 6.2), an infrared lamp shall be fastened to the overhead shelf, one lamp over each heating compartment. A protector sheet of at least 1/4-inch thickness in transparent sneeze guard, as per NSF standard, shall be installed beneath the overhead shelf and in front of the food pans. At the top and bottom of the installed protector shall be a 1-inch space for vapor venting. When specified (see 6.2), the bottom space shall be made to permit self-service. Provisions shall be made for ready replacement of the protector in the event of breakage. The ends shall be enclosed by corrosion-resistant steel. When specified (see 6.2), flat glass sheet shall be furnished.

3.7.8.1 Tray rail. When specified (see 6.2), a tray rail consisting of three 1-inch nominal diameter tubes with supporting hardware shall be supplied with each hot food table installed on the patron's side. The tray rail shall extend the full length of the table and have the ends of the tubes closed. The height of the tray rail from the floor shall be adjustable between 32 and 33 inches. The tubes and supporting hardware shall be fabricated of stainless steel conforming to 3.6.1 and 3.6.2 as applicable. The tube type tray rail shall be at least 10 inches wide including mounting brackets. When specified (see 6.2), a one piece stainless steel tray shelf shall be provided for each size table. The stainless steel shelf shall be provided with a minimum of two "V" shaped ridges, die formed in the top to permit easy tray sliding. The shelf shall extend the full length of the table and shall be at least 10 inches and not more than 15 inches wide including hardware. All supporting hardware, tray rail(s), and shelf shall be removable. Frameless hot food tables tray rail support brackets shall be attached to structural or reinforced housing members. Attached to sheet metal housings is not permitted.

3.7.8.2 Pans and covers. Unless otherwise specified (see 6.2), the quantity and sizes of pans to be furnished for each size hot food table shall be in accordance with table I. Each pan shall be furnished with a cover. Both pans and covers shall be made in accordance with MIL-P-43940.

Table I. Pan sizes.

Pan size [1] and tureen	Quantity per table [2]				Depth inches	Capacity quarts
	Size 3	Size 4	Size 5	Size 6		
3 - Full size	2	3	4	5	4	15
6 - One-half size	2	4	6	4	4	6-3/4
9 - One-half long	2	2	2	4	4	6-1/2
12 - One-third size	3	3	3	6	4	4-1/4
1 - Tureen	1	1	1	1	8	32

[1] Pan sizes to be in accordance with MIL-P-43940.

[2] Pans with covers to be furnished with each size hot food table.

3.7.9 Dish shelf. The dish shelf shall be located approximately 11-1/2 inches below the work shelf, and in any case, below the heating compartment skirt. The dish shelf shall be at least 9 inches deep, and its innermost edge shall be turned upward and fastened to the underside of the table top to form a skirt

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for the heating compartments. The sides of the shelf inside the end panels shall also be turned upward and fastened to the top; the juncture of the sides and back thus formed shall be welded. The exposed weld surface shall be ground smooth and polished. The shelf edge facing the operator shall be rolled out and down to form a full 180 degrees, 1-1/2 inch diameter section, and shall be vertically beneath the cutting board edge. Hot food tables shall not tip when the dish shelf is uniformly loaded and tested as specified in 4.6.4.

3.7.10 Casters. Each food service table shall be mounted on four casters conforming in design and mounting to type II (swivel), class B or class C, 5-inch wheel diameter, style C casters of FF-C-77. Casters and caster mounting areas shall show no evidence of damage, deformation, or failure when tested as specified in 4.6.3. Four swivel casters shall be furnished. Casters shall be provided with foot-operated brakes or locking devices and with latch pins to make the casters nonswiveling during insertion and removal from counterfront bays. Casters shall be so positioned as not to interfere at any point of their turning radius with the legs of pylons of the counterfront.

3.7.11 Cord. The power cord shall comply to UL 197, and shall be type SO or STO, 6-feet-long, with ground wire. Unless otherwise specified (see 6.2), the cord shall have a locking type receptacle an one end for connecting to the table and a nonlocking type plug on the other end. The plug and receptacle shall conform to NEMA WD 1 or WD 5. When specified (see 6.2), a locking type plug shall be furnished instead of the nonlocking type. The configuration of the plug shall be as specified (see 6.2) from table II. A corrosion resistant hook or steel hood shall be attached inside one end panel to act as a cord caddy and shall be near the serving side of the table.

Table II. Plug configuration.

a. For single phase hot foot tables:		
Item size	208V, 220V, 230V ratings NEMA plug	480V rating NEMA plug
3	L6 - 30P	L8 - 20P
4	6 - 30P	L8 - 20P
5	6 - 30P	L8 - 20P
6	No plug (directly wired)	L8 - 30P
b. For three phase hot foot tables:		
Item size	208V, 220V, 230V ratings NEMA plug	480V rating NEMA plug
3	L15 - 20P	L16 - 20P
4	L15 - 30P	L16 - 20P
5	L15 - 30P	L16 - 20P
6	L15 - 30P	L16 - 20P

* 3.7.12 Electric system. Conductors, switches, junction boxes, conductor enclosures, and other components of the electrical system shall conform to the requirements of UL 197. Table internal wiring, including a green, insulated grounding conductor grounded to table frame and surface, shall terminate in a flush, polarized, locking type plug to accommodate the supply cord. The plug shall be a grounding type conforming to NEMA WD 1. The power cord shall be so positioned at the operators side of the table to permit the adjacent equipment

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to be set flush against the table without interference with the plug or cord system and to that the table can be rolled flush against a counter without interference with the plug or cord system.

3.7.13 Insulation. The thermal conductivity, k , shall be not more than 0.27 British thermal units per hour per square feet, degrees F, temperature difference (inch of thickness) when insulation having a thickness of 1 inch is used and the mean insulation temperature is 140 degrees F. Insulation with a higher k factor may be used, in which case the thickness of the insulation shall be sufficient for the heat transmission coefficient, U , not to exceed 0.27 British thermal units per hour per square feet, degrees F, temperature difference. Insulation for the compartment bottom may be independent of or attached to the bottom, but in either case shall be removable.

3.8 Fungus resistance. When specified (see 6.2), electrical components and circuit elements, including terminal and circuit connections, shall be coated with varnish conforming to MIL-V-173, except that:

- a. Components and elements inherently inert to fungi or in hermetically sealed enclosures need not be coated.
- b. Current-carrying contact surfaces, such as relay contact points, shall not be coated.

3.9 Marking for identification. Each cabinet shall be permanently marked with the manufacturer's name, tradename, or trademark of such known character as to be readily identifiable with the manufacturer. In addition, such information as required by UL 197 shall also appear on the cabinet.

3.10 Technical manual. The contractor shall furnish with each table a technical manual. Manual contents and distribution shall be as specified in the contract (see 6.2).

3.11 Workmanship.

3.11.1 Tolerances. Tolerances and gages for metal fits shall conform to any limitations specified herein and in other respects shall meet standards of good commercial practice. Finished contact and bearing surfaces shall be within design tolerance limits of good commercial practice.

3.11.2 Steel fabrication. The steel used in fabrication shall be free from kinks, sharp bends, and other conditions which would be deleterious to the finished product. Manufacturing processes shall not reduce the strength of the steel 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.

3.11.3 Bolted connections. Bolt holes 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.

3.11.4 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

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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. Pop riveting is not permitted.

3.11.5 Welding. The surfaces of parts to be welded shall be free from oxide, scale, paint, grease, or other foreign matter. Welds shall be, when applicable, continuous, sound, smooth, and free from porosity, cracks, incomplete fusion, or deformation of material. All scale or flux deposits (when flux is used) shall be removed from the finished welds. Weld penetration shall provide transference of maximum design stress through the base metal juncture. Exposed welds shall be around and polished to blend into the parent material. Fillets shall be provided where necessary to reduce stress concentration. Welding procedures shall be in accordance with an applicable code published or recommended by AWS.

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

3.11.7 Finish. All parts of the food table, covers, pans, and accessories shall be smooth on surfaces and edges, free from rough grind marks, trimming marks, pits, scales, die marks, and other defects. Exposed corrosion-resistant steel shall have No. 4, or better, commercial finish except that the underside of carving and bottom shelves may have a No. 2B, or better, commercial finish. Spots where zinc coating has been destroyed by welding or fabrication shall be either regalvanized, covered with zinc bearing epoxy, or two coats of weather-resistant aluminum paint.

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 tables when a first article is required (see 3.2 and 6.4). This inspection shall include the examination of 4.4 and 4.5 and the tests of 4.6. The first article may be either a first production item or a standard

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production item from the supplier' 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 and 4.5, the tests of 4.6.2. and the packaging inspection of 4.7. This inspection shall be performed on the samples selected in accordance with 4.3.

4.3 Sampling.

4.3.1 Inspection lot. All hot food tables of the same size and characteristics offered to the Government at one time shall be considered a lot for purposes of inspection.

4.3.2 Sampling for examination. A random sample of food service tables shall be selected from each lot in accordance with inspection level II of MIL-STD-105. The Acceptable Quality Level (AQL) shall be 1.5 defects per 100 units.

4.3.3 Sampling for tests. A random sample of food service tables shall be selected from each lot in accordance with MIL-STD-105 at inspection level S-4. The AQL shall be based on 4.0 defects per 100 units.

4.4 Examination. The first article sample, when required, and each sample selected in accordance with 4.3.1 shall be examined to verify compliance with this specification. Examination shall be conducted as specified in table II.

TABLE II. Classification of defects.

Classification	Defects	Requirement paragraph
Critical:	None defined.	
Major:		
101	Dimensions not as specified.	
102	Components missing, or not free of sharp edges or corners, open joints, cracks, or crevices.	3.7
103	Sheet metal components not the specified corrosion resistant steel or corrosion-resistant steel clad.	3.7.1
104	Heating compartment not corrosion-resistant, or not properly insulated.	3.7.5
105	Heating compartments not seamless drawn as per MIL-W-43896.	
106	Table top does not properly accommodate specified pans.	3.7.8.2
107	Casters not as specified.	3.7.10
108	Electric cord not specified type or grounding conductor missing.	3.7.11
109	Electrical system not in compliance with UL 197.	3.7.12

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TABLE II. Classification of defects. Cont'd.

Classification	Defects	Requirement paragraph
110	Insulation not of the type of conductivity specified. (values of the k-factor given in recognized handbooks (e.g. ASHRAE Guide and Data Book) for the type of insulation furnished will be accepted as evidence of compliance with the conductivity requirements).	3.7.13
111	Identification or instruction plates not properly marked.	3.9
112	Technical manual missing, incomplete, illegible, or not as specified.	3.10
113	Workmanship not as specified.	3.11
114	Finish not as specified.	3.11.7
Minor:	None defined.	

4.5 Standards compliance. The contractor shall submit proof of compliance with the requirements of UL 197 NSF No. 2 or NSF No. 4 in accordance with the provisions of 3.3.1.1 and 3.3.2.1.

4.6 Tests.

4.6.1 Electric heater. The electric heater shall be as specified in 3.7.6. Each heater in each sample shall be tested. Consideration of ambient air movement or similar factors that might affect results is not required for the following test procedures:

Dry method test

- a. Conduct the test in a room having an ambient temperature of 80 degrees F or less.
- b. Test only one well or food compartment at a time. All other wells or food compartments shall be inoperative during the test and no table-component temperature shall exceed 80 degrees at the beginning of the test. The table shall be level during the test.
- c. Place a 12 inch by 20-inch pan, having a depth of 2-1/2 inches, in one of the top openings. Place a cover over each unused top opening.
- d. Fill pan to the 1-1/2-inch level with water that has a temperature less than 80 degrees F.
- e. Energize the electric heating element, set thermostat control to 210 degrees F.
- f. Keep records of voltage and wattage as measured by previously calibrated electrical instruments. Voltage shall be maintained within +/- 5 percent.
- g. Insert the bulb of a highly accurate indicating thermometer in the pan water without contacting the pan. The thermometer shall be readable within 0.5 degrees F.
- h. Record the time to raise the temperature of the water from 80 degrees F to 150 degrees F.
- i. If the recorded time is more than 50 minutes, the unit shall be rejected.

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Wet method test

Test procedure a. thru i. shall apply with the following additional requirements:

- j. Fill well with 2 inches of 80 degrees F water or less.
- k. Check drain area beneath well drain, manifolds and counter gasket for any possible leaks.

4.6.2 Thermostat. Tests shall be conducted with at least four different thermostat settings from 150 degrees F to 210 degrees F to assure that the thermostat complies with 3.7.6.1. Pan-water temperatures shall be used as an indication of compliance with use of an accurate insertion thermometer. Fresh water tempered to within +/- 1 degree F of the desired test temperature shall be used. If the thermostat fails to hold the pre-tempered water temperature to within +/- 12 degrees F of the thermostat setting for four complete ON-OFF cycles, or if the amplitude exceeds 24 degrees F the unit shall be rejected.

4.6.3 Obstacle test. The hot food table shall be loaded with an evenly distributed load of at least 120 pounds (lb) tare. The loaded hot food table shall be propelled over 1/4-inch obstacle 10 times at a minimum speed of 2 miles per hour to verify compliance with the requirements of 3.7.10.

4.6.4 Tipping test. The hot food table dish shelf shall be uniformly loaded with weights to simulate storage of 9-inch plates as specified below. The item shall comply with the requirements of 3.7.9 with food storage compartments empty. The table shall not tip.

- Size 3 - 120 lb.
- Size 4 - 150 lb.
- Size 5 - 175 lb.
- Size 6 - 200 lb.

4.7 Packaging inspection. The preservation, packing, and marking of the tables shall be inspected to verify conformance to the requirements of Section 5.

5. PACKAGING

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

5.1.1 Level A.

5.1.1.1 Disassembly. All removed bolts, nuts, and washers shall be placed on one of the mating parts and secured to prevent loss.

5.1.1.2 Disassembled parts and adapters. Disassembled parts and adapters shall be packaged in accordance with MIL-P-116, method III and secured either within the food table or in an unused section of the shipping container.

5.1.1.3 Technical publications. Technical publications shall be packaged in accordance with MIL-P-116, method IC-1.

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5.1.2 Commercial. The equipment shall be preserved in accordance with the contractor's standard practice in a manner to prevent deterioration and damage.

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

5.2.1 Levels A and B. Packing shall be accordance with MIL-STD-794. Containers shall be selected from table I for the appropriate level. Containers selected shall be closed containers.

5.2.2 Commercial. The equipment shall be prepared for shipment in a manner which will insure arrival at destination in a satisfactory condition. Preparation for delivery shall comply with applicable carrier rules and regulations.

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

6. NOTES

6.1 Intended use. The hot food tables are used to transport hot food from galley or kitchen to serving lines in subsistence buildings, where they are nested within counter-fronts and plugged into electrical outlets to maintain correct food temperature while food is being dispensed.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number and date of this specification.
- b. Type and size required (see 1.2).
- c. When a sample unit is required for first article inspection and approval (see 3.2 and 6.4).
- d. When dimensions of table shall be other than as shown in figure 1 (see 3.7).
- e. When frameless tables for Army use are required. (see 3.7.3).
- f. When tables shall be furnished without shelves (see 3.7.4).
- g. Whether tables shall be connected for single- or three-phase service; voltage and frequency, if other than specified, and when minimum watts shall be other than 1500 (see 3.7.6).
- h. When flat glass sheet shall be furnished and when infrared lamps are required (see 3.7.8).
- i. When a self-service space is to be provided (see 3.7.8).
- j. When tray rail and one piece stainless steel tray shelf shall be specified (see 3.7.8.1).
- k. Quantity and sizes of pans to be furnished for each size hot food table, if other than specified (see 3.7.8.2).
- l. When a locking type plug is required and with the specified configuration (see 3.7.11 and table 11).
- m. When treatment for fungus resistance is required (see 3.8).
- n. When technical manuals are required (see 3.10).
- o. Level of preservation and level of packing required (see 5.1 and 5.2).

* 6.3 Data requirements. When this specification is used in an acquisition which incorporates a DD Form 1423, Contract Data Requirements List (CDRL) and invokes the provisions of paragraph 7-104.9(n) of the Defense Acquisition Regulations (DAR), the data requirements will be developed as specified by an

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approved Data Item Description (DD Form 1664) and delivered in accordance with the approved CDRL (DD Form 1423) incorporated into the contract. When the provisions of DAR 7-104.9(n) are not invoked, the data shall be delivered in accordance with the contract requirements.

* 6.4 First article. When a first article inspection is required, the item will be tested and should be a first production item consisting of one complete food service table, 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 unit. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

* 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 notation and relationship to the last previous issue.

Custodians:

Army - GL
Navy - YD
Air Force - 99

Preparing Activity:

Navy - YD
(Project 7310-0673)

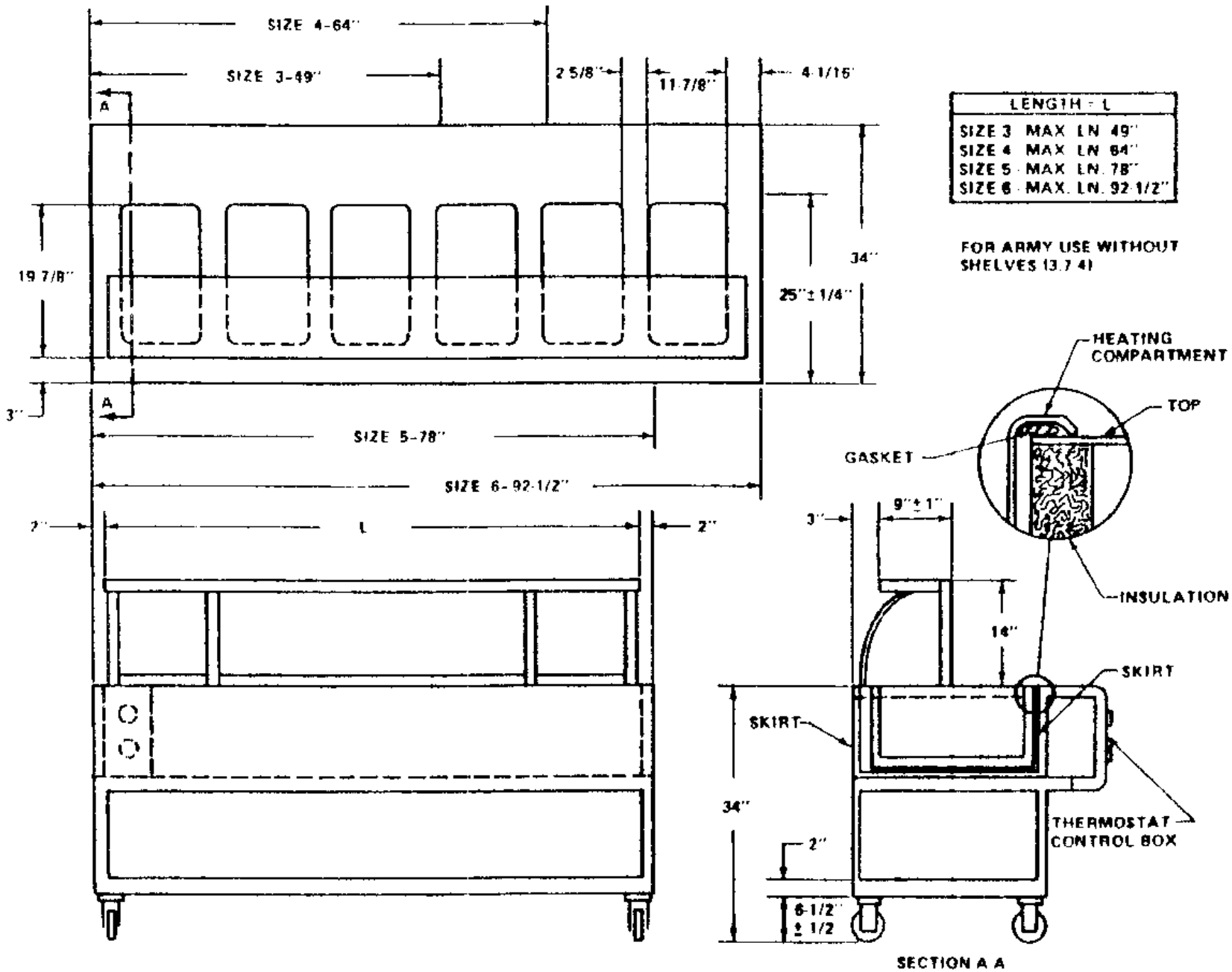
Review Activities:

Army - MD, CE
Navy - MS, SA
DLA - GS
Air Force - 84

User Activity:

Air Force - 03

FIGURE 1. Hot food tables: sizes 3, 4, 5, and 6.



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