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USACE / NAVFAC / AFCESA | **UFGS-11706 (August 2004)**

Preparing Activity: NAVFAC | **Superseding UFGS-11706N (September 1999)**

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 25 June 2004
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SECTION 11706

HYDROTHERAPY EQUIPMENT
08/04

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NOTE: This guide specification covers the requirements for prefabricated hydrotherapy equipment and required accessories.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.
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PART 1 GENERAL

1.1 REFERENCES

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NOTE: Issue (date) of references included in project specifications need not be more current than provided by the latest guide specification. Use of SpecsIntact automated reference checking is recommended for projects based on older guide specifications.
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The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z124.1 (1995) Plastic Bathtub Units

ASTM INTERNATIONAL (ASTM)

ASTM A 167	(1999) Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
ASTM B 221	(2002) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B 221M	(2002) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)
ASTM E 162	(2002a) Surface Flammability of Materials Using a Radiant Heat Energy Source
ASTM E 84	(2003) Surface Burning Characteristics of Building Materials

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2002) National Electrical Code
NFPA 99	(2002) Health Care Facilities

UNDERWRITERS LABORATORIES (UL)

UL 544	(1998) Medical and Dental Equipment
UL 723	(2003) Test for Surface Burning Characteristics of Building Materials

1.2 RELATED REQUIREMENTS

Conform to Sections 11700 GENERAL REQUIREMENTS FOR MEDICAL AND DENTAL EQUIPMENT; 15050N BASIC MECHANICAL MATERIALS AND METHODS; 15400N PLUMBING SYSTEMS; 15217N MEDICAL GAS AND VACUUM PIPING; 16050N BASIC ELECTRICAL MATERIALS AND METHODS; and 16402 INTERIOR DISTRIBUTION SYSTEM.

1.3 SUBMITTALS

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NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army

projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

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NOTE: Delete any items that are not used; add any additional items requiring shop drawings.

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Bath, Whirlpool, Arm Treatment; G, [_____]

Bath, Whirlpool, Leg Treatment; G, [_____]

Bath, Hydrotreatment; G, [_____]

Bath, Hydrotherapy, Burn Treat; G, [_____]

Bath, Hydrotherapy Treatment, Sitting; G, [_____]

SD-03 Product Data

Bath, Whirlpool, Arm Treatment; G, [_____]

Bath, Whirlpool, Leg Treatment; G, [_____]

Bath, Hydrotreatment; G, [_____]

Bath, Hydrotherapy Burn Treat; G, [_____]

Bath, Hydrotherapy Treatment, Sitting; G, [_____]

Valve, Thermostic Mixing; G, [_____]

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Stainless Steel

ASTM A 167, Class 301, 302, or 304. Satin finish for exposed surfaces and No. 4 finish for interior surfaces.

2.1.2 Aluminum Alloy

ASTM B 221MASTM B 221 equivalent in ultimate tensile, yield, and shear strengths to Alloy 6063-T5 or 6063-T6, as applicable.

2.2 COMPONENTS

Provide:

a. Tank construction, stainless steel

b. Tank fittings

c. Dial thermometer

d. Thermostatic water-mixing valve

e. Electric turbine ejector and aerator

f. Screening or similar protective devices

g. Turbine-ejector elevator

2.3 ITEMS

2.3.1 Bath, Whirlpool, Arm Treatment

Provide stainless steel pedestal mounted hydrotherapy unit suitable for arm treatment. Include:

a. Treatment tank: Welded construction, approximately 900 mm 36 inches high, 375 mm 15 inches wide, and 710 mm 28 inches long with a depth of 450 mm 18 inches.

b. Drain system: 50 mm 2 inch, handle-operated with 50 mm 2 inch overflow for positive water overflow and water surface scum clearance.

c. Electric turbine ejector and aerator with motor and turbine ejector raising and lowering device.

d. Dial thermometer: 85 mm 3 1/2 inches in diameter, tank mounted.

e. Chromium-plated water inlet assembly for connection to thermostatic valve, complete with vacuum breaker, volume control valve, piping, and fittings.

f. Thermostatic valve (38 lpm10 gpm) designed for wall mounting.

g. Armrest: One each, fabricated of stainless steel, for supporting

arm inside tank during treatment.

h. Electrical characteristics: 110-volt, 60 Hz.

i. Electrical convenience outlets: Duplex-type, grounded, 3-wire, 20A, 110-volt, 60 Hz, two each, tank-mounted by manufacturer.

2.3.2 Bath, Whirlpool, Leg Treatment

Provide stainless steel floor mounted unit approximately 1500 mm 60 inches long, 600 mm 24 inches wide, and 450 mm 18 inches (long and low), tank complete with 245 watt 1/3 hp, high-speed motor, 3,450 rpm, 110 vac, 60 Hz. Thermostatic mixing valve.

2.3.1 Bath, Hydrotreatment

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NOTE: Coordinate hoist assembly requirements with structural conditions and building service on the drawings. Unit requires an exposed steel I-beam located above tank. Cord reel is designed for use with hoist to keep power cable reeled up and out of way. Indicate location on drawings. It should be positioned midpoint in travel of hoist. Verify that drawings include necessary power to reel.

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Stainless steel tank, 1.8 mm thick 14 gage, seamlessly welded; two electric turbine ejectors; two ejector carriages; two turbine ejector elevators; a 85 mm 3 1/2 inch dial thermometer for tank; tank fittings, headrest; body hammock; body plinth; steel base supported by chromium-plated legs to include thermostatic water mixing valve assembly; hoist and trolley; water stretcher with two canvas crossbars and suspensions; and two canvas body slings. Overall dimensions approximately 2700 mm 8 feet 10 inches long, 1980 mm 6 feet 6 incheswide, 865 mm 34 inches high. Inside measurement of tank approximately 2185 mm 7 feet 2 inches long, 1800 mm 6 feetwide at head end, 1345 mm 4 feet 5 inches wide at foot end, and middle inset 875 mm 35 inches wide, 550 mm 22 inches deep, including related accessories.

2.3.2 Bath, Hydrotherapy Burn Treat

Rectangular treatment bath with water hydraulic lift cylinder and armlift for patient transfer. Control panel with separate thermostat mixers for filling and shower. Disinfection unit with flowmeter for variable concentration of disinfection. Flexible connection hoses with shutoff valve for incoming hot water (hw) and cold water (cw). Bath is with a hydrotherapy unit. Pump capacity is 190 lpm 50 gpm. Outside dimensions are approximately 3025 mm 9 feet 11 inches long, 1000 mm 3 feet 4 inches wide, and 350 mm 14 inches deep inside tub.

2.3.3 Bath, Hydrotherapy Treatment, Sitting

ANSI Z124.1, ASTM E 84, ASTM E 162 and UL 723. Gel-coated fiberglass. Tank shall have seat and footrest for sitting body treatment. Electric turbine ejector and aerator with motor. Includes dial thermometer for tank and built-in thermostatic mixing valve. Tank dimensions approximately 875 mm 35 inches high by 1420 mm 56 inches long, 750 mm 30 inches deep at the footrest, and 600 mm 24 inches deep at the seat. Electrical characteristics: 110-volt, 60 Hz, single phase.

2.3.4 Valve, Thermostatic Mixing

Assembly with washout hose for use with portable whirlpool equipment. Thermostatic valve to maintain temperature between 21 and 43 degrees C 70 and 110 degrees F with a flow rate of 38 liters 10 gallons per minute.

PART 3 EXECUTION

3.1 WORKMANSHIP

Comply with UL 544. Surfaces to be welded are to be free from gease, oil, dirt or other foreign materials. Grind exposed welds smooth to blend with adjacent surfaces. Welds to be continuous, sound, unbroken, clean, and free from pitting, splatter and discoloration.

Exposed corners and edges to be rounded to eliminae sharp edges. All exposed surfaces, including inside of tank, to be free from pit-marks, weld seams, and scale. Finish to be No. 4 commercial, uniform and free of course grind marks or scratched areas.

3.2 INSTALLATION

Install items at locations indicated. Conform to Section 11700 GENERAL REQUIREMENTS FOR MEDICAL AND DENTAL EQUIPMENT, NFPA 70 and NFPA 99.

3.2.1 Inspection

Examine each item for visual defects and conformance to specifications.

3.2.2 Test

Test each item to ensure that equipment is operational and conforms to specification requirements.

-- End of Section --