

SECTION 13054

STEAM ROOMS



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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Steam rooms.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete; concrete pad for the steam room floor, waterproofed with self-leveling concrete.
- B. Division 15 - Mechanical: Water supply and drainage system.
- C. Division 16 - Electrical: Power supply.

1.3 REFERENCES

- A. American National Standards Institute (ANSI): ANSI A108.6. - Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and Grouting Epoxy.
- B. American Society of Mechanical Engineers (ASME): ASME SA403/SA - Standard Specification for Wrought (Austenitic) Stainless Steel Pipe Fittings.
- C. American Welding Society (AWS):
 - 1. AWS D1.1 - Structural Welding Code - Steel.
 - 2. AWS D1.6 - Structural Welding Code - Stainless Steel.
- D. ASTM International (ASTM):
 - 1. ASTM A 312 - Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes.
 - 2. ASTM D 2855 - Standard Practice for Making Solvent-Cemented Joints with Polyvinyl Chloride (PVC) Pipe and Fittings.
- E. International Standards Organization (ISO): ISO 9001-2008 Quality Management Systems. Certification.
- F. National Fire Protection Association (NFPA): NFPA 70 - National Electrical Code.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Product Data: Manufacturer's data sheets on each product and equipment component to be used, including:
 - 1. Performance Criteria: For products specified by performance criteria only, document conformance with design calculations or past performance records with list of previous installations and contact information.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Installation methods.
 - 5. Cleaning and maintenance instructions.

- C. Shop Drawings: Provide shop drawings indicating details of construction and installation. Manufacturer will coordinate review by a Professional Engineer in the state of installation when directed or required.
 - 1. Show steam room layout, dimensions, wall and floor panel layout, and stiffeners.
 - 2. Include diagrammatic layout for equipment and piping.
 - 3. Show termination and finish details for interface with adjacent construction.

- D. Closeout Submittals:
 - 1. Operation and Maintenance Data: Include data for steam room and steam room equipment and warranty information.
 - 2. Project Record Documents.
 - 3. Owner's Certificate of Instruction.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: The SteamRoom manufacturer must have at least 20 years experience in precision stainless steel metal fabrication and have the proper facility and equipment to produce the SteamRoom in-house.

- B. Manufacturer's Field Representative: At each stage of assembly, a manufacturer's representative working with the installer shall confirm that the progress of installation is being performed as specified on approved shop drawings.

- C. Certification: Manufacturer shall be ISO 9001 Certified.

- D. Installer Qualifications: The installer must be trained in accordance with requirements of steam room manufacturer.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards. Store materials within absolute limits for temperature and humidity recommended by the manufacturer. Do not store or handle materials in a manner that could cause damage or loss of system components.

- B. Store products in manufacturer's labeled packaging until ready for installation.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 SEQUENCING AND SCHEDULING

- A. Conference: Convene a pre-installation conference to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.

1.9 WARRANTY

- A. Manufacturer's Standard Limited Warranty: For workmanship, materials and performance; does not include or cover abusive or improper treatment of the system by others during construction or operation.
 - 1. Warranty Period for Shell: 25 years.
 - 2. Warranty Period for Electronic Components: 1 year.
- B. Furnish tile setting material manufacturer's 1 year warranty against loss of tile adhesion, when Dal-Tile Keystone Mosaic is used.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Bradford Products LLC; 710 Sunnyvale Drive, Wilmington, NC 28412. ASD. Toll Free Tel: (800) 438-1669. Tel: (910) 791-2202. Fax: (910) 791-0566. Email: info@bradfordproducts.com. Web: <http://www.bradfordproducts.com>.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 STEAM ROOMS

- A. Steam Rooms: The Bradford SteamRoom as manufactured by Bradford Products LLC.
 - 1. Shape, Seating Layout: As indicated on Drawings.
 - 2. Size:
 - a. Area: _____.
 - b. Ceiling Height: _____.
 - c. Volume: _____.
 - 3. Size: As indicated on Drawings.
 - 4. Perimeter Bench: Single bench.
 - 5. Perimeter Bench: Double bench.
 - 6. Perimeter Bench: Height as indicated on Drawings.

2.3 COMPONENT MATERIALS

- A. Floor: 12 gauge, Type 304 stainless steel, incorporating slope channels to drain.
- B. Walls: 14 gauge, Type 304 stainless steel.
- C. Ceiling: 14 gauge, Type 304 stainless steel.
- D. Piping: ASTM A312 and ASME SA403/SA.
- E. Concrete Pad: Concrete pad with slope for drainage, waterproofed for the steam room floor

2.4 FINISH MATERIALS

- A. Interior Finish Materials:
 - 1. Full Tile Package: Manufacturer's standard horizontal surfaces and vertical surfaces.
 - 2. Floor Tile: 0.6 coefficient of friction slip-resistant Dal-Tile Keystone Mosaic floor.
 - 3. Wall Tile: Dal-Tile Keystone Mosaic.
 - 4. Source: _____.
 - 5. Size: __ x __ inches (mm) by __ inch (mm) thick.
 - 6. Color: _____.
- B. Tile Setting Materials: ANSI A118.3, epoxy type, as manufactured by Laticrete International, Inc.
- C. Fasteners: Stainless steel.

2.5 EQUIPMENT

- A. Building Equipment: Coordinate with the following building systems provided under other Sections:
 - 1. One or more 3 inch (76 mm) stainless steel drain lines, as required per room size and shape and MEP Engineer.
 - 2. Water supply lines for steam generator and any room auxiliary features.
 - 3. Ventilation connections.
- B. Steam Room:
 - 1. Standard Features.
 - a. Floor drain and attachment to stainless steel drain.
 - b. Air intake duct connection point.
 - c. Air exhaust duct connection point.
 - d. Sprinkler system hook-up point.
 - e. 3/8 inch (9.5 mm) tempered safety glass door with sweep and gasket.
 - 2. Steam Generator Features:
 - a. Auto blow-down with timer, standard.
 - b. Thermostat control, standard.
 - c. Temperature sensor, standard.
 - d. Alarm relay connection point, standard.
 - e. Provide optional steam refresh feature.
 - 3. Steamheads: 2 per unit, standard.
 - 4. Steamheads: Custom quantity, _____, in configuration indicated on Drawings.
- C. Steam Room Accessories:
 - 1. Interior Lights: 2 per unit, standard.
 - 2. Interior Lights: Provide optional LED lighting system in standard configuration.
 - 3. Interior Lights: Provide optional LED lighting system in configuration indicated on Drawings.
 - 4. Interior Lights: Custom quantity, _____, in configuration indicated on Drawings.
 - 5. Deluge Shower: Provide optional deluge shower with push button control and 10-second auto cycle valve.
 - 6. Hand Held Shower: Hand held shower wand for fresh water wash down.
 - 7. Audio System: Provide optional audio system, as indicated on Drawings.
 - 8. Stained Glass Windows: Provide optional stained glass windows, as indicated on Drawings.
 - 9. Skylights: Provide optional skylights, as indicated on Drawings.
 - 10. Aromatherapy: Provide optional aromatherapy, as indicated on Drawings.

11. Crystal Display: Provide optional crystal display, as indicated on Drawings.

2.6 ELECTRONICS

- A. Controls: Fully contained within a NEMA 3R enclosure. Voltage and frequency as suitable for site system, 120V or 208/240/460V, 50/60 Hz.
- B. Electronic Components: UL and cUL approved, or recognized.
 - 1. Each function shall have an individual circuit rated for 20A.
 - 2. Time Switch: Solid state electronic control capable of permitting 1000+ on/off set points to be distributed on independent daily schedules through a 7-day time period; includes a factory-installed lithium battery backup which shall maintain clock time and calendar data for 8 years minimum.
 - 3. Timer: Digital LED readout to show day-of-week and time-of-day using 12/24 hour time format.
- C. Program Data Storage: A nonvolatile memory shall maintain program data for the life of the time switch without the need for battery backup.
- D. LED Lighting:
 - 1. Input Voltage: Maximum of 12V.
 - 2. Color: Capable of no less than 5 colors.
 - 3. Service Life: 30,000 to 100,000 hours, typical.
- E. Audio System: Speakers do not penetrate the enclosure.
- F. Steam Generator: ASME certified.
 - 1. Standard Features:
 - a. Sight glass.
 - b. Three level water sensing system with low water cutoff.
 - c. High pressure cutout on the steam generator.
 - d. Auto blow down pressurized flush/drain system.
 - e. Emergency call buttons (2) per ADA.

2.7 PLUMBING

- A. Fittings: Stainless steel fittings provided by manufacturer to ensure compatibility with steam room system and protect the applicable warranties.
- B. Plumbing System: In compliance with state and local codes.

2.8 FABRICATION

- A. Components: Fabricated from minimum 14 gauge stainless steel for absolute corrosion resistance.
- B. Panels: Precision fabricated with CNC laser technology. Panels are to be assembled, waterproofed and sealed with appropriate sealer for stainless steel
- C. Welding Wire: Type 316L.
- D. Through-Wall Fittings: Perforated at factory for proper sizing, and stainless steel couplings.

PART 3 EXECUTION

3.1 PREPARATION

- A. Verify site conditions are suitable for installation, including concrete pad with waterproofing if applicable.
- B. Do not proceed with installation until substrates have been properly prepared and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
- C. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

3.2 INSTALLATION

- A. Install equipment and system in accordance with manufacturer's instructions and approved Shop Drawings.
 - 1. Assembly: Fabricate in multiple pieces and assemble onsite.
 - 2. At each stage of assembly, the manufacturer's representative working with the installer shall confirm that the progress of installation is being performed as specified on approved shop drawings.
 - 3. Installation Requirements:
 - a. Control unit will need wall space 2 feet x 2 feet (610 mm x 610 mm).
 - b. Steam unit will need wall space 3 feet (914 mm) wide, 2 feet (610 mm) deep and 3 feet (914 mm) tall.
 - c. Steam unit and control unit can accept various power configurations.
 - d. There shall be 3 feet (914 mm) of clearance in front of these units for service and maintenance.
 - e. The steam unit should be placed adjoining the steam room.
 - 4. Perform welding using AWS certified welders in accordance with AWS D1.1 and D1.6.
 - 5. Set equipment on secure foundations.
 - 6. Make piping joints in accordance with ASTM D 2855 and ASTM A 312.
 - 7. Support overhead piping and at connections to valves, pumps, and equipment.
 - 8. Install electrical components in accordance with NFPA 70.
- B. Interior of SteamRoom: Clad with tile. Install tile in accordance with ANSI A108.6, thin set with epoxy adhesive.
- C. Flushing: Flush completed piping with clean water prior to making final connections.
- D. Adjust system for proper operation through all cycles.
- E. Clean steam room and steam room equipment, and related surfaces.
- F. Demonstrate proper operation and maintenance of system to Owner.

3.3 MAINTENANCE AND PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION