

## SECTION 13 2416

### SAUNAS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. This Section includes modular saunas.
- B. Related Documents and Sections: Examine Contract Documents for requirements that directly affect or are affected by Work of this Section. A list of those Documents and Sections include, but is not limited to the following:
  - 1. General provisions of the Contract, including General and Supplementary Conditions, and Division 01 General Requirements Specification Sections.
  - 2. Section 05 5000 - METAL FABRICATIONS.
  - 3. Section 06 1000 - ROUGH CARPENTRY.
  - 4. Section 07 2100 - THERMAL INSULATION.
  - 5. Division 26 - ELECTRICAL.

##### 1.2 DEFINITIONS

- A. Inspection agencies, and the abbreviations used to reference them, include the following:
  - 1. WCLIB: West Coast Lumber Inspection Bureau.
  - 2. WWPA: Western Wood Products Association.

##### 1.3 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, sauna heater rated capacities, and accessories.
- B. Shop Drawings: Include dimensioned plans, elevations, sections, and large-scale details.
  - 1. Show sauna heater dimensions, mounting location, required clearances, and controls.
  - 2. Include methods of connection for sauna heater, lighting, and controls.
  - 3. Show field measurements, locations and sizes of blocking and reinforcements, and attachments to other work.
  - 4. Indicate method of joining panels.
- C. Samples: For each exposed wood member, full board width by 12 inches long.
- D. Operation and Maintenance Data: For sauna heaters to include in operation and maintenance manuals.

##### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain saunas components through one source from a single manufacturer.
- B. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

- D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Section 01 3100 - PROJECT MANAGEMENT AND COORDINATION.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store sauna materials and components flat and blocked off the ground.
- B. Store saunas in areas where temperature and relative humidity are maintained at occupancy levels.

#### 1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install saunas until building is enclosed, wet work in spaces is complete and dry, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Verify openings and dimensions for precut saunas by field measurements before fabrication and indicate measurements on Shop Drawings.
  - 1. Locate concealed framing, blocking, and reinforcements that support precut saunas by field measurements before being enclosed and indicate measurements on Shop Drawings.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

- A. Wood Species and Grades: Provide lumber of grades indicated according to DOC PS 20 and the ALSC National Grading Rule provisions of the grading agency indicated.
  - 1. Western Hemlock: WCLIB or WWPA; B & Btr - 1 & 2 Clear, VG (Vertical Grain).
- B. Softwood Plywood: DOC PS 1.
- C. Hardwood Plywood: HPVA HP-1[, made with adhesive containing no urea formaldehyde].
- D. Tempered Float Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated), Type I (transparent glass, flat), Quality Q3 (glazing select), Class 1 (clear); manufactured by horizontal (roller-hearth) process, with exposed edges seamed before tempering.
- E. Insulating Glass: Preassembled units consisting of sealed lites of tempered float glass separated by a dehydrated interspace, and complying with ASTM E774 for Class CBA units.
- F. Fasteners: Stainless steel or hot-dip galvanized.
- G. Vapor Retarder: Laminated aluminum foil and kraft-paper vapor barrier with water-vapor transmission rate of no more than 0.006 perms as tested according to ASTM E96.

#### 2.2 SAUNAS

- A. Provide custom fabricated saunas as indicated on the Drawings complete with framing, insulation, vapor retarder, prehung door, and trim.
  - 1. Framing: 2-by-2-inch-nominal, kiln-dried, Douglas fir.
  - 2. Insulation: 3-1/2-inch fiberglass batt with integral foil face or with separate foil vapor retarder.
- B. Interior Wall and Ceiling Paneling: 1-by-4-inch-nominal, minimum 5/8 in. thick, V-joint, tongue-and-groove wood boards of species and grade indicated; sanded smooth; kiln dried to no more than

12 percent moisture content.

1. Wood Species: Hemlock.

C. Flooring: 1-by-4-inch-nominal, of same species as interior paneling, mounted on pressure-preservative sleepers to slope to decorative trench drain.

D. Wood Doors: Manufacturer's standard prehung door assembly as follows:

1. Door Wood Species: Hemlock.

2. Jamb, Casing, Handle and Threshold Wood Species: Hemlock.

3. Size: 24 by 72 inch.

4. Glass Vision Panel: Insulating-glass unit made from 2 lites of 1/8 inch-thick, clear tempered glass with 1/4-inch airspace.

5. Door shall include self-closing mechanism and include a perimeter gasket.

6. Provide door that is not assembled with adhesive containing urea formaldehyde and contains no composite wood products made with urea formaldehyde.

E. Door Hardware: Provide one and one-half pairs of brass butt hinges, one ball catch, and two wood door pulls of same wood species as interior paneling for each door.

F. Benches: Fabricate from S4S, 1-by-4-inch-nominal wood, spaced not more than 1/2 inch apart and supported by 2-by-4-inch-nominal wood framing; of same wood species as interior paneling.

1. Provide tiers as indicated on Drawings.

G. Trim: Same wood species as interior paneling.

## 2.3 HEATERS AND CONTROLS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Convection Heater: Manufacturer's standard compact electric convection unit with stainless-steel elements, stainless-steel interior, stainless-steel exterior, and wire protective top grill. Provide heat-tested, shatter-resistant igneous rocks that are in direct contact with and completely cover heating-unit coils.

1. Capacity: Determined by manufacturer for sauna size indicated.

2. Power Supply: Determined by manufacturer for sauna size indicated.

3. Mounting: As indicated.

C. Digital Controls: Manufacturer's standard system designed for remote wall mounting, with touchpad controls, digital display, thermostat, and the following features:

1. Mounting: Recessed, tamperproof.

2. Heater switch.

3. Light switch.

4. Heat-indicator light.

5. Adjustable temperature control.

6. Programmable time and temperature for heater startup and shutdown.

7. Preset temperature lock.

## 2.4 ACCESSORIES

A. Provide the following accessories. Provide wood accessories of same wood species as interior

paneling, unless otherwise indicated.

1. Wood guardrail for heater, of dimensions required by listing.
2. Wood-slat backrest for each bench.
3. Sloping wood-slat headrest.
4. Arched wood-slat leg rest.
5. Wood bucket, 1-gal. capacity, with plastic liner and wood ladle.

## 2.5 FABRICATION

- A. Fabricate saunas to dimensions, profiles, and details indicated. Sand boards smooth and ease edges to a radius of not less than 1/16 inch.
- B. Shop cut openings, to maximum extent possible, to receive hardware, electrical work, vents, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
- C. Nail- or screw- and glue bench components together from bottom side.
- D. Countersink or conceal all metal fasteners.
- E. Secure glass in wood frames with removable stops.
- F. Flush mount junction boxes for heater, control panel, and light fixtures, with concealed connecting electrical conduit in modular sauna panels].
- G. Modular Saunas: Complete fabrication of modular sauna panels, including assembly and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation.
  1. Trial fit panels at fabrication shop. Install dowels, screws, bolted connectors, cam locks, and other fastening devices that can be removed after trial fitting. Verify that parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.
  2. Accessible Modular Saunas: Fabricate framing and panels to eliminate thresholds and permit accessible entry.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine walls, ceilings, and floors for suitable conditions where saunas are to be installed.
- B. Examine roughing-in for electrical systems to verify actual locations of electrical connections before heater installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Condition paneling to average prevailing humidity conditions in installation areas before installation.

### 3.3 INSTALLATION OF SAUNAS

- A. Complete field assembly with joining methods recommended in writing by manufacturer.

- B. Set saunas level, plumb, and securely in place. Anchor as required for secure installation.

#### 3.4 CONNECTIONS

- A. Connect electrical power service to power distribution system according to requirements specified in Division 26. Connect according to NFPA 70 and local regulations.

#### 3.5 ADJUSTING

- A. Adjust sauna door to close securely without binding. Adjust door to operate at room temperature and at sauna operating temperature.
- B. Replace sauna components and exposed paneling that are damaged or do not comply with requirements.

#### 3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sauna heaters and controls.

**END OF SECTION**

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