

**SECTION 23 82 00**  
**CONVECTION HEATING AND COOLING UNITS**

**PART 1 - GENERAL****1.1 DESCRIPTION**

Radiant ceiling panels (for bathrooms)

**1.2 QUALITY ASSURANCE**

Refer to Paragraph, QUALITY ASSURANCE, in Section 23 05 11, COMMON WORK RESULTS FOR HVAC.

**1.3 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.
- B. Manufacturer's Literature and Data:
  - 1. Radiant ceiling panels.
- C. Certificates:
  - 1. Compliance with paragraph, QUALITY ASSURANCE.
  - 2. Compliance with specified standards.
- D. Operation and Maintenance Manuals: Submit in accordance with paragraph, INSTRUCTIONS, in Section 01 00 00, GENERAL REQUIREMENTS.

**1.4 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American National Standards Institute / Air Conditioning, Heating and Refrigeration Institute (ANSI/AHRI):
  - 440-08.....Performance Rating of Room Fan CoilsNational Fire Protection Association (NFPA):
  - 90A-09.....Standard for the Installation of Air Conditioning and Ventilating Systems70-11.....National Electrical Code
- C. Underwriters Laboratories, Inc. (UL):
  - 181-08.....Standard for Factory-Made Air Ducts and Air Connectors1995-05.....Heating and Cooling Equipment

**1.5 GUARANTY**

In accordance with FAR clause 52.246-21

**PART 2 - PRODUCTS****2.1 RADIANT CEILING PANELS:**

- A. Hydronic Radiant Panels: Lay-in type, 1.00 mm (0.040) inch aluminum faceplate with 13 mm (1/2-inch) I.D copper serpentine water coil mechanically bonded to faceplate, finished with two coats baked white polyester finish with a light reflection value of 70 to 80 percent. Panels shall weigh no more than 0.68 kg (1.5 pounds) per square foot when filled with water. Provide 75 mm (3-inch) un-faced fiberglass blanket insulation pre-cut for installation above panels. Panels shall be continuous linear.

**PART 3 - EXECUTION****3.1 INSTALLATION**

- A. Work shall be installed as shown and according to the manufacturer's diagrams and recommendations.
- B. Handle and install units in accordance with manufacturer's written instructions.
- C. Support units rigidly so they remain stationary at all times. Cross-bracing or other means of stiffening shall be provided as necessary. Method of support shall be such that distortion and malfunction of units cannot occur.
- D. Install fiberglass blanket insulation with a minimum R value of 8 above hydronic radiant panels.

**3.2 OPERATIONAL TEST**

Refer to Section 23 05 11, COMMON WORK RESULTS FOR HVAC.

**3.3 DEMONSTRATION AND TRAINING**

- A. Provide services of manufacturer's technical representative for four hours to instruct VA personnel in operation and maintenance of units.

- - - E N D - - -