

SECTION 15764 - RADIATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Light-commercial finned-tube radiators.
 - 2. Convectors.

1.3 SUBMITTALS

- A. Include specialties and accessories for each radiator type.
- B. Plans, elevations, sections, and details.
- C. Location and size of each field connection.
- D. Enclosure joints, corner pieces, access doors, and other accessories.
- E. Method of attaching hangers to building structure.
- F. Unit schedules to include rated capacities, furnished specialties, and accessories.
- G. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for units with factory-applied color finishes.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Sterling Heating Equipment.
 - 2. Slant/Fin.
 - 3. Trane Company
 - 4. Runtal North America Inc.
 - 5. Vulcan

2.2 LIGHT-COMMERCIAL FINNED-TUBE RADIATORS

- A. Furnish and install where shown on all plans, Sterling LB2 light commercial Finned-Tube or approved equal quality and capacity. Approved I=B=R ratings shall be submitted.
- B. The finned tube enclosure shall be manufactured from 18-gauge cold-rolled steel, with a baked enamel finish. Color shall be selected by the Architect, from the Manufacturer's standard color

selection. The air discharge louvers shall be die formed stamped into the steel enclosure. The louver openings shall be "Pencil Proof." All lateral bends shall be formed on bottoming dies to ensure continuity of all adjoining enclosures and accessories. The enclosure shall fully engage in continuous full length mounting strip mounted to the wall. A two (2) inch joiner strip shall be used where two pieces of enclosure are adjoining each other in a run.

- C. All accessories shall be die formed 18-gauge cold rolled steel and finished with a baked prime finish. The accessories shall overlap the installed enclosure and are to provide adjustment for make-up in the installed runs of enclosure. The accessories shall be provided with a return bend to the wall and shall have pre-punched holes for fasteners for securing to the wall.
- D. The brackets shall be of a one-piece, die formed construction. The material shall be 14-gauge C.R.S. with a baked prime finish. The bracket shall to be self locating for vertical positioning at installation.
- E. The mounting strip shall be die formed heavy gauge, galvanized material.
- F. All elements shall be of the mechanically expanded type to ensure that proper fin to tube bonding is maximized. Copper/Aluminum elements shall be provided with one end mechanically swaged (flared) for proper assembly.
- G. Enclosure height, tube diameter, and fin size as scheduled.

2.3 CONVECTORS

- A. Furnish and install Sterling Convectors, or approved equal.
- B. Convector heating elements shall be non-ferrous consisting of 5/8" diameter copper tubing and .010 thick aluminum plate fins with full-flanged collars. The tubes shall be expanded mechanically into fin collars to form a permanent thermal bond. Fins shall be protected front and back by formed shield plates running entire length of element. Headers shall be cast brass provided with bottom threaded piping connections. Heating elements shall be tested by manufacturer at 100 P.S.I. air pressure under water. Elements shall be supported from brackets on sides of cabinet that shall allow for proper pitching of the element.
- C. Cabinets shall be formed from cold rolled steel and shall be suitably braced and reinforced where necessary to provide stiffness, and accurately fitted to prevent air leakage. Cabinet front shall be flanged top and bottom for added rigidity. Top edge of cabinet fronts shall be smoothly formed with 3/8" inside radius. Air outlet louvers (and inlet louvers where required) shall be the Venetian type. Cold rolled steel heating element support brackets shall be spot welded to inside ends of all convector cabinets.
- D. After fabrication, all cabinets shall be thoroughly cleaned, and provided with a baked enamel finish. Color shall be selected by the Architect, from the Manufacturer's standard color selection. Accessory items shall be included as noted per job requirements.
- E. Partially-Recessed Cabinets: Convectors shall be constructed from not less than #18 gauge CRS wrap-around fronts and #20 gauge CRS recessed liner. Depth of cabinet front from wall shall be 2 1/4 inches. Front shall have radiused front edges and shall extend back to wall and fasten to brackets on liner with screws. Front shall be provided with Venetian type air outlet grille and arched air inlet, SR-A. Convectors shall be 3 side overlap for floor mount models, SR-A.

- F. Accessories:
 - 1. Provide factory installed knob-operated dampers for Convectors where noted. The operator shall be a fast-action, triple lead screw, knob operated for ease of adjustment.
 - 2. Convectors shall be provided with access doors. Access doors shall be 4" x 4" and shall be located in the non-louvered area. Access doors shall be hinged on side with straight shaft type hinge and shall close with positive-action snap hinge.

2.4 SOURCE QUALITY CONTROL

- A. Factory test and rate baseboard radiators according to Hydronic Institute's "Testing and Rating Standard for Baseboard Radiation."

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install all heaters per manufacturers recommendations.
- B. Coordinate electrical outlet locations.
- C. Install finned-tube radiators as follows:
 - 1. Unless otherwise indicated, center heating elements under windows.
 - 2. Unless otherwise indicated, install enclosure continuously from wall to wall.
 - 3. Unless otherwise indicated, install enclosure continuously around corners, using outside and inside corner fittings.
 - 4. Join sections with splicer plates and filler pieces to provide continuous enclosure.
 - 5. Install access doors for access to valves and other fittings.
 - 6. Install air-seal gasketing between wall and enclosure mounting channel.
 - 7. Terminate enclosures with manufacturer's end caps.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in other Division 15 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect hot-water units and components to piping according to Division 15 Section "Hydronic Piping."
- C. Install shutoff valve on inlet and balancing valve on outlet.

3.3 CLEANING

- A. After completing system installation, including outlet fittings and devices, inspect for damage to exposed finish. Repair damaged finish to match original finish.

END OF SECTION 15764