SECTION 238216.11 - HYDRONIC AIR COILS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes hydronic heating and cooling air coils.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each air coil.
   2. Include rated capacities, operating characteristics, and pressure drops for each air coil.

1.4 COORDINATION

1. Coordinate size, location and installation of coils with air-handling units to suit conditions and to ensure proper operation.

PART 2 - PRODUCTS

2.1 DESCRIPTION

A. ASHRAE Compliance: Comply with applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

2.2 COILS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Aerofin
   2. Heatcraft Worldwide Refrigeration
   3. RAE Coils; a division of RAE Corporation
   4. Temtrol
   5. TMI Climate Solutions
   6. Trane
   7. USA Coil & Air

B. Performance Ratings: Tested and rated according to AHRI 410 and ASHRAE 33.

C. Minimum Working-Pressure/Temperature Ratings: 200 psig, 300 deg F.

D. Source Quality Control: Factory tested to 300 psig.

E. Tubes:
1. Material: ASTM B75 and B251 seamless copper tube, internally enhanced.
2. Outer Diameter: 0.0625 inch.
3. Wall Thickness: Minimum 0.025 inch.
4. Return Bend Wall Thickness: Minimum 0.035 inch.
5. Tube sheets on each end shall have fully drawn collars to support and protect tubes.

F. Fins:
1. Material: Die-formed aluminum.
2. Type: Continuous wave plate.
3. Thickness: Minimum 0.0075 inch.
4. Spacing: Self-spacing, maximum 12 fins per inch.
5. Fin and Tube Joint: Mechanical bond.

G. Headers:
1. Material: ASTM B75 and B251 seamless copper tube with brazed joints, prime coated.
2. Wall Thickness: Minimum 0.065 inch.
3. Provide with minimum 1/4 NPT plugged vent and drain tap at the highest and lowest points in the coil.

H. Piping Connections: ASTM B43 Schedule 40 red brass.
1. 2-inch and smaller: Threaded, same end of coil.
2. 2-1/2-inch and larger: Flanged, same end of coil.

I. Casing:
1. Chilled Water Coil: 0.0625-inch- thick, stainless steel.
2. Horizontal coil casing and support members shall allow moisture to drain.
3. Intermediate vertical coil supports shall be same material as casing.
4. Double-flange casing shall be provided when coils are vertical stacking.

J. Coating: None

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine air-handling unit casings to receive air coils for compliance with requirements for installation tolerances and other conditions affecting coil performance.

B. Examine roughing-in for piping systems to verify actual locations of piping connections before coil installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install coils level and plumb.

B. Straighten bent fins on air coils.

C. Clean coils using materials and methods recommended in writing by manufacturers, and clean inside of casings and enclosures to remove dust and debris.

3.3 CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to coils to allow service and maintenance.

END OF SECTION 238216.11