SECTION 23 82 05 – HYDRONIC DUCT 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. This Section includes air coils that are not an integral part of air-handling units.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include material descriptions, dimensions of individual components and profiles, and finishes for each air coil. Include rated capacity and pressure drop for each air coil.

B. Operation and Maintenance Data: For air coils to include in operation and maintenance manuals.

1.4 QUALITY ASSURANCE

A. ASHRAE Compliance:

1. Comply with ASHRAE 33 for methods of testing cooling and heating coils.

PART 2 - PRODUCTS

2.1 WATER COILS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Commercial Coils.
2. Sigma.
3. Coil Company, LLC.
4. Carrier.
5. Trane.
6. USA Coil & Air

B. Coils to be constructed with plate fins and seamless tube construction and be tested and rated according to ARI 410.

C. Coils shall be leak tested at 400 PSI air pressure under warm water. Coils to be guaranteed to operate up to a maximum of 300 degrees F. at 250 psig max operating pressure.

D. Tubes: minimum 5/8” OD with .020” seamless copper tubes. Tubes shall be mechanically expanded into plate aluminum fins to form an everlasting bond between primary and secondary surfaces.

E. Fins: Aluminum minimum thickness 0.01”.

F. Casing: 16 gauge galvanized-steel channel frame for flanged mounting. Provide intermediate supports where required on larger coils.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine ducts, plenums, and 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 with sufficient clearance for normal service and maintenance. Supports coils as required.

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

C. Insulate all hydronic heating and re-heat coils located in systems with cooling coils per the requirements indicated in Specification Section 230700.

D. Straighten bent fins on air coils.

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

F. Install coils in metal ducts and casings constructed according to SMACNA's "HVAC Duct Construction Standards, Metal and Flexible." Provide duct access doors in the duct transition on the entering air and leaving air side of each duct coil, installed on the bottom of the duct transitions. Provide 24” x 24” access door size. Where the installation will not permit a 24” x 24” door, provide the largest size possible.

### 3.3 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties required for each coil. Install piping adjacent to coils to allow service and maintenance. Connect water piping with unions and shutoff valves to allow coils to be disconnected without draining the piping system.

END OF SECTION 23 82 05