CONSTRUCTION SPECIAL SPECIFICATION

SECTION 15755_S

HEAT EXCHANGERS

Page

CONSTRUCTION SPECIAL SPECIFICATION

SECTION 15755_S

HEAT EXCHANGERS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section includes heat exchangers for mechanical systems.

1.02 QUALITY ASSURANCE

A. Manufacturer Qualifications: Firm experienced in manufacturing heat exchangers similar to those indicated for this Project and that have a record of successful in-service performance.

B. Fabricate and stamp heat exchangers to comply with American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section VIII, Division 1.

C. Provide completely fill-out ASME Form No. U-1 or U-2 for each heat exchanger to be approved prior to shipping.

1.03 REFERENCES

A. ASME Boiler and Pressure Vessel Code, Section VIII, Division 1.

B. ASME Form No. U-1 or U-2.

1.04 SUBMITTALS

A. Make submittals according to this Section, Section 15010, and Section 01330.

B. Submit a completed ASME Form No. U-1 or U-2 to be approved prior to shipping.

C. Submit product data for each heat exchanger, including rated capacities, pressure drop, weights (shipping, installed, and operating), and installation and startup instructions.

D. Submit shop drawings indicating heat exchanger dimensions, rough-in requirements, weight loadings and distribution, and clearances required around the heat exchanger.

E. Submit maintenance data for heat exchangers in the operation and maintenance manual as specified in Section 01330. Include detailed manufacturer's instructions for servicing heat exchangers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. See Section 15010.

1.06 PROJECT/SITE CONDITIONS

A. Coordinate layout and installation of heat exchangers with piping system and adjacent work. Revise locations and elevations to suit field conditions and as approved by the Architect/Engineer (A/E).

B. Where a new heat exchanger is being installed in an existing tank, coordinate flange diameters and bolt patterns with existing tank conditions. Do not provide the shell.

C. Where a new heat exchanger is stand-alone, provide shell and tube portions.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Provide products by one of the following:

1. Shell-and-Tube Heat Exchangers:

a. ITT Fluid Technology Corporation.; ITT Bell & Gossett.

b. Lochinvar

2.02 RATINGS

A. See Drawing Schedule for additional information.

2.03 SHELL-AND-TUBE HEAT EXCHANGERS

A. Domestic Hot Water

1. Shell and Head Materials: Steel shell and cast-iron head.

2. Tube and Tube Sheet Materials: Seamless copper tubes with copper tube sheets. Provide double-wall tube construction for domestic hot water applications

3. Piping Connections: Flanged or threaded dependent on size.

4. Furnish with structural support saddles.

B. Snow Melt

5. Shell and Head Materials: Steel shell and cast-iron head.

6. Tube and Tube Sheet Materials: Seamless copper tubes with steel tube sheets.

7. Piping Connections: Flanged or threaded dependent on size.

8. Furnish with structural support saddles.

PART 3 - EXECUTION

3.01 INSPECTION

A. Inspect elements and surfaces to receive work for compliance with installation tolerances and for structural rigidity, strength, anchors, and other conditions affecting performance of the heat exchanger. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION/APPLICATION/ERECTION

A. Install heat exchangers according to manufacturer's written instructions.

B. Install heat exchangers plumb and level; anchor with supports.

C. Maintain manufacturer's recommended clearances for service and maintenance. Install piping connections maintaining clearances for service and maintenance of heat exchangers.

D. Install threaded or flanged connections at heat exchangers.

E. Install shutoff valves at heat exchanger inlet and outlet connections.

F. Insulate heat exchangers similar to heating water piping, and as indicated in specification section 15083.

G. Where equipment supports do not exist, construct Unistrut or angle-iron support structure to support unit.

3.03 ADJUSTING AND CLEANING

A. Inspect exposed finish after completing system installation, including pipe connections, fittings, valves, and specialties. Remove burrs, dirt, and construction debris, and repair damaged finishes, including chips, scratches, and abrasions.

3.04 COMMISSIONING

A. Provide labor, material, equipment, etc., required to facilitate the commissioning process.

B. Perform form tests and verification procedures required by the commissioning process when requested by the Commissioning Authority and directed by the General Contractor. See Section 15995.

3.05 DEMONSTRATION

A. Provide the services of a factory-authorized service representative to start-up equipment, demonstrate operation, and train personnel.

B. See Section 15995.

END OF SECTION