

SECTION 223400-WATER HEATERS

PART 1-GENERAL

1.1 SECTION INCLUDES

- A. Gas Fired Water Heaters

1.2 QUALITY ASSURANCE

- A. Gas units shall meet AGA requirements and CSA international standards.
- B. Units must meet ASHRAE 90.1, ADDM 90 pounds.
- C. The gas heater shall be ASME certified for 160-psi operation.
- D. Heater shall be rated at a minimum of 82 percent efficiency.
- E. Ensure products and installation of specified products are in conformance with recommendations and requirements of the manufacturer.
- F. Sequence of Operation ASHRAE Standard 90.1 requirements.

1.3 SUBMITTALS

- A. Submit shop drawings and product data under Applicable Division I Specification.
- B. Provide Manufacturer's Installation Instructions.

1.4 OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Applicable Division I Specification.
- B. Include operation, maintenance, and inspection data, replacement part numbers and availability, and service depot location and telephone number.

1.5 REGULATORY REQUIREMENTS

- A. Conform to NFPA 54, NFPA 70, UL 174, UL 1453 requirements for water heaters.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Applicable Division I Specification.

1.7 WARRANTY

- A. Provide warranty under provisions of Applicable Division I Specification.
- B. Warranty: Include coverage of domestic water heaters. Water heater heat exchanger and storage tank shall have a warranty of five (5) years.

PART 2-PRODUCTS

2.1 HOT WATER HEATERS

- A. Acceptable Manufacturers - HWH
 1. Bradford-White
 2. A.O. Smith
 3. PVI
 4. Lochinvar
- B. Acceptable Manufacturers – Circulating Pumps
 1. Taco
 2. Bell & Gosset
 3. Weinman
- C. Acceptable Manufacturers – Expansion Tanks
 1. Amtrol
 2. Taco
 3. Bell & Gosset
- D. See details on plans.

PART 3-EXECUTION

3.1 INSTALLATION AND APPLICATION

- A. Install equipment in accordance with manufacturers' instructions to permit intended performance.
- B. Install equipment and piping in an orderly manner.
- C. Verify part and model numbers with supplier.
- D. Provide all components necessary to make systems operational.
- E. Provide for equal flow thru the heaters.

3.2 TRAINING

- A. Startup and training to be provided by a factory-trained service technician for a total of two (2) hours. These hours of training are to be "bankable hours" used within one full warranty year.
- B. All training and start-up shall be videotaped with a professional videographer and present two (2) copies of the training on DVD format to the Construction Manager within one (1) week of the training session. This DVD will be provided to the owner.

END OF SECTION 223400