Master Specification: Model EMV

GENERAL & APPROVALS
Contractor shall supply and install with all codes and authorities having jurisdiction a factory packaged water heater for emergency drench application. System shall be Hubbell Model No. Emergency Tepid Water Delivery System. Unit shall be designed to operate at volts, phase, and 60 hertz with a maximum load of watts. The system shall be specifically designed for tepid water delivery to emergency safety shower/face/eyewash fixtures in accordance with ANSI Z358.1-2014. Packaged system shall consist of a long-life electric water heater with integrally mounted, factory supplied, calibrated and performance tested, triple redundant thermostatic pressure balanced mixing valve system. Unit shall be supplied ready for electrical and plumbing service connections. Field assembled systems shall not be considered as equals. Substitutions must meet the following specifications minimum to be considered for approval as equal.

CONSTRUCTION
A. The electric water heater shall be a 119 gallon capacity vertical carbon steel tank lined with \( \frac{1}{2} \)" thick Hydrastone cement to ensure maximum operating life at elevated temperatures. Heater shall not require any type of anodic protection.
B. Tank inlet and outlet water connections shall be a minimum of 1 1/4" NPT non-ferrous copper-silicon/brass. Steel tank tappings will not be acceptable.
C. Tank shall be covered by a minimum 3" thick polyurethane foam insulation to minimize stand-by heat loss over the life of the system. Due to the increased cost of operation, systems with less than 3" insulation will not be acceptable.
D. Outer protective jacket shall be a dent resistant composite jacket to resist rust and corrosion.
E. Tepid water temperature control shall be provided by an integrally piped and packaged thermostatic mixing valve. Valve shall be specifically designed, tested and manufacturer-designated for use in emergency safety drench applications. Delivery water set point shall be 85°F. (Optional 75°F temperature available.)
F. Temperature safety system shall consist of a diaphragm operated valve actuator to ensure a continuous delivery flow of tepid water. The valve shall monitor pressure on both cold and hot water inlets. On loss of cold water pressure the valve shall prevent delivery of hot water to avoid scalding. On loss of hot water pressure, the valve shall allow the full ANSI required flow of cold water to the emergency safety fixture.
G. Water pressure drop across the system must not exceed 5psi at 20 GPM flow, mixing valve must have a Cv rating not less than 10.0.
H. The system shall be supplied complete with all electrical operating controls. Safety devices and accessories shall include but not be limited to:
   1. Low watt density immersion heating element
   2. Adjustable immersion temperature controller
   3. Safety high limit switch with manual reset
   4. Dial temperature and pressure gauge
   5. ASME temperature and pressure relief valve
   6. Automatic air vent valve

In addition, this packaged system shall be supplied with the following optional features:

- Option __________________________________________________________________________
- Option __________________________________________________________________________
- Option __________________________________________________________________________

The water heater manufacturer shall warranty all electrical components against defects in workmanship and material for a period of one (1) year from date of start-up, and the pressure vessel for a full five (5) years Non Pro-Rated (Optional Specification full ten (10) years Non Pro-Rated) from date of start-up, provided that the unit is started within three (3) months of date of shipment and installed and operated within the scope of the tank design and operating capability. Each water heater shall be shipped with a complete set of installation and operating instructions including spare parts list and approved drawings.