

SAMPLE SPECIFICATION

Osage Firebox Boiler

1.0 Overview

- The boiler shall be a 3-Pass firebox boiler manufactured by Superior Boiler Works. The boiler shall have a maximum output of Btu/hr, or horsepower and design pressure of [15 psig steam or 30 psig water] (select one).

1.1 The boiler shall not have less than 5 square feet of A.S.M.E. heating surface, measured on the fireside, per rated boiler horsepower.

1.2 The boiler is to be mounted on a structural steel base with a forced draft burner and burner controls. The boiler is to be designed, constructed and tested in accordance with the latest edition and addenda of the A.S.M.E. Boiler and Pressure Vessel Code and shall be registered with the National Board of Boiler and Pressure Vessel Inspectors.

1.3 The boiler shall be completely pre-assembled and fire-tested at the factory to check construction, controls and combustion characteristics of the unit.

1.4 Boiler is constructed to meet the requirement of CSD-1.

2.0 Structural Specification

2.1 The furnace is to be located in the bottom third of the boiler to provide for maximum heat transfer while being in contact with the coolest boiler water.

- Shell plate to be constructed of not less than 3/8" thick.
- All tubes are to have a minimum wall thickness of .095" and have an OD of 2" – 2 1/2" depending on size. The tubes are to be attached by flare rolling.
- Tube-sheets to be constructed of not less than 1/2" thick plate with minimum tube holes ligament of 1/2".

2.5 The boiler shall be mounted on a heavy structural steel base.

- The rear legs are to be slotted to provide for expansion when the boiler goes from a cold situation to a hot situation.
- The boiler is to be equipped with two lifting eyes.
- All heating surfaces must be fully accessible for inspection and cleaning without disturbing the burner equipment. An access opening complete with a gasketed plug and a Pyrex observation port shall be provided to allow for access into the turnaround and furnace.
- All necessary handholes and manholes shall be provided in accordance with the ASME Code, to improve the ease of waterside inspection and cleaning.
- Tubesheets must be fully accessible for inspections or cleaning when the front or rear doors are open. Opening of the doors is not to be impeded by any fuel lines, door plates, baffles, linkage or electrical connections. All doors are to be held in place by replaceable brass nuts. The doors are to be sealed gas tight with non-proprietary ceramic fiber rope with a minimum density of 20 lbs. per square foot and a continuous use limit of 1800°F.
- The boiler shell is to be insulated with two inch thick, eight pound per cubic foot density mineral wool with a K factor of .27. The insulation is to be held in place by bands and is to be covered with a 22 gauge phosphate coated galvanized steel jacket. All openings in the jacket are to have trim rings.
- The entire boiler is to be painted with a high temperature, 500 degrees F minimum, acrylic silicone based paint. The front and rear doors are to be sand blasted before painting and the jacket is to be primed with a vinyl wash primer before painting.