

<Suggested specification for Lync Duplex Stainless Steel Storage Tanks as manufactured by Watts Heating and Hot Water Solutions LLC dba Lync by Watts of Fort Worth, Texas.>

SECTION 22 12 00 – DOMESTIC WATER HEATERS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Divisions 1 Specification Sections, apply to this section.

1.2 SUMMARY

This section includes storage water heaters for potable water utilizing hot water as the energy source.

1.3 REFERENCES

- A. ASME Boiler and Pressure vessel code, section IV, Part HLW
- B. ASHRAE/IES 90.1-2010
- C. NSF/ANSI Standard 61- Drinking Water System Components
- D. NSF/ANSI Standard 372- Drinking Water System Components – Lead Content

1.4 SUBMITTALS

- A. Product Data: Include rated capacities; shipping, installed, and operating weights; furnished specialties and accessories for each model indicated.
- B. Shop Drawings: Detail equipment assemblies and indicate dimensions, required clearances, components, and size of each field connection.
- C. Maintenance Data: Include in the maintenance manuals specified in Division 1. Include maintenance guide and wiring diagrams.

1.5 REGULATORY REQUIREMENTS

- A. Conform to ASME Section IV. Part HLW for Duplex Storage Tank construction.
- B. Conform to NSF/ANSI Standard 372 – Drinking Water System Components – Lead Content
- C. Conform to ASHRAE/IES 90.1-2010

1.6 QUALITY ASSURANCE

- A. ASME Compliance: Duplex Storage Tank shall bear the ASME HLW stamp and be National Board listed
- B. NSF/ANSI Compliance: Duplex Storage Tank shall conform to the NSF/ANSI 372 by a recognized certifying body.

1.7 COORDINATION

Coordinate size and location of concrete bases.

1.8 WARRANTY

- A. Storage Tank: 25-year coverage (15 years full, 10 years prorated) for manufacturing or material defects, leaks, the production of rusty water and or chloride stress corrosion cracking. Tank warranty does not require inspection and maintenance of anode rods. The warranty shall begin at the date of installation.
- B. All other heater parts: 1 year
- C. The heater shall have a first-year service policy, which shall cover labor and freight costs under certain conditions for warranty covered services.

PART 2 – PRODUCTS (STORAGE TANKS)

2.1 MANUFACTURERS

- A. Available Manufacturers: Manufacturer shall be a company specializing in manufacturing the products specified in this section.
- B. Manufacturers: Lync by Watts is the basis of design. Acceptable manufacturers shall be subject to compliance with the requirements.

2.2 CONSTRUCTION

- A. The storage tank shall be ASME HLW stamped and National Board Registered for a maximum allowable working pressure of 150 psi and pressure tested at 1-1/2 times working pressure.
- B. The tank design will include a manway sized access to the tank interior.
- C. Connection sizes shall be 2-1/2” NPT for units 250 gallons up to and including 1000 gallons. Tank shall include a 1” drain valve for units up to and including 250 gallons, and 1-1/2” drain valve for units 500 gallons and larger. Tank shall include a 1” NPT relief valve opening.
- D. The tank shall include an integrated inlet diffuser basket for proper stratification of hot water.
- E. The storage tank shall be an unlined pressure vessel constructed from phase-balanced austenitic and ferritic duplex steel with a chemical structure containing a minimum of 21% chromium to prevent corrosion and mill certified per ASTM A 923 Methods A to ensure that the product is free of detrimental chemical precipitation that affects corrosion resistance.
- F. Waterside surfaces shall be welded internally utilizing joint designs to minimize volume of weld deposit and heat input. All heat affected zones (HAZ) shall be processed after welding to ensure the HAZ corrosion resistance is consistent with the mill condition base metal chemical composition. Weld procedures (amperage, volts, welding speed, filler metals and shielding gases) utilized shall result in a narrow range of austenite-ferrite microstructure content consistent with phase balanced objectives for welds, HAZ and the base metal.
- G. All internal and external tank surfaces shall undergo full immersion passivation and pickling processing to meet critical temperature, duration and chemical concentration controls required to complete corrosion resistance restoration of pressure vessel surfaces. Other passivation and pickling methods are not accepted. Immersion passivation and pickling certification documents are required and shall be provided with each product.
- H. The storage tank shall be completely factory packaged on a single skid, requiring only job site hookup to plumbing.

- I. Pressure relief valve rated to 150 PSI shall be factory installed.
- J. Materials shall meet ASME Section II material requirements and be accepted by NSF 61 for municipal potable water systems. Storage tank materials shall contain more than 80% post-consumer recycled materials and be 100% recyclable.
- K. Water contacting tank surfaces will be non-porous and exhibit 0% water absorption.
- L. Internally lined or plated storage tanks will not be acceptable.
- M. Water heaters that require anodes will not be acceptable.
- N. The storage tank will not require anodes of any type and none will be used.
- O. Tanks intended for outdoor installation shall be coated in a weatherproof lining material.

2.3 PERFORMANCE

- A. Duplex storage tank shall exceed the tank insulation requirements of ASHRAE 90.1-2010 and include R-22 insulation.

2.4 TRIM

- A. (2) ¾” thermowells, each allowing for a ¼” probe and two 4mm probes

PART 3 – EXECUTION

3.1 INSTALLATION

Install storage tank level and plumb in accordance with manufacturers written instructions and referenced standards.

3.2 FINISHING

The heater shall be insulated to ASHRAE 90.1-2010 requirements or higher and mounted on heavy-duty channel skids. Outdoor models shall be jacketed with Rhino lining coated steel panels. The heater shall fit properly in the space provided and installation shall conform to all local, state, and national codes.