**This Prefunctional Checklist should be completed as part of startup and initial checkout of the equipment in preparation for Functional Performance testing.**

|  |  |
| --- | --- |
| PC: | **22 30 00** |
| **ITEM:** | **Domestic Water Heaters** |
| **ID:** |  |
| **AREA SERVED:** |  |

Form Filled Out By:

|  |  |  |
| --- | --- | --- |
|  | Name & Company | Date |
| GC |  |  |
| PC |  |  |
| EC |  |  |
| BC |  |  |
| CC |  |  |
| OR |  |  |
| A/E |  |  |
| CA |  |  |

GC = General Contractor; PC = Plumbing Contractor; EC = Electrical Contractor; BC = Balancing Contractor; CC = Controls Contractor; OR = Owner Representative; A/E = Architect/Engineer; CA = Commissioning Agent

XX = No Initials Required

# DOCUMENTATION VERIFICATION

Check if OK. Enter note number if deficient.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | **GC** | **PC** | **EC** | **CC** | **OR** | **A/E** | **CA** |
| Product information submitted |  |  |  |  |  |  |  |
| Shop/ As-built drawings submitted |  |  |  |  |  |  |  |
| Manufacturer’s installation instructions submitted |  |  |  |  |  |  |  |
| Manufacturer’s startup instructions submitted |  |  |  |  |  |  |  |
| O & M Manuals submitted |  |  |  |  |  |  |  |
| Sequence of Operations submitted |  |  |  |  |  |  |  |
| Manufacturer’s representative start-up and check out complete and report submitted. |  |  |  |  |  |  |  |

# MODEL VERIFICATION

Fill in requested information.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Installed  | **Submitted**  | **Specified**  |
| Manufacturer |  |  |  |
| Model |  |  |  |
| Serial No. |  |  |  |
| Capacity (GAL) |  |  |  |
| Recovery Rate (90°F ∆T) |  |  |  |
| Gas Input (MBH) |  |  |  |

# INSTALLATION VERIFICATIONS

**This checklist does not take the place of the manufacturer’s recommended checkout and startup procedures or report.**

Check if OK. Enter Outstanding Item Note number if deficient.

| **No** | **Item** | **GC** | **PC** | **EC** | **CC** | **OR** | **A/E** | **CA** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Unit installed and casing in good condition. |  |  |  |  |  |  |  |
| 2 | Unit interior/exterior cleaned. |  |  |  |  |  |  |  |
| 3 | Flue termination height and clearance per plumbing code. |  |  |  |  |  |  |  |
| 4 | Instrumentation installed per specifications (thermometers, pressure gages, flow meters, etc.). |  |  |  |  |  |  |  |
| 5 | Combustion air supply complete.  |  |  |  |  |  |  |  |
| 6 | Adequate service space is present around the unit. Cleanouts, P&T relief valve, shut off valves and drain are accessible. Access doors can be fully opened. |  |  |  |  |  |  |  |
| 7 | Gas piping installed and tested with required supply pressure at inlet. |  |  |  |  |  |  |  |
| 8 | Isolation valves, control valve, check valves, and balancing valve, installed. |  |  |  |  |  |  |  |
| 9 | Low water cut-off, flow switch, P&T relief valve, are installed. |  |  |  |  |  |  |  |
| 10 | Pressure and temperature gauges installed and functional |  |  |  |  |  |  |  |
| 11 | Piping is adequately & independently supported, not bearing weight on the tank connections or drains. |  |  |  |  |  |  |  |
| 12 | P&T relief valve drain line is piped to floor drain per contract documents. |  |  |  |  |  |  |  |
| 13 | No leaks apparent around fittings. |  |  |  |  |  |  |  |
| 14 | Pipe type and flow direction labeled on piping. |  |  |  |  |  |  |  |
| 15 | Gas shutoff valve is installed, labeled, and accessible. |  |  |  |  |  |  |  |
| 16 | Gas shutoff valve is fully open. |  |  |  |  |  |  |  |
| 17 | Concentric gas vent and combustion air intake is installed per construction documents and manufacturer's recommendations. Roof penetration is properly flashed. |  |  |  |  |  |  |  |
| 18 | Piping system pressure tested. |  |  |  |  |  |  |  |
| 19 | Piping system cleaned and flushed. |  |  |  |  |  |  |  |
| 20 | Expansion tanks verified to not be air bound and system is completely full with water. |  |  |  |  |  |  |  |
| 21 | Circulator pumps installed and operational. |  |  |  |  |  |  |  |
| 22 | Electrical connections to equipment completed and power available to unit. |  |  |  |  |  |  |  |
| 23 | Power disconnects installed and properly labeled. |  |  |  |  |  |  |  |
| 24 | All electrical connections and terminations are secure |  |  |  |  |  |  |  |
| 25 | Breaker and wire size are correct for the installed equipment |  |  |  |  |  |  |  |
| 26 | Control system interlocks functional. |  |  |  |  |  |  |  |
| 27 | Temperature sensors have been installed in the correct locations and connected to the RMCS as instructed by the domestic hot water system control diagram. |  |  |  |  |  |  |  |
| 28 | Thermostat furnished with the tank has been installed in the correct location on the supply line and is reporting back to the internal hot water heater control panel. |  |  |  |  |  |  |  |

# OUTSTANDING ITEMS

Note outstanding items in table below. Use numbers referenced above.

|  |  |  |
| --- | --- | --- |
| Resolved(Initial / Date) | **Note** | Description |
|  | **1.** |  |
|  | **2.** |  |
|  | **3.** |  |
|  | **4.** |  |
|  | **5.** |  |

# FIELD NOTES

Fill in as appropriate.

|  |
| --- |
|  |
|  |
|  |
|  |

# SIGN OFF

System / Equipment have been installed in accordance with the Contract Documents and is ready for Functional Testing.

|  |  |  |
| --- | --- | --- |
|  | **Signature** | **Date** |
| **Contractor’s Representative** |  |  |
| **A /E Representative** |  |  |
| **Commissioning Agent** |  |  |
| **Owner’s Representative** |  |  |

##### END OF CHECKLIST