

## Document checklist: heat exchanger design registration

### Required documentation

#### Drawings

1. Number and revision including ASME code of construction (edition and addenda)
2. Non-destructive examination requirements
3. Maximum allowable working pressure
4. Minimum and maximum design temperatures
5. Service fluid specific gravity
6. Heat treatment
7. Impact testing, corrosion allowance
8. Nozzle locations
9. Reinforcement and dimensions
10. Flange and fitting standards
11. ASME material specifications
12. Bill of material and nameplate facsimile

All design details and material specifications referenced in the calculations shall be included in the drawing. Conditions such as seismic or wind loadings, which may limit the vessel's location must be detailed on the drawing.

#### Calculations

1. Provide calculations as per the latest ASME Code edition and addenda, unless the submission details reasons for using an earlier edition or addenda.
2. Provide sufficient information to verify that all applicable requirements of the specified ASME code have been complied with.
3. If exemptions from specific code requirements are utilized in the design, the specific code section and subsection permitting the exemption must be identified and supported by an explanation or reason detailing how the exemption applies to the design.
4. Provide formulas used and reference the appropriate code section.
5. Where the ASME code does not cover all details of the vessel design and construction, the submission must provide details utilizing recognized engineering practices or proof test results to show that the design method is as safe as those of the applicable ASME code.

All UG-22 loadings must be considered in the design and, as a minimum, the submission must have a statement that all UG-22 loadings have been considered.

**For vessels with an overall length of 20 feet or more:** provide detailed seismic and support loading calculations.

All calculation documents should be signed by the person responsible for that function in the manufacturer's quality control manual. The calculation package shall be numbered and have a method for revision control.