Senior ASME Pressure Vessel Welder

Position Summary

The Senior ASME Pressure Vessel Welder is responsible for performing high-quality welding on pressure vessels, heat exchangers, pipe spools, and custom welded fabrications in accordance with **ASME Section VIII, Div. 1** requirements and approved Welding Procedure Specifications (WPS). This role requires advanced welding skills, strong technical knowledge, attention to detail, and the ability to work independently on complex weldments while maintaining the highest standards of quality, safety, and productivity.

Key Responsibilities

Welding & Fabrication

- Perform high-quality welding on ASME pressure vessels, tanks, nozzles, supports, internals, and custom fabricated assemblies.
- Perform welding using some or all of GTAW (TIG), GMAW (MIG), FCAW (Flux Core), and SMAW (Stick) processes as required.
- Weld in multiple positions, including flat, horizontal, vertical, and overhead.
- Perform full-penetration welds on pressure-retaining components in accordance with approved WPS requirements.
- Weld carbon steel, stainless steel, and other alloys as required.
- Perform multi-pass welds on heavy-wall and complex assemblies while maintaining proper technique and weld quality.
- Interpret fabrication drawings, weld symbols, weld maps, and welding documentation with minimal supervision.
- Properly prepare, clean, and inspect weld joints before and between welding passes.
- Control weld distortion, heat input, and interpass temperatures to maintain dimensional accuracy and weld integrity.

Tools & Equipment

- Set up, operate, and maintain welding machines and associated equipment.
- Select appropriate welding parameters, filler materials, and shielding gases in accordance with approved WPS requirements.
- Operate grinders, cutting torches, plasma equipment, and other fabrication tools.
- Use measuring and inspection tools to verify weld preparation, alignment, and finished weld dimensions.
- Safely operate overhead cranes, hoists, and rigging equipment when required.
- Identify and report equipment issues affecting weld quality or productivity.

Workmanship & Quality

- Produce welds that meet ASME code requirements, customer specifications, and company quality standards.

- Follow approved Welding Procedure Specifications (WPS) and maintain compliance with applicable welder qualifications.
- Perform visual inspection of completed welds to identify defects, including undercut, porosity, incomplete fusion, and improper weld profiles.
- Maintain weld quality suitable for required non-destructive examination (NDE), including RT, UT, MT, and PT.
- Identify and correct welding defects using approved repair procedures.
- Ensure proper joint preparation, fit-up, root gaps, and cleanliness before welding.
- Maintain proper material identification and weld traceability as required.
- Minimize weld repairs, rework, and material waste through consistent workmanship.
- Maintain high standards of housekeeping, 5S, and workstation organization.

Collaboration & Leadership

- Work closely with fitters, supervisors, engineering, and QC to ensure fabrication requirements are met.
- Mentor junior welders and apprentices in welding techniques, quality standards, and safe work practices.
- Assist with troubleshooting welding challenges and recommending practical solutions.
- Provide feedback on weld joint design, fabrication methods, and manufacturability issues.
- Support continuous improvement initiatives focused on welding quality, productivity, Lean manufacturing, and 5S.
- Demonstrate leadership through workmanship, reliability, and a commitment to quality.
- Support production schedules while maintaining safety and welding standards.

Required Experience & Qualifications

- **7+ years of welding experience in an ASME Section VIII pressure-vessel fabrication environment.**
- Proven ability to independently complete complex pressure-vessel welds to code and customer requirements.
- Strong proficiency in GTAW, GMAW, FCAW, and/or SMAW welding processes.
- Experience welding pressure-retaining components, including shells, heads, nozzles, and structural attachments.
- Demonstrated ability to produce welds that consistently meet visual inspection and NDE requirements.
- Strong understanding of fabrication drawings, weld symbols, joint configurations, and tolerances.
- Solid knowledge of:
    - ASME Section VIII, Div. 1
    - ASME Section IX welding qualifications
    - Welding Procedure Specifications (WPS) and welder qualification requirements
    - Weld joint preparation, preheat, interpass temperature, and distortion control
    - Common welding defects, causes, and corrective actions
    - ASME B31.1/B31.3 piping requirements (an asset)

- Experience with carbon steel and stainless steel; experience with exotic alloys is an asset.
- Previous ASME Section IX welder qualifications are preferred.
- Strong rigging and overhead crane experience.
- Ability to work independently with minimal supervision.

Physical Requirements

- Able to lift up to 50 lbs as required.
- Able to stand for long periods and work in confined spaces when needed.
- Comfortable working in various welding positions, including bending, kneeling, and working in restricted-access areas.
- Comfortable working with heavy industrial equipment and in a welding/fabrication environment.
- Able to safely wear and use required personal protective equipment.

Key Competencies

- Advanced welding skills and technical knowledge
- High-level blueprint and weld-symbol literacy
- Consistent weld quality and attention to detail
- Strong understanding of ASME welding requirements
- Pride in workmanship
- Safety-first mindset
- Strong troubleshooting and problem-solving abilities
- Good communication and teamwork skills
- Ability to work independently and mentor others
- Ability to prioritize and meet deadlines