Job Profile:

Engineer - Materials & Process Sr

We are a diverse team of collaborators, doers, and problem-solvers who are relentlessly committed to a culture of safety. This position will directly impact the history of space exploration and will require your commitment and detailed attention towards safe and repeatable space flight. Join us in lowering the cost of access to space and enabling Blue Origin’s vision of millions of people living and working in space to benefit Earth.

As part of a hardworking team of diverse engineers you will be responsible for materials and process engineering tasks related to the design and manufacturing of the New Glenn launch vehicle system. Primary day-to-day focus will be leading development, characterization, and optimization of friction stir welding (FSW) process in aluminum structures. These tasks include material characterization, supporting design for production, material selection, and quality control.

We are looking for someone to apply their technical expertise, leadership skills, and commitment to quality to positively impact safe human spaceflight. Passion for our mission and vision is required!

Responsibilities:

- Support production welding of full scale, cryogenic tanks. Lead development/optimization of FSW processes to meet specification requirements and train/guide less experienced weld engineers. Troubleshoot weld tool equipment as required.
- Lead weld process/qualification documentation, internal/external readiness reviews, etc.
- Work closely with tank production teams to ensure that floor support is provided in a timely manner and weld qualification deliverables are met in accordance with the overall launch schedule
- Work hand in hand with quality assurance/engineering for rapid disposition and documentation of non-conformances for tank structure defects
- Oversee and perform metallographic and mechanical testing of welds and weld samples, and evaluation of materials characterization data or NDT results; Evaluate weld defects and lead to establish improvement plans or repair procedures
- Travel as needed for reviews, training, and other tank production support activities
- Oversee the definition of material test plans for design value generation, execution of sourcing of internal and/or external testing, and evaluation of test data to develop statistics-based design values
- Work with cross-functional teams that are responsible for selecting materials, manufacturing processes, and suppliers to produce world class aerospace hardware

Qualifications:
• B.S. degree or higher in materials engineering, welding engineering, mechanical engineering or related field
• 15+ years of experience (12+ with relevant M.S. or 10+ with relevant Ph.D.) in the field of metallurgy, with deep knowledge of the interplay between composition, process, microstructure & properties in aerospace materials (preferably in Aluminum alloys)
• 10+ years of experience with definition & qualification of friction stir welding processes
• Experience developing and executing plans for material characterization, such as mechanical testing, environmental testing, and material compatibility analysis
• Experience supporting design and manufacturing teams in an aerospace environment, including preparing specifications, test reports, and design substantiation documentation
• Experience interacting with aerospace suppliers, including on-site engineering audits, supplier qualifications and statistical process controls
• Strong interpersonal and organizational skills with the ability to prioritize and handle small and large projects with a diversity of internal and external customers
• Ability to earn trust, maintain positive and professional relationships, and contribute to a culture of inclusion
• Must be a U.S. citizen or national, U.S. permanent resident (current Green Card holder), or lawfully admitted into the U.S. as a refugee or granted asylum

**Desired:**

• Expertise in friction stir welding of aluminum and/or aluminum-lithium alloys for aerospace applications, preferably in space vehicle programs
• Past experience as an aerospace Materials & Processes engineer or Weld engineer
• Proven experience with sourcing, analyzing, manufacturing, and testing of aerospace grade materials such as aluminums, nickel alloys, titanium, stainless steel and other exotic alloys
• Knowledge of material behavior and compatibility in cryogenic tank systems
• Track record in developing engineering requirements and work instruction documents
• Working knowledge in basic statistical analysis to generate design allowables

**ITAR Requirements**

To conform to U.S. Government commercial space technology export regulations, including the International Traffic in Arms Regulations (ITAR), 8 U.S.C. § 1324b(a)(3), applicants for employment at Blue Origin must be a U.S. citizen or national, lawfully admitted for permanent residence into the U.S. (i.e. current green card holder), or lawfully admitted as a refugee or granted asylum under 8 U.S.C. § 1157-1158. Learn more about the ITAR here.

**Equal Employment Opportunity**

Blue Origin is proud to be an Equal Opportunity/Affirmative Action Employer and is committed to attracting, retaining, and developing a highly qualified, diverse, and dedicated work force. Blue Origin hires and promotes people on the basis of their qualifications, performance, and abilities. We support the establishment and maintenance of a workplace that fosters trust, equality, and teamwork, in which all employees recognize and appreciate the diversity of individual team members. We provide all qualified applicants for employment and employees with equal opportunities for hire, promotion, and other terms

Applicants can send resumes to Nate Vicker: nmcvicker@blueorigin.com