



1639 Old Dixie Highway  
P.O. Box 2806  
Vero Beach, FL 32961-2806  
Phone 772.567.3423  
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## Job Description: Sr. Mechanical/Structural Engineer

**Requisition ID:** TBD  
**Industry:** Telecommunications  
**Industry Job Title:** Sr. Mechanical Engineer  
**Job Code/Title:** TBD/Sr. Mechanical/Structural Engineer

**Company Summary:** ALUMA TOWER COMPANY, INC. has been manufacturing quality-built aluminum towers for over 40 years following the TIA/EIA-222 standard. Aluma Tower's telescoping masts are used for communications, military applications, surveillance, wireless data transfer, monitoring and testing. The towers are ideal for transmitting, receiving, or any application requiring rapid erection of an antenna or instrumentation. The towers can be deployed with or without guy wires depending on customer requirements. Aluma Tower Company offers a plethora of options and accessories to meet any of the customer's needs. Aluma Tower is looking for individuals who are driven, enthusiastic and care about our community. More importantly, we like to hire people looking to grow with an organization and those who are excited about the ever-changing telecommunications industry.

**Job Description:** This position will work with the team of Engineers, Technicians, component suppliers, and customers to design, build, and operate quality permanent and mobile communication tower sites and will report to the Engineering Manager. This position is to assist Aluma Tower to successfully implement and operate projects that require antennas, trailers, shelters and related components. The Sr. Mechanical/Structural Engineer will serve as a subject matter expert (SME) in welding and failure analyses for in-house programs. The Sr. Structural Engineer will provide engineering assistance to Engineering team, Manufacturing team, Quality team and Supplier personnel. This position is responsible for independently evaluating, selecting, and applying standard mechanical engineering and/or mechanical design techniques, procedures and criteria in solving technical problems pertaining to product design and/or development, manufacturability, product quality and test or systems compatibility. He/she works on own initiative under general supervision. Performance at this level requires a solid grounding of company products, processes and technologies. Working cross-functionally he/she will ensure that the highest level of design quality, integrity and performance are maintained with strict adherence to all company policies and procedures. The Sr. Mechanical/Structural Engineer is a key technical position for the company.

**Duties and Responsibilities:** Responsibilities of the Sr. Mechanical/Structural Engineer will be design, development, and analysis of aluminum antenna towers (self and guyed), shelters, trailers, winches, pulleys, and tension cables. Review and approve drawings representing design intent. Review and interpret specifications as applicable to the "Sr. Mechanical/Structural Engineer". Focus is on securing sound, cost-optimized and production friendly solutions and at the same time fulfilling the overall requirements to safety and functionality for the products.

- Serve as subject matter expert in static and dynamic structure loading.



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- The Sr. Mechanical/Structural Engineer will support manufacturing and assembly teams from a design and specification role.
  - Assess and develop requirements for projects involving structures and mounting of antennas.
  - Work with tower installation customers to successfully implement designs including field validation for compliance.
  - Accurately develop associative solid models of all products utilizing SolidWorks software within EPDM software and archive documentation pertaining to the projects
  - Create new and/or revises existing designs, drawings, and bills of material (BOM) for our products
  - Responds to and resolves discrepancy reports from the shop floor
  - Creates Engineering Change Requests detailing the necessary changes to released designs, updates drawings/models/BOMs as needed, and routes change requests through the approval process
  - Researches and interfaces with vendors on products that meet job design requirements and obtains quotes on specialized components
  - Writes technical documents, test procedures, installation procedures, and process documents
  - Interface with Employees and Manager within the Engineering department, Program Management, manufacturing, quality, purchasing, external vendors and customers
  - Works under general supervision
  - May provide work leadership to lower level drafters
  - Participate in innovating new ideas for cost reduction and development that meets customer requirements and allows Aluma Tower to quickly proceed into delivery of units.
  - Participate in Basis of Estimates (BOEs) for customer quotes.
  - Collaborate with Manufacturing and Quality teams to develop the next generation of telescoping communication towers.
  - As appropriate, participate in technical design reviews and failure investigations.
  - Collaborate with Engineering Manager on design process development initiatives, design architectures, department workflows and structure, etc.
  - Execute designs within product specification guidelines for form, fit, function, quality, produce-ability, cost and schedule.
  - Support off hours and weekend routine and trouble resolution events.
  - Candidate must be highly motivated, perform independently, as well as interact with other groups and organizations in an engineering environment.
  - Provide design oversight and consultation to other team members in the area of Mechanical design, computational fluid dynamics (CFD), material selection, and structural design.
  - Lead root cause and corrective action investigations for in-house and fielded products.

**Qualifications/Experience:** Related experience in the application of welding technologies and practical applications of welding techniques for Aerospace or Defense Industries products. The Sr. Mechanical/Structural Engineer will be highly proficient with SolidWorks 2013/2014 software to include a solid foundation in working with assemblies, drafting, expressions, sketcher, free form modeling, and spline manipulation within a master model environment. SolidWorks EPDM and Global Shop Software experience is



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a plus. Related experience in the application of welding technologies and practical applications of welding techniques for Aerospace or Defense Industries products is required.

- 5-10 years' experience with 3D SolidWorks (2013/2014 required) and SolidWorks Simulation Premium/Professional Finite Element Analysis (FEA) software tools.
- Minimum of five (5) years of structural engineering design experience
- Skilled knowledge of finite element analysis, computational fluid dynamics, heat transfer and other design tools as they relate to metals and non-linear materials.
- Ability to analyze and reduce a wide range of product data in the determination of root causes to problems.
- Knowledge of design documentation standards
- Aware of simple mechanical stress; structural, thermal and tolerance analysis
- Demonstrates initiative, applies personal talent to practical solutions
- Works within the trade space defined (cost / schedule / technology)
- Applies knowledge effectively in team environment
- Able to accept and integrate constructive feedback
- Demonstrates the ability to weigh risks and make progress in the face of uncertainty
- Willingly takes on problems and commits to solutions
- Working knowledge of Quality Control/Assurance principles.
- Working knowledge of manufacturing processes, disciplines and Design For Manufacturing and Assembly (DFMA) methods.
- Proven problem solving ability.
- Strong interpersonal, organizational, communication and analytical skills.
- Must be conversant with relevant standards and design methodologies for pulley and winch systems.
- Must possess strong communication, writing, and documentation skills as well as the ability to handle multiple tasks.
- Requires ability to be self-motivated and work independently as well as in teams.
- Familiarity with Lean Manufacturing and Continuous Improvement.
- Root cause and corrective action methods.
- Experience with Supplier support, serving as a subject matter expert in the areas of welding, materials testing, and failure analyses
- Experience with electro-mechanical systems including motors, winches, and HVAC systems.
- Experience with Geometric Dimensioning and Tolerancing, ANSI Y14.5.
- Basic familiarity with AC and DC power system operations and associated grounding as applied to telecommunication structures and their physical attachment is desired.
- Basic familiarity with TIA/EIA-222 Structural Standard for Antenna Supporting Structures and Antennas is desired
- Bi-Lingual (English and Spanish) preferred, Fluent in English, comprehension, reading, writing, and interpersonal skills

**Education:** Minimum of a Bachelor of Science in Mechanical or Structural Engineering (preferably structural) from an ABET (Accreditation Board for Engineering and Technology) accredited university or 15+



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years of experience as a Design Engineer. Master's degree in Engineering is preferred. Registered Professional Engineer (PE) in the State of Florida or the ability to obtain registration within six (6) months.

**Citizenship:** US Citizen, with a valid US driver's license. No sponsorship Visa (H1-B, etc.) candidates at this time.

**Security Clearance:** None

**Department:** Engineering

**Job Class:** Mechanical Engineering

**Job Category:** Experienced Professional

**Subordinates:** No

**Job Location:** Vero Beach, FL

**Virtual:** No

**% Travel Required:** < 10%, Travel may be required both domestically and internationally.

**Relocation Available:** None at this time

**Employment Type:** Full time, Salaried

**Work Schedule:** M-F 8 hrs/day – Overtime as necessary

**Base Compensation:** Based On Experience (BOE), Salary and benefits commensurate with experience.

**Direct/Indirect:** Direct

**Shift:** First

**Benefits:** Aluma Tower Company offers a competitive benefits package.

We are an Equal Opportunity Employer and do not discriminate against applicants due to race, ethnicity, gender, veteran status, or on the basis of disability or any other federal, state or local protected class.

Qualified candidates must submit their resume in Microsoft Word or PDF format along with at least three professional references to: Aluma Tower Company, Inc. 1639 Old Dixie Hwy, Vero Beach, FL 32961. No phone calls permitted.