STEELASTIC®
TECHNOLOGY FOR THE TIRE INDUSTRY

# Mechanical Engineer
## POSITION DESCRIPTION

## I. IDENTIFICATION

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| Title | Mechanical Engineer |
| Hierarchical Level | Delegate work to contractors or interns as required. |
| Division/Department | Engineering |
| Reporting Relationship | Lead Mechanical Engineer |
| Travel | Less than 10% |
| Revision Date | February 9, 2018 |
| **Posted** | |

## II. SUMMARY

Perform mechanical machine design engineering duties, product design, product customizations, resolving design and documentation issues, with primary focus on capital equipment associated with the production of pneumatic tire components. This document outlines responsibilities, functions, and qualifications of the "ideal" candidate. Compensation will be commensurate with the level to which a candidate measures against this description of our ideal candidate.

## III. RESPONSIBILITIES

- Design & Development
  - Critique/validate, improve/redesign existing, legacy machine designs and processes to be more durable, simpler, and cost effective.
  - Interpret, trouble-shoot, diagnose & adapt existing, legacy designs based on customers' requests & order amendments.
  - Originate new concepts in products and processes based on customer or market demands.
- Bill of Materials and Drawings.
  - Generate, issue, revise, BOMs, assembly, and detail drawings.
  - Document revisions using existing Engineering Change Notice (ECN) procedure.
  - Follow internal and external engineering standards and practices.
  - Proficient in properly applying constraints to manufacturing drawings (calculation of dimensional stack-ups, form tolerances, surface finishes etc.)
  - Knowledgeable in metal cutting and fabricating manufacturing processes and order of operations, as well as, additive manufacturing technology.
- Ensure safety
  - Assure designs, components, and guarding comply with or exceed current global and individual customer standards.
  - Successfully operate in accordance with internal and external EHS guidelines as dictated by your working environment on any given day.
- Provide the operations department, including our manufacturing floor, support
  - Clarify specifications with and aid in problem resolution for purchasing and manufacturing personnel.

- Complete assigned projects and tasks within allotted time and cost constraints.

- Provide customer support
  - Assist customers directly and indirectly when machine operation problems or questions arise.
- As necessary, attend bid review meetings and department meetings.
- Estimate mechanical engineering hours given a project scope of work.
- Other duties as assigned.

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## IV. ESSENTIAL FUNCTIONS OF THE ROLE

- Excellent written and graphical communication skills.
- Strong “eye for detail” and ability to fully document industrial machine manufacturing and operations using industry standard methodology.
- Proficient in mechanical machine design for automated industrial machinery.
- High level of personal computer literacy with the ability to operate them for the majority of the work day.

*Design and technology Skills*

- Ability to, independently or collaboratively, generate new or critique/validate existing/preliminary designs prior to release to production. Including but not limited to the following areas:
  - Power transmission design: rolls, shafts, pulleys, screws, bearings, couplings, gear trains, lubrication and sealing systems, etc.
  - Weldment design and detailing: structural section/plate steel, machine bases/frame works, joints, and associated pre-heat and stress relieving specifications.
  - Surface treatment specifications as they relate to:
    - Anti-tack (spray, plasma, thermal etc).
    - Anti-wear (Hard chrome, hardface, and other engineering coatings)
- Able to generate/critique detailed calculations and analysis, such as, time study, assembly stack-ups, stress/ flow/ heat transfer analysis, power transmission, material selection, related component selection.
- Ability to generate and critique pneumatic system component selection and schematics, including sequence.
- Ability to perform, standardized, risk assessment of industrial machinery and follow-up with proper and efficient mitigation schemes and designs.
- Understands industrial machinery sequences and logic and can clearly document them for use by mechanical, electrical and software engineers and technicians.

*Applications Engineering*

- Demonstrated proficiency with the design, configuration, and application of one or more of the Steelastic major product lines.
- Demonstrated ability to collaborate within the team to convert customer requirements into complete (mechanical and electrical), organized, and accurate estimates for materials, engineering, and shop labor associated with the design and manufacture of industrial capital equipment.

*Project Support*

- Provide machine troubleshooting support to production floor and field service technicians for new and legacy equipment.
- Throughout the design process, effectively communicate and collaborate with Electrical Engineering, as well as, other department members in order to insure design integrity and seamless hand-off to purchasing and production.
- Confers with management, production, and marketing staff to determine engineering feasibility, cost effectiveness, and customer demand for new and existing products.

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## V. QUALIFICATIONS

### Academic/Credentials/Certifications

- Minimally requires a Bachelor's degree in Mechanical Engineering, Mechanical Engineering Technology from an ABET accredited program, or significant commensurate experience plus demonstrated ability.

### Length of experience

- At least 5 years of experience in a capital equipment design and manufacturing environment including a proven track record of delivering results.

### Specialized skills/technical knowledge

- Demonstrates expertise in a variety of engineering standards (ANSI/ ISO/ ASTM), concepts, practices, and procedures.
- Proficiency in the following software tools: Microsoft Office® (Excel, Word, Outlook, PowerPoint), SolidWorks®, SolidWorks® PDM Client, Simulation®, AutoCAD®/Draftsight®.
- Ability to work independently and collaboratively in fast-paced environment-remaining flexible to changing deadlines and situations.
- Special consideration will be given to candidates possessing Tire and Rubber Industry experience, and/or knowledge of rubber extrusion processes and tooling design.

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## VI. POSITION DESCRIPTION SUPPLEMENT

### Physical Demands:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly/occasionally required to sit, walk and/or stand. The employee may be required to use hands to finger, handle, or feel. The employee may occasionally lift and/or move up to 40 pounds without assistance.

### Work Environment:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.