

TESLA Materials Engineering Internship (Summer 2017)

Department

Engineering

Location

Palo Alto, Deer Creek, Office

Req. ID

45551

Job Type

Intern

APPLY

Tesla's Mission is to accelerate the world's transition to sustainable energy.

Description

The Role

The purpose of the Tesla Materials Engineering organization is to facilitate the Tesla mission of accelerating the world to sustainable transportation via identification, development and insertion of advanced materials and processes while supporting other Tesla Engineering and Manufacturing functions with materials expertise.

The Tesla Materials Engineering team is seeking Interns who can work independently and bring a great attitude and technical acumen to the group.

Responsibilities

- Collaborate closely with design, reliability, test and manufacturing on materials related topics.
- Provide guidance to design engineering on material selection.
- Utilize simulation tools to optimize materials, part, equipment and tooling designs.
- Translate simulation results into design recommendations and effects on material properties for use by structural analysis engineers.
- Identify needs not addressed by current material solutions and lead development of new materials technologies.
- Determine properties and appropriate design values for product design and analysis.

These are generic responsibilities for all Materials Engineering interns. However, within Materials Engineering, there are specific disciplines each intern would be dedicated to supporting. These include, but are not limited to:

- **Metals:** Interns can work with a diverse span of metallic materials, such as 5xxx and 6xxx series aluminum sheet, extrusions, sheet steels, electrical steels, gear steels, and copper. Candidates are expected to have a strong set of fundamental skills in physical metallurgy, experimental characterization and product design application.
- **Welding/Casting/Stamping:** Interns on this team will address issues associated with typical metallic materials manufacturing processes, such as welding (resistance spot, laser, arc, friction stir), stamping of aluminum and steel, and even high pressure die casting of Al-Si alloys. Candidates will have a sound knowledge of manufacturing processes, the influence they have on the microstructural properties of the materials, and the effect of those microstructural changes on the mechanical properties of the part.
- **Fasteners:** Interns on the Fastener Engineering team will work with both temporary (e.g. Nuts and Bolts) and permanent (e.g. rivets) fastening systems. Specific activities include assisting design engineers on proper fastener selection for a given application and set of joint requirements, design of fasteners using CAD tools (CATIA), trouble shooting issues in manufacturing, and identifying opportunities for cost reductions and rate improvements via new fastener technologies. Candidates will have be pursuing a degree in Mechanical Engineering and have prior experience in fastened joint design, analysis and testing.
- **Adhesives:** Interns on the Adhesives team will support senior engineers in the development, selection and validation of adhesives for an intended application. Adhesives are used in a wide range of applications within the vehicle, from battery to structure. Candidates will be pursuing a degree in Polymer Science or Chemistry and ideally have specific knowledge relative to adhesion science.
- **Polymers:** Interns on the Polymers team work primarily in areas of the vehicle such as Exterior and Interior systems, selecting and validating materials for specific applications. Candidates will be pursuing a degree in Polymer Science and ideally have experience with injection Molding of Thermoplastics. Experience with chopped and continuous fiber composites is a plus.

Requirements:

Currently pursuing Materials Engineering, Metallurgical Engineering, Welding Engineering, Polymer Science, Polymer Chemistry, Chemical Engineering, or Mechanical Engineering degree (B.S., M.S. or PhD).

APPLY

About Tesla

Tesla is accelerating the world's transition to sustainable transportation and electricity consumption by designing and manufacturing electric vehicles and energy storage systems. Based in California, Tesla employs more than 13,000 people across four continents, and manufactures cars at our factory in Fremont, California. We are currently constructing the Gigafactory—the world's largest lithium ion battery factory—in Sparks, Nevada, and have begun production of Energy battery storage products.

Tesla currently produces two premium EVs—Model S and Model X—engineered from the ground up to be the world's best car and SUV, respectively. Model S received Motor Trend's prestigious 2013 Car of the Year, and achieved the best safety score of any car ever tested by the NHTSA. The recently released Model X includes the first ever falcon wing doors, as well as Tesla's award-winning electric all-wheel drive powertrain. Both vehicles come with free road trip access to more than 400 Tesla Supercharger stations—the world's fastest EV charging technology. Model 3, our third generation EV, is currently under development.

Tesla produces the Powerwall, a residential battery pack, as well as commercial and utility-grade Powerpack storage systems designed to help reduce electricity costs, smooth consumption and create a more resilient electricity grid.

Tesla is committed to hiring and developing top talent from across the world for any given discipline. Our world-class teams operate with a non-conventional product development philosophy of high inter-disciplinary collaboration, flat organizational structure, and technical contribution at all levels. You will be expected to challenge and to be challenged, to create, and to innovate. These jobs are not for everyone; you must have a genuine passion for producing the best vehicles in the world. Without passion, you will find what we're trying to do too difficult.

Tesla is an equal opportunity employer. All aspects of employment including the decision to hire, promote, discipline, or discharge, will be based on merit, competence, performance, and business needs. We do not discriminate on the basis of race, color, religion, marital status, age, national origin, ancestry, physical or mental disability, medical condition, pregnancy, genetic information, gender, sexual orientation, gender identity or expression, veteran status, or any other status protected under federal, state, or local law.