PERKINS PRECISION DEVELOPMENTS

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About Us

Perkins Precision Developments (PPD), established in 2009, is a leading manufacturer of high-performance optical components located in Mead, CO—just 30 minutes north of Denver. Our team brings over 100 years of combined experience in the photonics industry.

We specialize in custom laser optics including wedged windows, laser mirrors, beam splitter cubes, lenses, prisms, and polarizers for demanding applications in Directed Energy, space systems, quantum research, and industrial processing.

With in-house fabrication, super-polishing, IBS coating, and precision assembly, PPD delivers advanced optical solutions tailored to exact customer specifications.

Position Summary

The Optical Coating Engineer will own and advance PPD's thin-film design, deposition processes and metrology capabilities. This hands-on role maintains stable, repeatable coating processes while leading process development, optimization and new product introduction. The successful candidate will bring strong knowledge of thin-film deposition and a practical understanding of how equipment, optical designs, materials and process conditions influence coating performance.

Responsibilities

- Apply deep expertise in vacuum systems and associated subsystems to support production and R&D activities.
- Design, implement, qualify and optimize manufacturing processes for optical thin-film coatings.
- Oversee production across multiple coating chambers and help achieve quality, yield, throughput and schedule objectives.
- Analyze process and manufacturing data to identify trends, reduce variation and improve efficiency, capability and productivity.
- Lead troubleshooting and root-cause investigations involving coating processes, equipment, materials and metrology; implement and verify corrective actions.
- Collaborate with fabrication, Quality Control and coating teams on equipment upgrades, process support and continuous improvement.
- Develop and integrate tools, controls and processes that enable new product introduction and scalable manufacturing.
- Serve as a technical resource and mentor to engineers and technicians; document and communicate findings, best practices and progress clearly.
- Effectively plans and manages coating activities, balancing schedules, resources, and competing priorities to ensure projects are completed efficiently, on time, and to required quality standards.

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Required Qualifications

- Master's degree in Physics, Engineering or a related field; or a bachelor's degree plus at least 2 years of relevant optics-industry experience.
- Hands-on experience with PVD manufacturing equipment, including PLC/HMI-controlled thin-film deposition systems.
- Knowledge of reactive sputter deposition, thin-film growth mechanisms and the relationships among process parameters, materials and coating properties.
- Experience with thin-film deposition process control using optical monitoring and/or crystal rate monitoring.
- Knowledge of thin-film design theory, optical coating applications and commercial thin-film design software.
- Strong troubleshooting skills across mechanical, electrical, vacuum and process systems.
- Experience using root-cause analysis and data-driven methods to reduce or eliminate process variation.
- Working knowledge of statistical methods and the ability to communicate analytical results to technical and non-technical audiences.
- Familiarity with LabVIEW, MATLAB, Python and/or Julia for equipment control, automation or data analysis.
- Experience developing and maintaining controlled process documentation, including work instructions for manufacturing and measurement systems.

Preferred Qualifications

- Hands-on experience with ion beam sputtering (IBS) or other high-performance optical coating deposition technologies.
- Experience designing and producing multilayer dielectric coatings for laser or precision optical applications.
- Experience with optical coating metrology, spectral characterization and analysis of coating performance against specification.
- Experience qualifying coating processes or introducing new coating designs from development into repeatable production.
- Experience supporting vacuum-system maintenance, chamber conditioning, target/material changes and coating equipment upgrades.

Work Environment

- Cleanroom and manufacturing setting
- Hands-on work with optical components and coating equipment
- Detail-focused, quality-driven production environment

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Compensation & Benefits

- Salary Range: $85,000-$115,000 (DOE)
- Health insurance
- Dental insurance
- Retirement plan
- Paid time off
- Parental leave
- Flexible schedule

Additional Requirements

- Must be a U.S. Citizen or lawful permanent resident (ITAR compliance)
- Ability to commute to Mead, CO (required)
- This is an in-person position

Perkins Precision Developments must comply with the International Traffic in Arms Regulations (ITAR) issued by the US Dept of State, Directorate of Defense Controls. Because of ITAR, PPD limits employment to US citizens or lawful permanent residents of the United States.

Equal Opportunity Employer
Perkins Precision Developments is an Equal Opportunity Employer committed to creating an inclusive workplace.