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**ROBERT J. COOLEY, P.E.**  
**SENIOR STAFF CONSULTANT**

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Robert J. Cooley is a Senior Staff Consultant for ESi. He specializes in metallurgical analysis, failure analysis, and metallurgical testing. He is proficient in several analytical methods including optical microscopy, metallography, scanning electron microscopy (SEM) with energy dispersive X-ray spectroscopy (EDS), hardness testing, optical emission spectrometry (OES), and more. His experience in failure analysis covers a broad base of both materials and failure modes.

**Areas of Specialization**

Failure Analysis and Fractography  
Corrosion Analysis  
Metallurgical Evaluation  
Materials Joining and Plating

**Education**

B.S., Materials Science and Engineering (Magna Cum Laude). Michigan Technological University.  
2015.

**Licenses/Certifications**

State of Minnesota ..... P.E. License 60011

**Professional Affiliations/Honors**

**ASM International**

Member

**Positions Held**

Engineering Systems Inc., Plymouth, Minnesota

Senior Staff Consultant, 2022 – Present

Element Materials Technology, St. Paul, Minnesota

Metallurgical Engineer, 2016 – 2022

Huron Casting, Inc., Pigeon, Michigan

Intern Metallurgist, May 2014 – August 2014

Engel Metallurgical, Sauk Rapids, Minnesota

Intern/Metallurgical Technician, May 2012 – August 2012, May 2013 – August 2013