

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.

## Education

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

## Licenses & Certifications

- State of Minnesota P.E. License 60011

## 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

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## ESi Minneapolis

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Suite 120, Plymouth, MN 55447

## Areas of Specialization

- Corrosion Analysis
- Failure Analysis and Fractography
- Metallurgical Evaluation
- Materials Joining and Plating
- Scanning Electron Microscopy
- Nondestructive Evaluation
- Lab & Inspection Services

## Professional Affiliations/Honors

### ASM International

- Member, 2021 – Present

### ASM Minnesota Chapter

- Board of Directors, 2023 – Present