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Omaha, NE 68110

JOEL D. HASSEBROCK, P.E.
STAFF CONSULTANT

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Mr. Hassebrock is a Staff Consultant located in the Omaha, Nebraska office of Engineering Systems Inc. (ESi) and a licensed professional engineer in the State of Nebraska, practicing metallurgical and materials engineering. He is part of ESi's Rail Practice group and serves as a Site Safety Coordinator for the Omaha office.

Mr. Hassebrock has over eleven years of experience specializing in failure analysis, metallurgical analysis, and materials testing. His experience includes the use of glow discharge and optical emission spectrometers to perform chemical analysis, universal servo-hydraulic tensile testing machines to perform tensile, fatigue and dynamic testing, scanning electron microscopy (SEM), optical microscopy, metallographic sample preparations equipment, the use of microhardness Brinell and Rockwell testing equipment, and metalworking lathes & mills.

Mr. Hassebrock's experience includes field testing, data acquisition & processing, onsite third-party quality assurance, onsite installation & repairs of track deflection measurement system, dynamic railway vehicle simulations. Mr. Hassebrock has previously helped develop, implement, and maintain procedures to ensure ISO 17025 accreditation compliance.

Areas of Specialization

Metallurgical Failure Analysis
Railcar Wheels, Axles, and Bearings
Railcar Truck Castings and Assemblies
Laboratory and Industrial Testing
Mechanical Testing
Weld Evaluations
Corrosion Analysis
Nondestructive Testing and Inspection
Fixture and Test Design
3-Dimensional Printing

Education

M.B.A., Heider College of Business, Creighton University, 2013
B.S., Materials Engineering, Iowa State University, 2009

Licensed Professional Engineer (P.E.)

State of Nebraska, License E-17978

Professional Affiliations

American Society for Materials International (ASM)
Member

The Minerals, Metals & Materials Society (TMS)
Member

American Railway Engineering and Maintenance-of-Way Association (AREMA)
Member of Committee 4 - Rail

Positions Held

Engineering Systems Inc., Omaha, Nebraska
Staff Consultant, 2019 - Present
Associate Staff Consultant, 2015 - 2019

TÜV Rheinland Rail Sciences Inc., Omaha, Nebraska
Manager Vehicle Dynamics and Testing, 2014 - 2014
Laboratory Manager, 2013 - 2014
Laboratory Technician, 2010 - 2013

Continuing Education

Crash Reconstruction for the Engineer
Northwestern University Center for Public Safety, Peachtree Corners, GA, 2022

Publications/Presentations

"Failure Analysis of Railroad Components," **J. D. Hassebrock**, H. C. Iwand, ASM Handbook, Volume 11A: Analysis and Prevention of Component and Equipment Failures, 2021, DOI 10.31399/asm.hb.v11A.a0006837.

"Fracture of Hex Bars During Manufacture", **J. D. Hassebrock**, H. C. Iwand, Journal of Failure Analysis and Prevention, August 2016.