

Coating and Finishing Technology to Enhance As-Cast Surface Quality

Seminar organized by:

Dr. Sam Ramrattan is a Professor in the Department of Engineering Design, Manufacturing and Management Systems, College of Engineering, Western Michigan University. He received his Bachelors & Masters from the University of Wisconsin-Stout, Ph.D. from Iowa State University and Post Doc. from Ames Lab. His area of specialization is materials & processes emphasizing casting processes. He is a member of the 4F and 4H Research Committees at the American Foundry Society (AFS), Technical Adviser to the Western Michigan University Student Chapter AFS, and a Key Professor for the Foundry Educational Foundation (FEF). He was a recipient of the AFS Scientific Merit Award, the AFS Service Citation, the British Foundry Medal and several outstanding teaching awards. He has published more than two hundred and fifty technical papers, presented in more than twenty countries and has been awarded several patents. Sam has taught at the University of Wisconsin-Stout, Iowa State University, and University of Technology Malaysia. His current research projects involve casting issues at the mold/metal interface, aeration sand systems, new tests for foundry sands and rapid casting technologies.



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John Mulder CEF is the President of Master Finish Company. His educational credentials include his Bachelors in Manufacturing Engineering from Western Michigan University, Certified Electro Finisher from the National Association of Surface Finishing, Member of AFS and NADCA and Industry experience in serving the casting community with decorative Nickel and Chrome coatings for over 10 years as an individual and over 60 years at Master Finish Company. John has served on the Board of directors and as President of the Michigan Chapter for NASF, is actively involved in the Family Business Alliance, and Christian Business Men's Connection of West Michigan.



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Objective:

Would you like to learn more about coating technology that can enhance and/or value add the as-cast surface quality of your castings? As-cast casting quality will be addressed for gravity and high pressure processes. Finishing technologies such as CNC machining, grinding, blasting, vibratory, drag, polishing, buffing, will be discussed. Further, coating surface improvement options including organic and inorganic technologies. Coating process such as painting, powder, and plating (electrolytic and electroless) will be covered. Process requirements, level of finish, and cost will be compared along with the pros and cons. The webinar is designed to give participants a practical understanding of the strategies and considerations regarding coating technologies.

Seminar benefits:

The participants will come away from this webinar with a better understanding of the many facets of finishing and coating technologies available and often not familiar to the metal casting industry. By acquiring knowledge in coating technologies the metal casting industry will better understand ways to value add their products.

Date & Location:

Friday 22nd January 2021 for a live webinar (link will be provided at registration)

Who should attend?

This seminar is for metal casting professionals:

- Plant managers and CTOs
- Process and design engineers
- Process improvement specialist
- Quality managers
- Cost estimators, project managers, and related supply chain professionals

Prerequisites:

A basic working knowledge of metal casting technology.

Type of presentation:

There will be short presentations related to metal casting, finishing and coating technologies including short videos, practical applications and case studies.

Duration & attendance limit:

1 day (9:00 am – 3:30 pm) with 20 participants

Registration & Cost:

To register participants please contact Dr. Sam at: ramrattan@wmich.edu
\$200 per person - Fee will benefit the WMU/AFS Student Chapter

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AGENDA

9:00 a.m. – 9:20 a.m.	Introduction and organization
9:20 a.m. – 9:45 a.m.	Metal casting processes – gravity to high pressure
9:45 a.m. – 10:30 a.m.	The as-cast quality issues by alloys and process defects
10:30 a.m. – 10:45 a.m.	Why a digital measure for as-cast surface quality?
10:45 a.m. – 12:00 noon	Why the need for finishing technology?
12:00 noon – 1:00 p.m.	Recess
1:00 p.m. – 2:00 p.m.	Finishing options
2:00 p.m. – 3:00 p.m.	Coating technologies
3:00 p.m. – 3:30 p.m.	Q&A & Wrap-up