Discover **Tomorrow** Today

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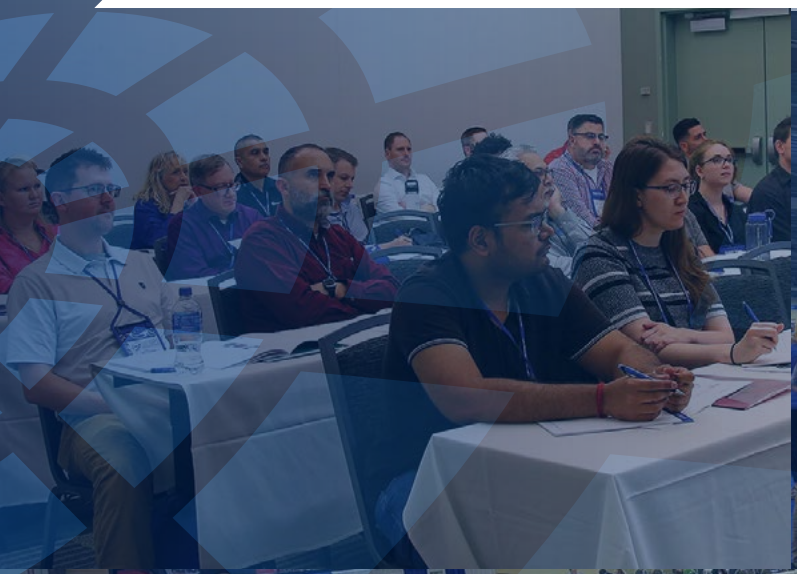
APRIL 12 - 15, 2025 ATLANTA, GEORGIA

CASTEXPO & METALCASTING CONGRESS

connecting SUPPLIERS | METALCASTERS | CASTING BUYERS

Presenting the WFO Technical Forum



Show Guide

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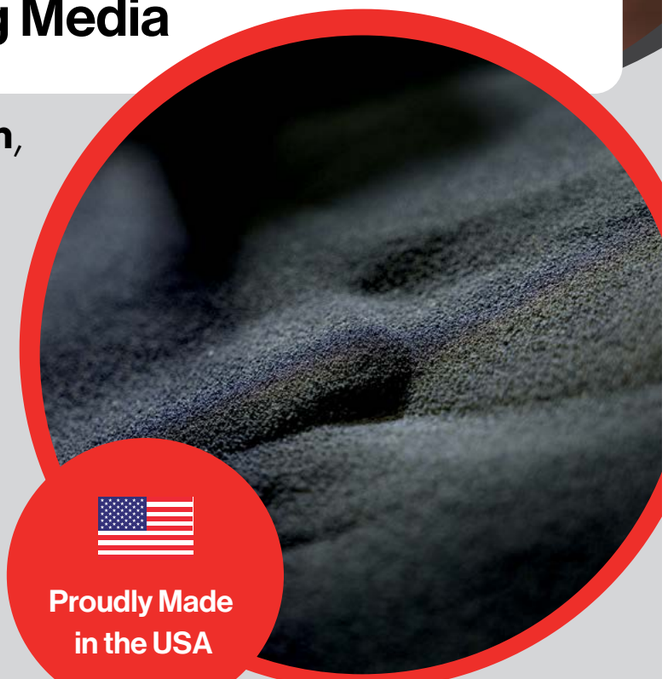

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Presenting the WFO Technical Forum

Dear AFS Members and Friends,

On behalf of the American Foundry Society, welcome to Atlanta and CastExpo 2025! We are delighted to have you join us for North America's premier foundry industry event.

The theme this year is "Discover Tomorrow Today." You'll see that theme playing throughout the show. CastExpo offers one-of-a-kind opportunities for learning, networking, and exploration. I encourage you to engage with the exhibits, attend educational sessions and keynotes, and connect with fellow industry professionals. Building relationships with peers can lead to valuable collaborations and insights that drive innovation in metalcasting.

CastExpo is honored this year to host the World Foundry Organization Technical Forum. The WFO will be holding their general assembly and present 4 WFO sessions as a part of our All-Access Pass Including Education Track. AFS welcomes and thanks all of the WFO delegates present at this year's Show.

AFS also extends its sincere gratitude to our presenters, volunteers, sponsors, and exhibitors. Your investment in CastExpo and AFS contributes to the vitality of this event, and indeed, of our whole industry.

If you have any questions or suggestions, please feel free to approach any AFS employee or visit us in The AFS Hub in the exhibit hall. You'll recognize AFS staff by their blue shirts.

Again, thank you for your dedication to metalcasting and for being part of CastExpo 2025. I wish you a fulfilling and productive experience during your time here.

Warm regards,

Doug Kurkul
CEO, American Foundry Society

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Presenting the WFO Technical Forum

Table of Contents

Pouring, Crushing & Temp Sensing

Automatic Positioning & Pouring In-Stream Inoculation Systems

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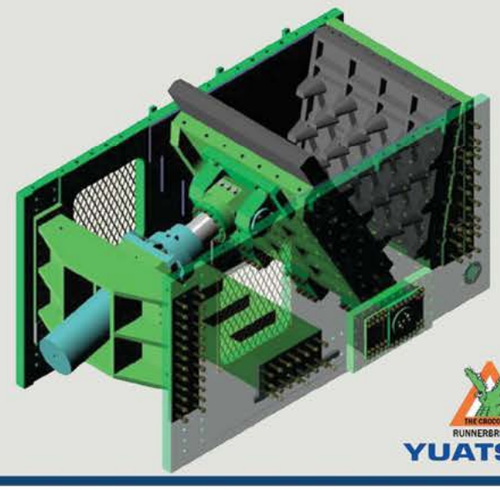

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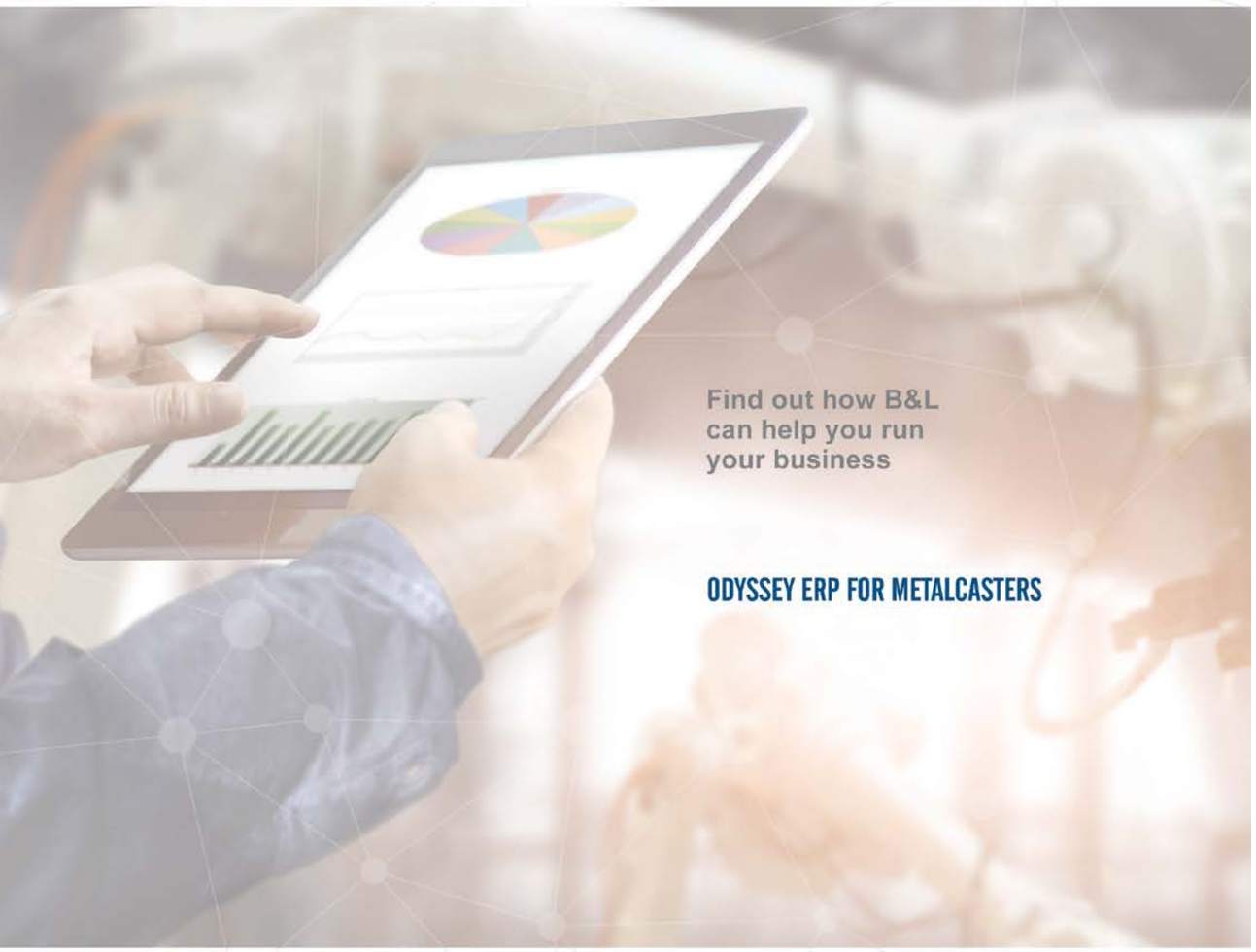
BOOTH 1707



General Information

Location and Hours

Georgia World Congress Center
285 Andrew Young International Blvd. NW
Atlanta, GA 30313

Registration
Georgia World Congress Center Lobby

Friday, April 11	9 a.m. – 6 p.m.
Saturday, April 12	7 a.m. – 6 p.m.
Sunday, April 13	7 a.m. – 5 p.m.
Monday, April 14	7 a.m. – 5 p.m.
Tuesday, April 15	8 a.m. – Noon

Exhibit Hall
Exhibit Hall A1-3

Friday, April 11 *(Exhibitors Only)*	8 a.m. – 5 p.m.
Saturday, April 12	9 a.m. – 5 p.m.
Sunday, April 13	9 a.m. – 5 p.m.
Monday, April 14	9 a.m. – 5 p.m.
Tuesday, April 15	8 a.m. – Noon

Exhibit Service Center & Other Service Desks
Exhibit Hall A1-3

Friday, April 11 *(Exhibitors Only)*	8 a.m. – 5 p.m.
Saturday, April 12	9 a.m. – 5 p.m.
Sunday, April 13	9 a.m. – 5 p.m.
Monday, April 14	9 a.m. – 5 p.m.
Tuesday, April 15	8 a.m. – Noon

Lead Retrieval
Georgia World Congress Center Lobby

Friday, April 11	9 a.m. – 6 p.m.
Saturday, April 12	7 a.m. – 6 p.m.
Sunday, April 13	7 a.m. – 5 p.m.
Monday, April 14	7 a.m. – 5 p.m.
Tuesday, April 15	8 a.m. – Noon

AFS Store
Exhibit Hall A1-3 – AFS HUB Booth 320

Saturday, April 12	9 a.m. – 5 p.m.
Sunday, April 13	9 a.m. – 5 p.m.
Monday, April 14	9 a.m. – 5 p.m.
Tuesday, April 15	8 a.m. – Noon

Keynote Presentations
Room: A411-412

Saturday, April 12	10:30 – 11:30 a.m.
Sunday, April 13	10:30 – 11:30 a.m.
Monday, April 14	10:30 – 11:30 a.m.
Tuesday, April 15	10:30 – 11:30 a.m.

Technical & Management Sessions
Rooms: A311, A312, A313, A314, A315

Saturday, April 12	8 a.m. – 4:45 p.m.
Sunday, April 13	8 a.m. – 4:45 p.m.
Monday, April 14	8 a.m. – 4:45 p.m.
Tuesday, April 15	8 – 10:15 a.m.

Casting Designers & Buyers Sessions
Exhibit Hall A1-3 – AFS HUB Booth 320 in the Casting Source Theater

Saturday, April 12	9:15 a.m. – 4:45 p.m.
Sunday, April 13	9:15 a.m. – 4:45 p.m.
Monday, April 14	9:15 a.m. – 4:45 p.m.
Tuesday, April 15	9:15 – 10:30 a.m.

AFS Institute Courses
Room: A316

Saturday, April 12	8 a.m. – 3:30 p.m.
Sunday, April 13	8 a.m. – 4:30 p.m.
Monday, April 14	8 a.m. – 3:30 p.m.
Tuesday, April 15	8 – 10 a.m.

AFS Show Office, Technical Office, & Speaker Ready Room
Room: A307

Friday, April 11	9 a.m. – 5 p.m.
Saturday, April 12	7 a.m. – 5 p.m.
Sunday, April 13	7 a.m. – 5 p.m.
Monday, April 14	7 a.m. – 5 p.m.
Tuesday, April 15	7 a.m. – Noon

American Foundry Society Code of Conduct

The American Foundry Society invites attendees to participate in AFS conferences, courses, and other events in a spirit of collegiality, collaboration, professionalism, and respect, as we endeavor to advance AFS's mission—to provide members of the metalcasting supply chain with advocacy support, technical and management education, and access to innovative shared research and technology.

When you attend an AFS event, you agree to the following:

- Treat all attendees—including registrants, guests, speakers, volunteers, exhibitors, staff, service providers, and others in attendance—with respect and consideration.
- Respect the boundaries of others.
- Give permission that AFS can use pictures, video and audio recordings taken during AFS-related events for AFS promotional purposes. AFS can use your likeness without remuneration.
- Be collegial and collaborative in your discussions, communicating openly and with civil attitudes.
- Respect confidentiality requests from speakers and other attendees. AFS Committee meetings allow for the open exchange of information and are confidential to those in attendance.
- Obey all applicable laws, rules and policies. These include rules and policies of the meeting venue, hotels, or any other site where your AFS affiliation is likely to be displayed.
- Look out for one another. Immediately alert emergency services, meeting or property security personnel, AFS staff, or AFS leadership if you notice someone in distress or see a dangerous or potentially dangerous situation.

Unacceptable behavior at an AFS event includes:

- Physical or verbal abuse of any attendee.
- Being disruptive, stalking, following, threatening, or intimidating anyone.
- Drinking excessively or becoming intoxicated.
- Harassment of any kind, including unwelcome sexual attention and inappropriate physical conduct.
- Making comments or engaging in conduct that is racist, sexist, ageist, or otherwise discriminates against or is offensive to a group or class of people.
- Audio or video recording, or taking images of another's presentation, posters, or materials without permission.
- Distribution of written materials or digital postings, whether as an exhibitor or attendee, that are offensive or include inappropriate references, metaphors or images.
- Meetings may be recorded by AFS staff for business purposes. Any recordings or transcription by the participants or through artificial intelligence, present or not, is prohibited.

Contact us to report an incident

If, while at an AFS event, you are personally involved in an incident, or you witness an incident involving others, that violates this Code of Conduct, please let AFS staff know about it immediately. You can speak directly with a member of the AFS staff leadership concerning an incident, or you can use a name-optional reporting form that will soon be a part of the AFS website. You can also email your information on the Code of Conduct form found below to ***AFSCodeofConduct@afsinc.org***.

If you experience or witness behavior that is an imminent or serious threat to public safety or is a criminal act, you should take action to maintain your own personal safety and contact 911 emergency services immediately.

AFS's Commitment to Quality Member/Attendee Experiences

AFS is committed to providing our members and event attendees with a quality experience. We take any violation of the above standards extremely seriously. AFS reserves the right to bar any person who violates this Code of Conduct from further participation in the event without refund. AFS may also suspend or expel any person who violates this Code of Conduct from AFS membership or from attending or participating in future AFS events.

Excellence in Service

The traditional book for registering your years of volunteer service in the metalcasting industry is located in AFS Store. AFS Members who have served the industry for five or more years are invited to register and receive their Volunteer Milestone Pins.

Policy on Audio and Video Recording

AFS reserves the right to any audio and video reproduction of any part of CastExpo 2025. Recordings (audio, video, still photography, etc.) intended for personal use, distribution, publication or copyright without the express written consent of the association and the individual authors or exhibitors are strictly prohibited.

Minimum Age Restriction

Children under 16 are permitted if accompanied by an adult and with a signed waiver.

Antitrust Policy

The Antitrust Policy Statement of the American Foundry Society is available to anyone attending CastExpo 2025. Copies are available in the AFS Show Office.

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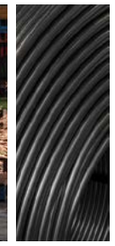

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Special Events

Ribbon Cutting Ceremony

Saturday, April 12 | 8:45 – 9 a.m.
Exhibit Hall A1 Entrance

Celebrate the start of CastExpo 2025 with a ceremonial ribbon-cutting with the AFS Executive Board.

Copper Division Luncheon

Saturday, April 12 | 11:45 a.m. – 1:15 p.m.
Ticketed Event - $75

The Copper Division Luncheon will feature a speaker of general interest from the Atlanta area and the Copper Division will present their annual awards. The luncheon is open to everyone with an interest in Copper Alloys.

IJMC/FEF Student Research Competition

Saturday, April 12 | 1:30 – 2:45 p.m.
Casting Source Theater in the AFS HUB – Booth 320

The IJMC/FEF Student Research Competition empowers undergraduate college students to showcase their metalcasting research projects at CastExpo. Winners will earn scholarships and be published in the International Journal of Metalcasting!

SFSA Cast in Steel Awards Ceremony

Saturday, April 12 | 3 – 4 p.m. | Room: A411-A412

Cast in Steel 2025 competition challenges university students to use modern casting tools to creatively design and produce a functioning version of a sword for George Washington. Teams are to produce a replica of one of Washington's actual swords or to design one based on his known preferences and needs. One new element for the competition is the plan to document it as a made for TV series to be shown on a major streaming service. The requirements and evaluations will be as in the past, but the performance testing will be done in qualifying rounds to select the finalists for a Grand Finale. Teams will be competing in qualifying round that allows teams from the same schools to be in different rounds. The rounds will be seeded with teams from prior winners. A grand prize and 5 other awards will be presented during the session.

Welcome Reception

Saturday, April 12 | 5 – 6:30 p.m.
Room: Registration Hall A | Ticketed Event - $40

AFS welcomes all attendees to kick off CastExpo 2025 with a reception in the convention center. The reception provides the opportunity to meet with customers, vendors and other attendees. Cocktails and hors d'oeuvres will be served.

Women in Metalcasting Dinner

Saturday, April 12 | 6:30 – 8 p.m. | Room: A404-A405
Ticket Required

This event is open to AFS members of Women in Metalcasting. It includes dinner, networking, the presentation of the AFS Women in Metalcasting Award of Excellence, and the presentation of Jean Bye AFS Women in Metalcasting Scholarship.

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Volunteer Leadership Awards Luncheon

Sunday, April 13 | 11:45 a.m. – 1:15 p.m.
Room: A404-A405 | Ticketed Event - $75

Join us for a fun, fast-paced awards luncheon. Catch up with friends while AFS officers welcome four new board members. The AFS Technical and Management Division chairs will also present key national and divisional awards including the presentation of the Scientific Merit and Service Citation awards.

Annual Banquet Reception

Sunday, April 13 | 6 – 7 p.m. | Omni Atlanta Hotel at Centennial Park – North Tower – International Ballroom Lobby | Cashless Bar

Join us for a memorable evening with friends new and old. The cashless bar opens at 6 p.m.

Annual Banquet

Sunday, April 13 | 7 – 9 p.m. | Omni Atlanta Hotel at Centennial Park – North Tower – International Ballroom
Ticketed Event - $140

Join us for business networking and the presentation of the highest AFS honor, the Gold Medal and the WFO Jozef Suchy Award. The cashless bar opens at 6 p.m. The awards presentation and banquet start at 7 p.m. The President's After Party starts at 9 p.m. Recommended dress is business formal.

President's After-Party

Sunday, April 13 | 9 – 10 p.m. | Omni Atlanta Hotel at Centennial Park – North Tower – International Ballroom | Cashless Bar

Network with your industry peers at this fun capstone to the evening.

Past Presidents' Luncheon

Monday, April 14 | 11:30 a.m. – 1:15p.m.
Ray's in the City

The annual gathering for all past AFS Presidents. Must be a previous AFS President to attend and registration required. Shuttle available for attendees.

Young Professionals Reception

Monday, April 14 | 5 – 6 p.m. | Room: A404-405

You're Invited! AFS Young Professionals Networking Reception – Cocktails & Great Connections! Ready to mix, mingle, and make valuable connections at CastExpo 2025? Join us for the AFS Young Professionals Networking Reception on Monday, April 14, from 5 – 6 p.m. in Room A404-A405 at the Georgia World Congress Center! Enjoy some beverages while networking with fellow rising leaders in metalcasting. Whether you're already on the management track or aspiring to be, this is the perfect chance to build relationships, swap ideas, and take your career to the next level—all in a relaxed, fun atmosphere. Don't miss out—grab a drink and grow your network! We can't wait to see you there!

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Alumni Dinner

Monday, April 14 | 6 – 9 p.m. | College Football Hall of Fame | AFS Alumni only. Ticketed Event - $150

Alumni will experience the College Football Hall of Fame touring the special exhibits and permanent installations, while enjoying bold American cuisine. Must be a member of AFS Alumni to attend.

The AFS HUB

Booth 320

The AFS Hub is a dedicated area for connecting with AFS staff and other attendees. Visit the AFS Hub to enjoy , or charge your phone while networking with peers. This area also features the AFS Store, AFS Products & Services, Casting of the Year winners, the SFSA Casting Dreams Competition, Foundry-in-a-Box, putting green, and sessions for the Casting Designers & Buyers Track.

The AFS Store

The premier bookseller for people in the metalcasting industry. Practical and technical publications will be on hand, along with signature clothing and gift items.

Casting Dreams Competition

The Casting Dreams program is a national program that provides local educational opportunities and industry connections that include casting design and production that qualify for local, regional and national competitions. The Casting Dreams Competition is designed for individuals ages 8 to 18, welcoming everyone who wishes to participate.

Foundry-in-a-Box

One of the most interactive areas on the exhibit floor, the Foundry-in-a-Box is located in The Hub where demonstrations receive a constant flow of attendees of all ages and experience levels who want to make a casting.

Thank you to our sponsor:

US Aluminum Castings

The AFS Hub Putting Green

The Hub is a bustling area at CastExpo located on the exhibitor floor. Attendees will enjoy various features in The Hub, including the opportunity to test their skills on a putting green.

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Casting Designers & Buyers Track

Casting Designers & Buyers Track sessions run all four days of CastExpo in the Casting Source Theater at the AFS Hub. These sessions are available to all CastExpo 2025 attendees.

The Casting Source Theater is sponsored by:

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Keynote & Hoyt Lecture Speakers

Saturday, April 12 | 10:30 – 11:30 a.m.

Success is a Journey, Not a Destination

Dominique Dawes
3-Time Olympic Gymnast, Olympic Gold Medalist; First African American Gymnast to Qualify for the Olympic Games

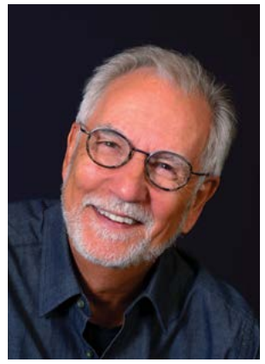
From Olympic Gold Medalist to Broadway, and from television analyst to President of the Women's Sports Foundation, Dominique Dawes continues on a path to inspire, motivate and lead. Dawes is best known for her tremendous success as an Olympic gymnast who competed in three Olympic Games (1992, 1996, and 2000), won four Olympic medals, and has a permanent place in the U.S. Olympic Committee Hall of Fame. Fans across the nation and around the world remember her as a member of the gold-medal-winning "Magnificent Seven" at the 1996 Atlanta Games, where she also won a bronze medal as she wowed the crowd with her stunning performance in the floor exercise, becoming the first female African American gymnast to win an individual medal. She also earned a bronze medal with the U.S. team in the 1992 Barcelona Games and left an imprint in the sports world with her "back-to-back" tumbling pass. Dominique made a surprising comeback with an anticlimactic end in the 2000 Sydney Games. Dawes presentation will focus on empowering audiences to embrace a team mentality, use failure as fuel, and believe in the power of their dreams.

Sunday, April 13 | 10:30 – 11:30 a.m.

Principles for Leading High-Performance Teams

Scott Moore
Expert on Building and Leading "No-Fail" Teams and United States Navy SEAL Rear Admiral (ret.)

Having served 30 years as a SEAL leader, retired Rear Admiral Scott Moore is a master in organizational leadership and teambuilding. He served in every leadership position in the SEAL teams, including the former commander of the Naval Special Warfare Development Group, and closed out his career as the number two leader in the entire SEAL organization. He led the military's elite forces through more than 2,000 of our nation's most extreme, high-stakes missions and was deployed on SEAL team operations across the globe. He understands the importance of leadership and cohesiveness like few others can, and his experience runs the gamut from leading small groups to large-scale tactical planning. From the mountains of Afghanistan to briefings in the Oval Office, Moore is the man our leaders trusted when failure was not an option. Moore will share stories of teamwork in life-and-death circumstances and insights on recruiting, training, and equipping teams that exceed expectations.



Monday, April 14 | 10:30 – 11:30 a.m.

Hoyt Memorial Lecture - Servant Leadership: A Leadership Concept for Today's World

Frank Headington
Retired, Neenah Foundry

Our world is a mess. People are suffering to some degree or another everywhere we look. One major reason the world is like this is that people are using the power model of leadership which focuses on power and control. That coupled with the reduction in interpersonal communications has created a more divisive climate at work and in our government relations with our citizens. Servant leadership is about serving people, not using people. Serving others is the most meaningful and satisfying way for leaders to live and lead. It begins with "the natural feeling that one wants to serve."

Since starting at Neenah Foundry in 1989, Frank Headington has over 49 years of foundry experience. He has a Master's of Science in Industrial Management from Georgia Institute of Technology and a Master's of Science in Ceramics Engineering from the University of Illinois at Urbana-Champaign. Respected for his expertise in metalcasting, Headington was the 2016 recipient of the AFS Peter L. Simpson Gold Medal. Headington has been an active member of AFS serving on numerous technical committees, the AFS Board of Directors, AFS Research Board and as AFS staff holding the position of Interim Technical Director from 2017-2020.

Tuesday, April 15 | 10:30 – 11:30 a.m.

Reshoring Update for North American Foundries

Harry Moser
Founder, The Reshoring Initiative

Reshoring and foreign direct investment (FDI) have brought back over 700,000 U.S. manufacturing jobs in recent years. At the same time, the COVID crisis demonstrated the risk of long supply chains. These trends have drawn attention to the advantages of reshoring and nearshoring.

Harry Moser, Founder of the Reshoring Initiative, will provide fresh new examples of how U.S. foundries are taking advantage of the trend toward shorter supply chains and what that means for your company and your customers. Plus, discover how Reshoring Initiative's Total Cost of Ownership Estimator and the Import Substitution Program can help your company land contracts that otherwise would have gone overseas.

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Schedule at a Glance – Saturday, April 12

	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.
Georgia World Congress Center Lobby	Registration Open						
Exhibit Hall A1-A3		Exhibits Open					
A311		Cast Iron (25-136) (25-043)		Cast Iron (25-021) (25-087)			
A312		Copper (25-039) (25-060)		Copper (25-181)			
A313		Molding (25-047) (25-158)		Molding (25-083) (25-174)			
A314		WFO (25-188)		Melting (25-166)			
A315							
A316		AFS Institute Metalcasting Process Basics: Part One					
A404-A405						Copper Division Luncheon	
A411-A412					Keynote: Dominque Dawes		
Casting Source Theater in the AFS HUB - Booth 320			Casting Designer & Buyers (25-195)		Sponsored Session: Nederman MikroPul (25-198)->		Casting Designer & Buyers (25-122)
Special Events		Ribbon Cutting Ceremony *A1 Entrance ->*					

Schedule is subject to change.

	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.
Georgia World Congress Center Lobby	Registration Open						
Exhibit Hall A1-A3	Exhibits Open						
A311		Engineering & Smart Manufacturing (25-086) (25-108)		WFO Cast Iron (25-025) (25-147)			
A312							
A313				Molding (25-023) (25-064)			
A314				Melting (25-176)			
A315							
A316		AFS Institute Metalcasting Process Basics: Part 2					
A404-A405							WIM Dinner *6:30 - 8 p.m.*
A411-A412				SFSA Cast in Steel Awards Ceremony			
Casting Source Theater in the AFS HUB - Booth 320		IJMC/FEF Student Research Competition		Casting Designer & Buyers (25-196)			
Special Events						Welcome Recepion *Registration Hall A*	

Schedule is subject to change.

Schedule at a Glance – Sunday, April 13

	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.
Georgia World Congress Center Lobby	Registration Open						
Exhibit Hall A1-A3			Exhibits Open				
A311		Cast Iron (25-183)		Engineering & Smart Manufacturing (25-052)			
A312		Aluminum & Light Metals (25-069) (25-109)		Aluminum & Light Metals (25-074) (25-103)			
A313		Molding (25-117) (25-134)		Molding (25-042) (25-115)			
A314		Melting (25-143) (25-009)		Melting (25-144) (25-070)			
A315		Lost Foam (25-020) (25-051)		Women in Metalcasting (25-178)			
A316		AFS Institute Introduction to Quality and Process Improvement: Part One					
A404-A405						Volunteer Leadership Award Luncheon	
A411-A412					Keynote: Scott Moore		
Casting Source Theater in the AFS HUB - Booth 320			Casting Designer & Buyers (25-187)		Sponsored Session: Nugent Sand Company (25-199)->		Casting Designer & Buyers (25-202)
Special Events							

Schedule is subject to change.

	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.
Georgia World Congress Center Lobby	Registration Open						
Exhibit Hall A1-A3	Exhibits Open						
A311		Cast Iron (25-067) (25-089) (25-079)		Cast Iron (25-055) (25-145) (25-099)			
A312		Aluminum & Light Metals (25-148) (25-102)		Steel (25-011) (25-050)			
A313		Molding (25-114) (25-116)		Additive Manufacturing (25-034) (25-131) (25-141)			
A314		Engineering & Smart Manufacturing (25-017) (25-065)					
A315		Lost Foam (25-054) (25-045)		WFO Aluminum (25-179) (25-016) (25-180)			
A316		AFS Institute Introduction to Quality and Process Improvement: Part Two					
A404-A405							
A411-A412							
Casting Source Theater in the AFS HUB - Booth 320	Casting Designer & Buyers (25-202)		Casting Designer & Buyers (25-010)	Casting Designer & Buyers (25-204)			
Special Events							Annual Banquet *Omni Atlanta Hotel at Centennial Park*

Schedule is subject to change.

Schedule at a Glance – Monday, April 14

	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.
Georgia World Congress Center Lobby	Registration Open						
Exhibit Hall A1-A3				Exhibits Open			
A311			Cast Iron (25-113) (25-056)	Steel (25-022) (25-026)			
A312				Aluminum & Light Metals (25-084) (25-120)			
A313			Additive Manufacturing (25-032) (25-094)	Additive Manufacturing (25-041) (25-078)			
A314			Metalcasting Research (25-129) (25-130)	Environmental, Health & Safety (25-177)			
A315			Marketing (25-189) (25-121)	Engineering & Smart Manufacturing (25-138)			
A316			AFS Institute The 10-Step Method for Corrective Action: Part One				
A404-A405							
A411-A412					Hoyt Lecture: Frank Headington		
Casting Source Theater in the AFS HUB - Booth 320				Casting Designer & Buyers (25-192)		Casting Designer & Buyers (25-193)	
Special Events						Past Presidents' Luncheon *Ray's in the City*	

Schedule is subject to change.

	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.
Georgia World Congress Center Lobby	Registration Open						
Exhibit Hall A1-A3	Exhibits Open						
A311		Steel (25-073) (25-157)					
A312		Lost Foam (25-053) (25-031)		Aluminum & Light Metals (25-119) (25-112) (25-105)			
A313		Government Affairs (25-190)		WFO Molding (25-013) (25-044)			
A314		Environmental, Health & Safety (25-164) (25-175) (25-092)		Metalcasting Research (25-061) (25-140)			
A315		Talent Development (25-160)		Young Professionals (25-159)			
A316		AFS Institute The 10-Step Method for Corrective Action: Part Two					
A404-A405							
A411-A412							
Casting Source Theater in the AFS HUB - Booth 320		Casting Designer & Buyers (25-203)		Casting Dreams Competition			
Special Events						Young Professionals Reception	Alumni Dinner *College Football Hall of Fame*

Schedule is subject to change.

Schedule at a Glance – Tuesday, April 15

	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.
Georgia World Congress Center Lobby			Registration Open				
Exhibit Hall A1-A3				Exhibits Open			
A311							
A312			WFO Engineering (25-071) (25-104)	Aluminum & Light Metals (25-101) (25-123)			
A313			Additive Manufacturing (25-097) (25-156)	Additive Manufacturing (25-124) (25-090)			
A314			Metalcasting Research (25-128)				
A315				Government Affairs (25-191)			
A316			AFS Institute Introduction to Casting Design				
A404-A405							
A411-A412					Keynote: Harry Moser		
Casting Source Theater in the AFS HUB - Booth 320				Casting Designer & Buyers (25-194)			
Special Events							

Schedule is subject to change.

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2025 Show Schedule

Friday, April 11, 2025

9 a.m. – 6 p.m.

Georgia World Congress Center Lobby

Registration Open

Attendee bags sponsored by:

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Saturday, April 12, 2025

7 – 8 a.m.

Room: A302

Author/Chair Breakfast

This breakfast is for AFS speakers, session chairs, students and staff to meet and coordinate details for the day's educational sessions.

7 a.m. – 6 p.m.

Georgia World Congress Center Lobby

Registration Open

Attendee bags sponsored by:

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7:30 – 10:30 a.m.

Outside Technical and Management Sessions

Coffee Station by AFS Technical and Management Sessions

Coffee station sponsored by:

FORTE TOOLING TECHNOLOGIES
PATTERNS - MOLDS - CORE BOXES

MacLean™ POWER SYSTEMS

8 – 9 a.m.

Cast Iron Division

Room: A311

Session Chairs:

Kathy Hayrynen
Aalberts Surface Technologies, Livonia, MI

Eric Nelson
Eric Nelson Consulting LLC, Mankato, MN

Survey of Magnesium Morphology in Chill Sample Castings Used for Spectrometer Analysis (25-136)

Haruki Itofuji, I2C Technology Institute, Yamaguchi, Japan

In slowly cooled sample castings, magnesium (Mg) existed as halo-like distribution around graphite nodules in former studies. In this study, Mg distribution in rapidly cooled sample castings, which had ledeburite(chill) structure and graphite nodules, was surveyed by electron prove microanalyzer (EPMA). The analyzed surface was milled using focused ion beam (FIB). As the results, Mg segregation was detected at voids and at entire section of graphite nodules. The reasons why they existed there were considered from the points of Mg characteristic and the mechanism of spheroidal graphite (SG) formation. Here, the formation mechanism on Mg halo is considered and the schematic illustration is introduced. Site theory, which proposed as the graphite spheroidization theory in 1996 by author, will be able to go more to the next step.

Development of New Certified Reference Materials for Silicon Metals (25-043)

David Kesse and Robert Logan, Elkem Materials, Inc., Pittsburgh, PA; Anette Toverad, Astrid Storesund, Vijtha Gengatharan, Alf Yngve Guldhav, Hege Teisrud, and Kjell Einar Blandhol, Elkem, Kristiansand, Norway; Sylwia Kozlowicz, Daniel Tapa, Jadwiga Charasinka, Michal Jadwinski, Magdalena Grzegorczyk, Andrzej Hryniszyn, Izabela Maj, Sonia Kasierot, Magdalena Knapik, Adrian Pietrzik, Ewelina Musielak, Ewa Jamroz, Marta Wolska, Tadeusz Gorewoda, Justyna Kostrzewa, and Jacek Anyszkiewicz, Łukasiewicz Research Network, Poland

A metalcaster relies on vendors to provide high quality, consistent products ensuring high quality castings are manufactured. Metalcasters ensure their chemistry through standardizing their chemical analysis equipment through the use of Certified Reference Materials (CRM). But what if those standards did not exist? How could a foundry gage themselves against another? How could a customer ensure that product from two different vendors would function the same? This was the case for the silicon metal industry. No common standards existed resulting in divergent readings of the same material from different analytical laboratories. Furthermore, differences in

8 – 9 a.m.

actual chemical analysis between vendors, supposedly produced to the same specification, are commonplace. This paper discusses the cooperative development and certification of nine new international CRM's for the silicon metal industry.

Copper Division

Room: A312

Session Chair:

Paul Clements
Sloan Valve Co., Augusta, AR

Lead-Free Copper Alloys Development (25-039)

Kumar Sadayappan, Canmet MATERIALS, ON, Canada; Maheswar Sahoo, Suraj Consulting, ON, Canada

Copper alloys containing lead were regularly used for drinking water applications. In response to the call to reduce the lead content in drinking water, the copper foundry industry introduced many lead-free alloys in the early 1990's. Bismuth containing alloys, developed in the AFS led consortium, were introduced in 1996. Since then, these alloys have evolved and replaced many lead containing copper alloys in drinking water applications all over the world. Industry adopted new processing technologies and testing methods to make the lead-free alloys widely usable in an affordable way. This paper reviews these developments since the early announcements.

Melting Characteristics of Copper Alloys in Pellet or Granule Form (25-060)

Gregory Svoboda, I. Schumann & Co. LLC, Bedford, OH; Charles Wood, Wieland Chase, LLC, Coldwater, MI

Comparison of melting characteristics of copper alloys in traditional ingot form as opposed to pellet or granule form. The comparison would include such parameters as:

- Melt rate
- Dross/slag formation
- Resulting grain structure
- Gas entrainment
- Electrical power consumption (induction melting)
- Material handling (furnace charging)
- Short and wide freezing range alloys

Molding Methods & Materials Division

Room: A313

Session Chairs:

Chris Lee
Carpenter Brothers, Inc., Kalamazoo, MI

Jerry Thiel
Precision Casting Technologies, Dysart, IA

Use of Large Mini-Risers for Yield Increase and Cost Savings (25-047)

David Heckman, Lee Horvath, and Sean Harmon, ASK Chemicals, Columbus, OH

The use of insulating or exothermic riser sleeves over natural risers has established as good foundry practice as a source of extra metal to combat metal shrink defects and improve casting yield. Mini-risers have been developed to further increase the yield and reduce casting contact. Mini-risers were typically limited in size to displace risers under 6 inches in width. A new subset of XL "mini" risers have been developed to reduce large riser size by up to 50% . Significant weight can be removed from the riser portion of ductile iron and steel castings. Made via a cold box resin process, they have a high dimensional accuracy with exceptional breakdown during shakeout. This paper reviews methodology and examples of casting improvement/cost savings with XL technology.

Novel PEP-SET System to Improve Productivity and Reduce Production Cost (25-158)

Fernando Guzman, ASK Chemicals, Nuevo Leon, Mexico

A comparison of thee PEP-SET systems were performe, an old version, a new development and a high performance binder, in order to compare properties such as tensiles, gas evolution and smoke generation looking for the best option to decrease defects, rework and save money.

World Foundry Organization

Room: A314

Session Chairs:

Adam Kopper
Brunswick Corp., Fond du Lac, WI

Brad Muller
Charlotte Pipe & Foundry Co., Oakboro, NC

Casting the Future of a Strategic Industry: Thoughts on the Situation and Global Challenges for Foundry (25-188)

Jose Javier Gonzalez, World Foundry Organization, Bilbao, Spain

As the rest of the manufacturing activities around the globe, the Foundry industry is facing now a perfect storm, surrounded by supply chain disruptions, high raw materials and energy costs, market shifts or the process for industrial decarbonization, among others.

The purpose of this presentation is to help our companies identifying some of the keys of the actual global situation, to support their navigation through this complex moment. Starting from the learning from the medium-term impacts of Covid19 in the industry, the work deeps into some global uncertainties and some actual facts affecting the metalcasting market, including new and accelerated challenges. The situation in big metalcasting producers like China or India will be analyzed in light of these challenges.

Finally, the work shares some thoughts and strategies for the future which are based on drivers supported on the ability to connect with the global foundry network, creating some actual dynamics in the industry that can allow our managers to take better decisions in these very complex circumstances.

8 – 10 a.m.

The AFS Instiute

Room: A316

Metalcasting Process Basics: Part One (25-149)

Patrick Kluesner, Grede Castings, Waterford Township, MI

This course provides a basic overview of the metalcasting process, tracking the path of a casting from quoting through shipping. Common metalcasting terms and highlights from the activities inside the major departments of a metalcasting production facility will be covered. Ideal for those new to the metalcasting industry.

8:45 – 9 a.m.

Exhibit Hall A1 Entrance

Ribbon Cutting Ceremony

Celebrate the start of CastExpo 2025 with a ceremonial ribbon-cutting with the AFS Executive Board.

9 a.m. – 5 p.m.

Exhibit Hall A1-3

Exhibits Open

9:15 – 10:15 a.m.

Cast Iron Division

Room: A311

Session Chairs:

Brad Steinkamp
Charter Dura-Bar, Crystal Lake, IL

Brandon Reneau
Caterpillar, Inc., Dunfermline, IL

Generative Gating Method and Case Study (25-021)

Evan Letourneau, MAGMA Foundry Technologies, Schaumburg, IL

This study presents a novel method for generating gating systems directly from metalcasting process simulation results. Traditionally, skilled engineers design gating systems in CAD software, relying on established calculations and geometric features. While simulation software verifies runner performance and allows for adjustments, the design process can be labor intensive. Here, we propose a Generative Gating Method that leverages simulation data to automate gating design. The objective of Generative Gating is to produce effective runner systems that can be produced quickly and by engineers with less experience in gating design. This methodology is applied to a real-world casting scenario, replacing the existing gating system with an automatically generated design. Casting samples produced using both approaches are evaluated and compared for quality. Finally, the advantages and limitations of the proposed gating generation method are discussed.

Improved Prediction of Shrinkage Defects in SGI Castings Considering Expansion/Contraction Behavior and Mold Characteristics (25-087)

Yutaka Miyamoto, Ube Steel Co., Yamaguchi, Japan; Jun Sasaki, Daihatsu Metal Co. Ltd. Shimane, Japan; Takeshi Nakano, Tsuchiyoshi Industry Co. Ltd., Hiroshima, Japan; Haruki Itofuji, I2C Technology Institute, Yamaguchi, Japan

The effect of cooling due to the latent heat of evaporation of water and the mold wall movement were assumed as factors by observing shrinkage shape and dimensions of the SGI test blocks. Based on the results, the casting designs for the product were studied by the casting analysis using these factors. As a result, the shrinkage prediction accuracy was improved compared to the conventional method, and the casting design was established that does not generate shrinkage cavities in the casting.

Copper Division

Room: A312

Session Chairs:

Gerald Richard
MAGMA Foundry Technologies, Schaumburg, IL

Low-Cost Surface Alloying of Brass to Improve Corrosion Resistance in Chloramine-rich Aqueous Environments (25-181)

Carol Martinez, Swaroop Behera, Kaustubh Rane, Omid Ghaderi, Mehran Zare, Benjamin Church, Pradeep Rohatgi, and Sara Huerta, University of Wisconsin/Milwaukee, Milwaukee, WI; David Palmer, BRP-US, Inc., Sturtevant, WI

A cost-effective method of surface alloying brasses (CuZn40 and Bi-alloy C89836) during sand casting was investigated to improve their corrosion resistance. The process involved coating the mold surfaces with slurries containing suspended metal powders before pouring the melt into the sand molds. This casting process allows the internal and external surfaces of a component to be enriched with selected alloying elements, including nickel, leaving the bulk unmodified. Surface-alloyed castings were made both in a laboratory and an industrial setting. The surface-alloyed castings were analyzed using optical and electron microscopy following the casting process. Distinct surface-alloyed layers of average thickness ranging from 100 to 1000 lm were observed on the surfaces of the castings in contact with the molds treated with the slurry containing metal powders. An SEM-EDS analysis confirmed that the surface-alloyed layer was enriched with nickel, ranging from 21 to 62 wt%. Potentiodynamic testing demonstrated that the cast surface-alloyed samples had a higher corrosion resistance without surface alloying.

Melting Methods & Materials Division

Room: A314

Session Chairs:

John Gatewood
Cadillac Casting, Cadillac, MI

PANEL: Limestone and Dolomite Research on Cupola Slag (25-166)

Travis Hepfner, BCI Solutions, Inc., Bremen, IN; Sean Golden, Textron, Inc., Muskegon, MI; Jake Ross, AMERICAN Cast Iron Pipe Company, Birmingham, AL

A general review on cupola foundries reveals that limestone is used at 60% of the foundries while 40% use dolomite stone for flux in their cupola. The reason on the selection is based on whatever is available on the least cost basis. The geographic location of the supplier to the foundry seems to be the primary reason for the selection. With the encouragement of the Cupola Committee a research team was formed to determine if there are differences in performance of limestone and dolomite on the effect of the cupola slag produced.

Molding Methods & Materials Division

Room: A313

Session Chairs:

Chris Lee
Carpenter Brothers, Inc., Kalamazoo, MI

Jerry Thiel
Precision Casting Technologies, Dysart, IA

The Fluidity and Solidification of Patternless Hollow Aluinosilicate Microsphere Molds Vs. 3D-Printed Silica Sanded (25-083)

Sean Derrick, Western Michigan University, Kalamazoo, MI

It has been shown on multiple occasions that resin-bonded Hollow Aluminosilicate Microspheres (HAM) can be subtractively machined and used as patternless molds comparable to those made from 3D-Printed silica sand. However, these proofs of concepts have shown repeated anecdotal observations that the HAM material has a propensity for prolonged cooling times as well as wetting cavity detail more difficult than that of silica-based systems. With proof of concept established the next step is to quantitively benchmark HAMs cooling and as-cast flow performance to verify the previous observations. To accomplish this, the following study aimed to evaluate the effects of casting fluidity and time to solidify on a known cross-section using a modified non-standard fluidity spiral. As with the previous proofs-of-concept, 3D-printed patternless silica molds were used for comparison.

Realizing the Full Benefits of 3D Printed Sand, Case Study on Combining Multiple Castings into a Single Casting (25-174)

Jason Bradley and Matt Sutterfield, Mueller Co., Chattanooga, TN; Dave Rittmeyer, Matthews Additive Technologies, Pittsburgh, PA

Knowing the total cost of ownership of projects, not just a single component, is key to taking advantage of the benefits 3D Printed Sand has to offer. We will discuss the path that was taken to leverage the benefits. We all have pain points or problems, and that is where this started. With

Schedule is subject to change.

9:15 – 10:15 a.m.

exposure to 3D printed sand and the AFS AM Division, ideas of how to improve our process began. After thorough investigation and multiple attempts, we were successful. We were able to combine 13 parts into a single casting, eliminate 6 weld joints, reduce leak paths from 10 to 3 and eliminate 18 machining operations.

9:30 – 10:15 a.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

10 Ways to Reduce Cost on Your Casting Program (25-195)

Tom Kayser, Osco Industries, Portsmouth, OH

Take this list of ideas back to your company and apply them immediately. Metalcasting pro Tom Kayser from OSCO Industries explains these tips and how implementing even a few can be a game-changer.

10:30 – 11:30 a.m.

KEYNOTE

Room: A411-A412

Success is a Journey, Not a Destination (25-168)

Dominque Dawes, 3-Time Olympic Gymnast, Olympic Gold Medalist; First African American Gymnast to Qualify for the Olympic Games

From Olympic Gold Medalist to Broadway, and from television analyst to President of the Women's Sports Foundation, Dominique Dawes continues on a path to inspire, motivate and lead. Dawes is best known for her tremendous success as an Olympic gymnast who competed in three Olympic Games (1992, 1996, and 2000), won four Olympic medals, and has a permanent place in the U.S. Olympic Committee Hall of Fame. Fans across the nation and around the world remember her as a member of the gold-medal-winning "Magnificent Seven" at the 1996 Atlanta Games, where she also won a bronze medal as she wowed the crowd with her stunning performance in the floor exercise, becoming the first female African American gymnast to win an individual medal. She also earned a bronze medal with the U.S. team in the 1992 Barcelona Games and left an imprint in the sports world with her "back-to-back" tumbling pass. Dominique made a surprising comeback with an anticlimactic end in the 2000 Sydney Games. Dawes presentation will focus on empowering audiences to embrace a team mentality, use failure as fuel, and believe in the power of their dreams.

11:45 a.m. – 1:15 p.m.

Room: A404-A405

Copper Division Luncheon

(Ticketed Event)

The Copper Division Luncheon will feature a speaker of general interest from the Atlanta area and the Copper Division will present their annual awards. The luncheon is open to everyone with an interest in Copper Alloys.

Schedule is subject to change.

Noon – 12:25 p.m.

Casting Source Theater in the AFS HUB - Booth 320

Sponsored Presentation: The Impact of Air Pollution Control System Design on PM2.5 Emissions (25-198)

Brandon Billings P.E. BCEE, Nederman MikroPul, Charlotte, NC

Brandon Billings shows you how a well-designed industrial dust collection system can drastically improve capture of PM2.5 particles. This presentation covers key design principles, system efficiency, and best practices for air pollution control to ensure regulatory compliance and environmental sustainability.

MIKROPUL
Nederman

12:30 – 1:15 p.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

Predicting Cast Steel Alloy Properties Based on Composition and Heat Treatment (25-122)

Raymond Monroe, Steel Founders Society of America, Crystal Lake, IL

Steel casting producers make small heats of specialty alloys for custom products. Unlike bulk producers like steel mills, casting producers frequently make non-standard alloys in small quantities, which requires them to be able to formulate heat compositions and heat-treat cycles for non-standard alloys. Non-standard alloys may be required when certain alloying elements are in short supply or unavailable. To develop the methodology for estimating the tensile properties from a non-standard composition a new data base of standard steel cast alloys with composition and tensile properties can be used. This SFSA data set has over 30,000 entries. The data set and an analysis of reported formulas to estimate properties like ideal critical diameter, DI, carbon equivalent, CE, or estimated hardness in heat treatments or welds have been evaluated for their ability to predict properties for non-standard alloy heats.

1:30 – 2:45 p.m.

Casting Source Theater in the AFS HUB - Booth 320

IJMC/FEF Student Research Competition

The IJMC/FEF Student Research Competition empowers undergraduate college students to showcase their metalcasting research projects at CastExpo. Winners will earn scholarships and be published in the International Journal of Metalcasting!

Schedule is subject to change.

1:30 – 3 p.m.

Engineering & Smart Manufacturing Division

Room: A311

Session Chair:

Zach Meadows
Electric Controls & Systems, Birmingham, AL

Journeying Through AI: Real-time Discoveries in Data Analytics with Industry 4.0 (25-086)

Susan Bear, Grede Castings, Southfield, MI; Derek Yesmunt, Norican Group, LaGrange, GA

The presentation on Foundry Artificial Intelligence (AI) offers an in-depth exploration of a foundry industry leader, Grede, and their journey in adopting Industry 4.0 solutions across nine of their North American foundries. It underscores the challenges of managing up to 2,700 variables in a green sand foundry, highlighting how traditional spreadsheet methods fall short. With AI, we'll provide proof that past variables (a collection of over 30 years) can be better understood and controlled when digitizing that industry knowledge into actionable processes. This empowers both new and seasoned professionals with the precise knowledge needed to manage these processes effectively. Hence, combatting some of the industry challenges of labor shortages and upskilling employees.

Integrating Spatial Statistics and Digital Processing for Enhanced Surface Quality Classification in the Foundry Industry (25-108)

Susan Bear, Grede Castings, Southfield, MI; Derek Yesmunt, Norican Group, LaGrange, GA

To ensure high quality castings, the ability to accurately quantify an as-cast surface's characteristics is of vital importance to the foundry industry. In addition, recent advancements in non-contact measurement systems have provided new opportunities to quantify a casting's surface beyond traditional roughness measurements. However, in the realm of non-contact measurement systems, there are numerous methodologies and metrics for evaluating and quantifying a surface. This paper investigates the critical surface features and approaches necessary for effective surface quality classification. More specifically, this study compares the accuracy of spatial statistical, modern digital processing techniques (e.g., convolution neural network) to classify as-cast surfaces. Through this comparison, this paper aims to develop a methodology to provide the most reliable results to industry. The findings will help guide the foundry industry in adopting the most appropriate techniques for surface quality assessment, ultimately enhancing product quality.

1:30 – 3:30 p.m.

The AFS Institute

Room: A316

Metalcasting Process Basics - Part Two (25-150)

Patrick Kluesner, Grede Castings, Waterford Township, MI

This course provides a basic overview of the metalcasting process, tracking the path of a casting from quoting through shipping. Common metalcasting terms and highlights from the activities inside the major departments of a metalcasting production facility will be covered. Ideal for those new to the metalcasting industry.

3 – 4 p.m.

Room: A411-A412

SFSA Cast in Steel Awards Ceremony

Cast in Steel 2025 competition challenges university students to use modern casting tools to creatively design and produce a functioning version of a sword for George Washington. Teams are to produce a replica of one of Washington's actual swords or to design one based on his known preferences and needs. One new element for the competition is the plan to document it as a made for TV series to be shown on a major streaming service. The requirements and evaluations will be as in the past, but the performance testing will be done in qualifying rounds to select the finalists for a Grand Finale. Teams will be competing in qualifying round that allows teams from the same schools to be in different rounds. The rounds will be seeded with teams from prior winners. A grand prize and 5 other awards will be presented during the session.

3:15 – 4:45 p.m.

Melting Methods & Materials Division

Room: A314

Session Chair:

Mike Mutton
Larpen Metallurgical Service, Ludington, MI

PANEL: Channel Induction Furnace (25-176)

Best Practices for Inductor Rebuilds
Peter Aruanno, Inductotherm Corp, Sewell, NJ

Melting Out a Slug in a Channel Furnace
Johnny Hill, Martin Foundry, Dallas, TX

Inductor Change and Monitoring Inductor Life
Jordan Coward, AMERICAN Cast Iron Pipe Co., Birmingham, AL

Molding Methods & Materials Division

Room: A313

Session Chair:

Scott Giese
University of Northern Iowa, Cedar Falls, IA

Michelle Ring
Ductile Iron Society, Carmel, IN

Silver Anniversary Lecture: Converting from Shell to PUCB at Toyoda Autoloom Foundry: A Look Back at a Quarter Century of Market Factors that Transformed this Automotive Foundry (25-023)

Kelley Kerns, HA Group, Westmont, IL

Today, Toyota is recognized as one of the largest and foremost innovators in automotive mobility in the world. Toyoda's Autoloom Foundry was no stranger to evolution as it was established in 1926 to manufacture autolooms to weave cloth. For a century, it has continually diversified and transform to meet the demands of industrialization in Japan while out of respect to Toyota's founder Sakichi Toyoda, kept its original name. A quarter century ago, a plan to transform this automotive giant's gray iron engine plant from shell to a modern PUCB key core cellular manufacturing process was set in motion with a focus on a number of unique process innovations. We will look back at how several market conditions effected the Kaisen process and the ultimate adaptive evolution of this automotive casting leader.

3:15 – 4:45 p.m.

Molding Methods & Materials Division

Room: A313

PANEL: Foundry Feud (25-064)

Moderators:
Michelle Ring, Ductile Iron Society, Carmel, IN
Jay Morrison, Carpenter Brothers, Inc., Mequon, WI
Liam Miller, American Colloid Co., Hoffman Estates, IL

A follow up to the Jeopardy panel on "What is Green Sand Molding?" a "Foundry Feud" where two groups go on to see how foundries poll on some controversial topics, such as "What causes burn in defects in castings?"

World Foundry Organization (Cast Iron)

Room: A311

Session Chair:

Eric Nelson
Eric Nelson Consulting LLC, Mankato, MN

Lizeth Medina-Balliet
Neenah Foundry, Neenah, WI

Thermal Properties of Ultrafine Spheroidal Graphite Iron Castings (25-025)

Yuuki Kuramato and Yutaka Miyamoto, Ube Steel Co., Yamaguchi, Japan; Haruki Itofuji, I2C Technology Institute, Yamaguchi, Japan

The thermophysical properties in spheroidal graphite iron castings with different nodule size were surveyed after their matrixes were adjusted to ferritic structure. The nodule size in sample castings was changed using sand and permanent molds. Carbon and silicon contents (%) were adjusted from 3.40 to 3.70 and from 1.30 to 3.20 respectively. As the results, smaller nodule size was effective to give higher thermal conductivity for castings when Si content was lower. However, the effects of nodule size disappeared when Si content was higher like over 2.30 %. Thermal conductivity decreased when Si content increased.

Effects of Silicon in High-Cr White Cast Irons (25-147)

Jerrod Miller, Wear-Tek, Spokane, WA; John Tartaglia; Richard B. Gundlach, Element Materials Technology, Wixom, MI

To improve their performance, this research characterized the effects of Si on eutectic saturation, the ideal hardening temperature, hardenability, carbide fraction, and alloying element content in the constituents of high-Cr white cast irons. The influence of Si on % eutectic saturation was not clear. When analyzing carbide fraction, Si had a negligible effect in the 15%Cr series, but seemed to cause the 25%Cr series to develop less eutectic carbide, that is, become more hypoeutectic. Cr was richest in the eutectic carbides and leanest in the eutectic austenite matrix. Si was largely rejected from the eutectic carbides and richest in the eutectic austenite.

3:30 – 4:15 p.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

Practical Versus Pretty – What Surface Finish Do You Really Need, and How Do You Get There (25-196)

Dr. Sam Ramrattan, Western Michigan University, Kalamazoo, MI

Casting processes, alloys, and post-casting machining can all contribute to giving your casting a pristine surface finish, but not all castings really require aesthetic perfection. Sit and listen in as we talk about how to evaluate and specify surface finish needs for different types of casting components – and when beauty is and isn't worth the expense.

5 – 6:30 p.m.

Room: Registration Hall A

Welcome Reception

(Ticketed Event)

AFS welcomes all attendees to kick off CastExpo 2025 with a reception in the convention center. The reception provides the opportunity to meet with customers, vendors and other attendees. Cocktails and hors d'oeuvres will be served.

6:30 – 8 p.m.

Room: A404-A405

Women in Metalcasting Dinner

(Ticketed Event)

This event is open to AFS members of Women in Metalcasting. It includes dinner, networking, the presentation of the AFS Women in Metalcasting Award of Excellence, and the presentation of Jean Bye AFS Women in Metalcasting Scholarship.

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Sunday, April 13, 2025

7 – 8 a.m.

Room: A302

Author/Chair Breakfast

This breakfast is for AFS speakers, session chairs, students and staff to meet and coordinate details for the day's educational sessions.

7 a.m. – 5 p.m.

Georgia World Congress Center Lobby

Registration Open

Attendee bags sponsored by:

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7:30 – 10:30 a.m.

Outside Technical and Management Sessions

Coffee Station by AFS Technical and Management Sessions

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8 – 9 a.m.

Aluminum & Light Metals Division

Room: A312

Session Chair:

David Weiss
Vision Materials, Manitowoc, WI

Role of Pouring Parameters on Mechanical Properties of Aluminum Alloys (25-069)

Scott Giese and Justine Radunzel, University of Northern Iowa, Cedar Falls, IA; Maria Alverio-Kapka, Carley Foundry Inc., Blaine, MN

Aluminum alloys are notorious in forming an oxide film during gravity filling, potentially becoming incorporated into the molten metal from turbulence. The research objective explored if pouring parameters of temperature and pouring height influence mechanical properties of aluminum alloys because of the oxide film. An experimental design considered these parameters for A356 and A206 alloys. Replicated castings were poured at a foundry using temperatures of 1350oF and 1425oF at pouring heights for 12" and 24", respectively. A linear mixed model technique was used to determine the effect on strength properties and ductility. Pouring temperature was determined to be significant on mechanical properties, though only on certain properties depending on the alloy. Pouring height showed no significance of mechanical properties. Alloy chemistry was postulated to have a contribution on oxide formation with respect to mechanical properties.

The Role of Intermetallic Phases in Hot Tearing of Multicomponent Aluminum Alloys (25-109)

Jianyue Zhang and Alan A. Luo, The Ohio State University, Columbus, OH; Qigui Wang, General Motors, Warren, MI

Hot tearing is a major castability challenge in many multicomponent aluminum alloys especially those with large freeze ranges (solidification intervals). This study used a model alloy Al-15Zn-3Cu (all in weight percentage) with a large solidification interval to investigate the effects of intermetallic phases on its hot tearing tendency during permanent mold casting. Nickel additions of 0.5% to 2% were made to form Al13Ni2 and Al7Cu4Ni phases at high temperatures to affect the solidification behavior of the Al-15Zn-3Cu model alloy. CALPHAD (CALculation of PHAse Diagrams) modeling and casting experiments were performed to understand the solidification behavior and hot tearing mechanisms of these alloys. It was found that the hot tearing tendency can be greatly reduced with minor addition of 0.5% Ni. The role of high temperature intermetallic phases on the hot tearing tendency will be discussed.

Schedule is subject to change.

8 – 9 a.m.

Cast Iron Division

Room: A311

Session Chair:

David Gilson
SinterCast, Inc., Pewaukee, WI

Cast Iron Honorary Lecture: A Retrospective Tribute to Rick Gundlach – A Lover of Life, Family, and Research into Cast Metals (25-183)

Kathy Hayrynen, Aalberts Surface Technologies, Livonia, MI; John M. Tartaglia, Element Materials Technology, Wixom, MI

This presentation summarizes how Richard B. Gundlach lived his full personal and professional life. It will review Rick's family life, hobbies, education, employment and the research that he conducted in cast metals. After undergraduate and graduate education at two universities, Rick conducted pioneering research on cast molybdenum steels and cast irons at Climax Molybdenum Company. Subsequently, he co-founded Climax Research Services (CRS), an important engineering and testing company serving the automotive community; CRS is now a division of Element Materials Technology. Throughout his testing, failure analysis, and consulting career, Rick completed research and published numerous papers on the structure-property relationships in gray, ductile and white cast irons for structural and mining applications, much of it funded by AFS. He also helped implement cast aluminum 300 series alloys for car cylinder engines. Rick's two patents in high chromium white irons led to long-term licensing agreements with white iron foundries and utility companies.

Lost Foam Division

Room: A315

Session Chair:

Jacob Belke
Mercury Marine, Fond du Lac, WI

Bio-Based Foam Patterns for Lost Foam Casting (25-020)

Jacob Belke and Adam Kopper, Mercury Marine, Fond du Lac, WI; Tedd Sheets, Betz Industries, Grand Rapids, MI; Saumitra Bhargava, Clarksville, MD; Chris Mercy, LifeMade Products LLC, Belcamp, MD; Dan Mueller, ATLAS Molded Products, Fond du Lac, WI; Jonathan Godfrey, Jadex, Inc., Greer, SC

The lost foam casting process has used expanded polystyrene (EPS) as the pattern material since the inception of the process. EPS is derived from petroleum distillation which carries a heavy carbon footprint and health concerns from the decomposition products during casting. A novel molding bead technology has emerged that derives a polylactic acid (PLA) foam molding bead from sustainable domestic biological sources. Bio-based foam patterns were evaluated for it's potential to replace EPS as a lost foam pattern material using laboratory testing and casting trials. The lab results showed the bio-based materials didn't produce hazardous air pollutants (HAPS) nor carcinogens. The casting trials successfully produced lost foam castings in both aluminum and gray cast iron without any modifications to the lost foam casting process.

Dimensional Data Analysis of Ferrous Lost Foam Castings (25-051)

Mark DeBruin, Skuld LLC, Piqua, OH; Elijah Jones, The University of Toledo, Sylvania, OH

This study reassesses tolerances in traditional lost foam ferrous castings. The tolerances found differ from the 1990s industry standards, tolerances of 0.005 in. (0.127 mm) for the first inch (25.4 mm) and 0.003 in. (0.0762 mm) per inch. Analyzing 1655 measurements from seven companies who were customers of a lost foam foundry in the early 2000s. The team found a consistent linear tolerance of 0.0041 inches per inch (0.0041 mm per mm) across all dimensions. This contradicts previous assumptions about differing linear tolerances for the first inch of castings versus the remainder of the dimensions. Larger parts showed better dimensional control than expected. However, data for parts over 300mm was limited. These results serve as a valuable benchmark of lost foam tolerances in the past. These findings potentially expand the applicability of lost foam casting in manufacturing.

Melting Methods & Materials Division

Room: A314

Session Chair:

John Gatewood
Cadillac Casting, Cadillac, MI

Carbon Footprint Comparison- Electric vs. Cupola Melting (25-143)

David J. Kasun, ATD Engineering & Machine LLC, Au Gres, MI

A comparison is made between typical cupola melting vs. electric melting, for iron, with consideration to total Scope 1 and Scope 2 CO2 emissions for each, taking into account variations in electric grid emission factors per unit electricity. The pros and cons of each process, with some focus on the unique and beneficial recycling capabilities of the cupola are also discussed.

How to Get the Most Out of Your Refractory Castables (25-009)

Griffin Patterson, HWI a Member of Calderys, Pittsburgh, PA

Unlocking the full potential of refractory castables in foundries requires a deep understanding of their engineered properties and optimal usage practices. This work delves into best practices for controlling environmental and process conditions to enhance refractory properties, performance, and lifespan. Topics covered include the impact of ambient temperature control, curing practice, dryout procedures, stainless steel fiber additions, and proper mixing techniques. By sharing practical insights, this work aims to equip foundry professionals with the knowledge to improve the efficiency and durability of their refractory installations significantly.

Molding Methods & Materials Division

Room: A313

Session Chairs:

Jeff Krause
HA Group, Westmont, IL

Peter Leblang
Betz Industries, Grand Rapids, MI

Qualifying Sand Blends for Surface Quality in Iron Castings (25-117)

Dr. Sam Ramrattan, Western Michigan University, Kalamazoo, MI; Jay Morrison and Chris Lee, Carpenter Brothers, Inc., Mequon, WI

Chemically bonded sand molding technology remains an important part of metal casting technology because it permits precision sand castings. However, there is a lack of information available on chemically bonded sand blends. This paper relates the physical, mechanical, and thermo-mechanical properties of disc-shaped specimens made from silica sands and silica sand blended with ceramic granular media. American Foundry Society (AFS) standard disc-shaped no-bake core specimens were fabricated. This paper relates the physical and mechanical properties of disc-shaped specimens made from either silica or from silica and ceramic sand blends. Specimens were laboratory tested and evaluate in a gray iron casting trial. Testing included density, impact strength, permeability, abrasion, loss, and scratch hardness. All tests were accomplished according to AFS standards. With a blended sand it was possible to produce cores and molds having superior strength, and physical properties when compared to a round grain silica sand. The chemically bonded round grain silica sand provided a good surface finish but raised surface issues at the specimen/metal interface. Certain sand blends showed fewer casting surface issues but surface finish was not enhanced in the same iron casting trials.

Schedule is subject to change.

8 – 9 a.m.

Molding Methods & Materials Division

Room: A313

Session Chairs:

Jeff Krause
HA Group, Westmont, IL

Peter Leblang
Betz Industries, Grand Rapids, MI

Advancement in Refractory Coatings Technology: Historical Insights and Future Directions (25-134)

Daniel Cygal, HA Group, Westmont, IL

Refractory coatings play a pivotal role in optimizing the surface quality of castings by creating a protective barrier between molten metal and the mold. Historically, the technology behind these coatings has undergone significant advancements, enhancing their ability to reduce thermal shock and mitigate surface defects such as veining, finning, metal penetration, burn-on, scabbing, and erosion. This review delves into the evolution of refractory coatings technology, tracing its development from early applications to contemporary innovations. It will examine how improvements in coating materials and methods have contributed to better casting quality and efficiency and will also consider future trends and emerging technologies that could shape the next generation of refractory coatings.

8 – 10 a.m.

The AFS Institute

Room: A316

Introduction to Quality and Process Improvement - Part One (25-151)

Ted Schorn, Enkei America, Inc., Columbus, IN

Introduction to Quality and Process Improvement is a concise summary of three AFS courses taught by Ted Schorn, one of the leading experts on foundry system quality in the industry. Ted will begin with the role of quality, providing context for the application of process quality control. He will then move though the critical application of problem solving and the use of quality tools before sharing his key enterprise improvement strategies. The two sessions will give an introduction and overview of the NEW QC certificate bundle by AFS and The Institute.

9 a.m. – 5 p.m.

Exhibit Hall A1-3

Exhibits Open

9:15 – 10:15 a.m.

Aluminum & Light Metals Division

Room: A312

Session Chair:

Jacob Belke
Mercury Marine, Fond du Lac, WI

Development of a Self-regulating Permanent Mold Incorporating Phase Change Materials (PCMs) (25-074)

Cheolmin Ahn, Carl Soderhjelm, and Diran Apelian, University of California-Irvine, Irvine, CA

Dynamic casting processes such as permanent mold and die casting require the effective thermal management of molds to balance rapid heat absorption from the molten metal and immediate heat recovery to the mold for subsequent casting cycles. Existing thermal technologies like direct flame and coolants have difficulty controlling heat transfer, resulting in thermomechanical fatigue of the mold due to excessive heating and cooling. Controlling the heat transfer in molds is paramount to ensuring the production of high-quality castings and reducing production cycle times. An innovative approach to controlling thermal gradients in molds involves incorporating phase change materials (PCMs) inside the molds. With their thermal energy storage capability and high latent heat, PCMs embedded in molds facilitate mold temperature self-regulation for heating and cooling as the PCM undergoes solid-liquid phase transformations during the casting process. In this paper, the feasibility and applicability of PCMs in dynamic casting processes will be discussed.

Prediction of Local Tensile Properties in an Aluminum Giga Casting (25-103)

Qigui Wang, Liang Wang, and Jason Coryell, General Motors, Warren, MI

Lightweighting in the automotive industry has driven the emergence of large aluminum castings for body structures, often referred to as "giga castings". The increasing use of aluminum giga castings in critical structures requires improved quality, with more reliable and quantifiable performance in both safety and durability. Aluminum casting processing is very complex and involves many competing mechanisms, multi-physics phenomena, and potentially large uncertainties. One of the most effective ways to optimize the design and manufacturing processes of aluminum giga castings to achieve the desirable mechanical properties is through the development and exploitation of robust and accurate multi-scale computational material models. This paper reports an integrated computational materials engineering (ICME) approach for through-process modeling of local tensile properties of an aluminum giga casting using GM Virtual Cast Component Development (VCCD) tools.

Engineering & Smart Manufacturing Division

Room: A311

Session Chair:

Jim Wenson
Sinto America, Grand Ledge, MI

The 6C Framework to Build a Connected Factory (25-052)

David Blondheim, Jr., Mercury Marine, Fond du Lac, WI

Embracing Industry 4.0 (I4.0) relies on the crucial role of data collection and utilization. The benefits of I4.0 drive operational excellence in connected factories by elevating productivity, uptime, and quality. While the rationale of Industry 4.0 adoption is widely acknowledged, the challenge lies in the practical implementation of a connected factory. The resolution of both technical and human challenges is required for successful adoption. The proposed 6C Framework is structured around six key components to solve these challenges: Criteria, Connect, Communicate, Collect, Consume, and Culture. Understanding this high-level framework is foundational, as it guides countless strategic management decisions when implementing data collection. This framework is deconstructed into tactical aspects to ensure proper technical and cultural questions are considered throughout data collection process. The 6C Framework addresses the human and technical aspects of data collection to aide in implementing I4.0.

Schedule is subject to change.

9:15 – 10:15 a.m.

Melting Methods & Materials Division

Room: A314

Session Chair:

Lucas Dix
ProFound Alloys, Birmingham, AL

Toward a Quantitative Model of Recarburizer Dissolution for Ferrous Foundries (25-144)

Robert Umpleby, Miller and Company LLC, Rosemont, IL

It is shown that a shrinking particle model can be incorporated into the classic diffusion layer model to generate the dissolution curve for a recarburizer. The method utilizes a transformation of the mass distribution of particle size into a number distribution, thereby allowing the initial surface area of the recarburizer to be estimated. The shrinking particle model then permits the continuously changing particle size distribution to be taken into account explicitly throughout the dissolution process. The applicability of the method is demonstrated for a hypothetical addition of graphite for a ductile iron. The results are consistent with published experimental data for graphitic recarburizers.

Robust Charge-mix Optimization for Cast Iron Foundry (25-070)

Deepak Chowdhary, Anirudh Chowdhary, Rahul V, Abhishankar Kumar, and Nilanjan Banerjee, MPM Infosoft Pvt. Ltd., Nadu, India; Nabil M, Indian Institute of Technology Tirupati, Pradesh, India

Sand compactability is critical in casting, influencing mold quality and defect occurrence in the final cast samples. Maintaining optimal compactability is essential, as deviations can lead to defects like blowholes, scabs, sand inclusion, or sand fusion. This study introduces a machine learning (ML) approach to predict the lab compactability based on the return sand characteristics, environmental conditions, water addition, seasonality, and additives dosage. The predictive model is being utilized to prescribe optimal water addition to achieve desired/optimal compactability. The predictive and prescriptive model utilizes real-time data obtained from IIOT sensors, SCADA/PLC for prescribing batch to batch water addition into the mixer. The proposed algorithm is validated on the foundry data which produced castings for automotive industry having sand to metal ratio varying from 4.6-9.5. Results show a good agreement between the predicted and actual lab compactability with a root mean square error of 0.82%.

Molding Methods & Materials Division

Room: A313

Session Chairs:

Pete Gravunder
Badger Mining Corp., Berlin, WI

Jeff Krause
HA Group, Westmont, IL

Optimizing Clay Addition to Reduce Variability in Green Sand Compactability, Moisture and Strength (25-042)

Paul David Paulsen, Furness-Newburge, Inc., Versailles, KY

Green sand strength is provided by the bonding strength produced by water activation of bentonite clay. Maintaining the proper proportion of clay, moisture, and other green sand components is critical for casting quality and made challenging since material losses during each casting cycle are highly variable. If compactabilities of different samples match, then a comparison of the samples' moisture and strength can reveal green sand composition changes. Control strategies are applied in automated production systems to adjust bond addition to minimize variations in moisture. Application of optical moisture sensor measurement and understanding of the fundamental relationships between clay, moisture, compactability, and strength form the basis of this control strategy. Clay addition optimization resulted in improved compactability control and reduced variability in moisture and strength.

Digital and Agile Moisture, VOC, and LOI Testing Using an Induction Heating Technology (2025-115)

Zachary Tay, Dr. Sam Ramrattan, and Robert Makin, Western Michigan University, Kalamazoo, MI

The foundry industry depends upon measurements of moisture content (MC), volatile organic compounds (VOC), and loss-on-ignition (LOI) testing to manage sand systems. At the AFS Casting Congress 2024 a "Fast MC, VOC, and LOI Test" capable of achieving digital data was revealed. That technology used magnetron (M) and infrared (IR) technologies that is faster than conventional laboratory approaches for running all three tests independently. This study identifies the use of a singular heating technology to achieve rapid MC, VOC, and LOI testing in a single unit. A prototype tester has been developed using induction heating technology capable of completing all three tests in series. The testing technology allows for a short exposure time to heat a foundry sand sample and provides digital data for the three tests. The actual sample test time is comparable to an automated LOI test and is considerably faster than either the muffle furnace or microwave furnace. This study will confirm there is no significant difference between the AFS Standard MC, VOC, and LOI tests and the new induction testing device.

Women in Metalcasting

Room: A315

Session Chair:

Maddie Wilson-Smith
Pittsburgh Foundry & Machine, Pittsburgh, PA

Empowering Women and Cultivating Inclusive Leadership in Metalcasting (25-178)

Lisa Ryan, CSP, Founder and Chief Appreciation Strategist, Grategy, North Royalton, OH

The metal casting industry faces unique challenges, from addressing workforce diversity to meeting the evolving demands of a dynamic marketplace. Building a workplace culture that empowers women, fosters inclusivity, and develops strong leaders is essential for advancing the industry and ensuring long-term success. This program will provide actionable strategies to help women in metal casting thrive in their careers while supporting organizations in cultivating a culture of leadership and inclusion. By focusing on professional development, work-life integration, and practical solutions, attendees will gain the tools to create meaningful change both personally and professionally.

Thanks to our Sponsors:

9:30 – 10:30 a.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

When to Convert a Weldment to a Casting - Based on the AFS paper, The Investment Casting Conversion Process: An Industry Consensus (25-187)

Vasko Popovski, Ransom & Randolph, Maumee, OH

Your company may be sitting on a gold mine of cost-savings opportunity. Many parts that are currently fabricated weldments or machined from ingot could have more features and properties and cost less if they were castings. Our guest expert offers guidance to ensure that the designer and buyer avoid common barriers enroute to a smooth, profitable transition to a casting conversion.

10:30 – 11:30 a.m.

KEYNOTE

Room: A411-A412

Principles for Leading High-Performance Teams (25-169)

Scott Moore, Expert on Building and Leading "No-Fail" Teams and United States Navy SEAL Rear Admiral (ret.)

Having served 30 years as a SEAL leader, retired Rear Admiral Scott Moore is a master in organizational leadership and teambuilding. He served in every leadership position in the SEAL teams, including the former commander of the Naval Special Warfare Development Group, and closed out his career as the number two leader in the entire SEAL organization. He led the military's elite forces through more than 2,000 of our nation's most extreme, high-stakes missions and was deployed on SEAL team operations across the globe. He understands the importance of leadership and cohesiveness like few others can, and his experience runs the gamut from leading small groups to large-scale tactical planning. From the mountains of Afghanistan to briefings in the Oval Office, Moore is the man our leaders trusted when failure was not an option. Moore will share stories of teamwork in life-and-death circumstances and insights on recruiting, training, and equipping teams that exceed expectations.

11:45 a.m. – 1:15 p.m.

Room: A404-A405

Volunteer Leadership Awards Luncheon

(Ticketed event)

Join us for a fun, fast-paced awards luncheon. Catch up with friends while AFS officers welcome four new board members. The AFS Technical and Management Division chairs will also present key national and divisional awards including the presentation of the Scientific Merit and Service Citation awards.

Noon – 12:25 p.m.

Casting Source Theater in the AFS HUB - Booth 320

Sponsored Presentation: Lake Sand - Chemistry, Quality and Consistency for Improved Casting Processes (25-199)

Dorothy Havlin, The Nugent Sand Company, Muskegon, MI

Lake sand is a complex, sophisticated mixture of naturally occurring minerals that provide advantages in mold and core making processes. Strict adherence to processing, quality control and consistency in supply result in casting defect reductions and net cost savings.

NUGENT SAND

12:40 – 2 p.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

How to Get the Best Casting! A Foundry-End User Panel Discussion (25-202)

From Foundries:
Philippe Dubuc, Fusium, Chicoutimi, QC, Canada
Rick Peterson, Pier Foundry & Pattern, Saint Paul, MN

From Manufacturers/Casting Buyers:
Tim Dorn, Amerequip, Menasha, WI
Paul Boone, Cadillac/General Motors, Saginaw, MI

Casting Source magazine's editor moderates a lively conversation featuring examples of true innovation, problem-solving, and collaboration resulting in castings that exceeded expectations.

1:30 – 3 p.m.

Aluminum & Light Metals Division

Room: A312

Session Chair:

Carlos Esparza
LeSueur Incorporated, Le Sueur, MN

Silver Anniversary Lecture: A Review Article on Effect of Mg and Trace Elements on the Solidification and Dissolution of Al_2Cu Phase in 319-type Alloys (25-148)

Herbert Doty, General Motors, Warren, MI; Ehab Samuel, National Research Council of Canada, QC, Canada; Mohamed Abdelaziz, PhD, Universite Francise d'Egypte, Cairo, Egypt; Hany Ammar; Fawzy H. Samuel; Agnes Samuel, Universite du Quebec a Chicoutimi, QC, Canada

The review summaries the main findings on 319.1 aluminum alloy obtained by the present authors over a period of 10 years. The increased number of modified silicon particles serve as nucleation sites for precipitation of very fine individual Al2Cu particles. Grain refining plays an important role in reducing the degree of the Al2Cu segregation. Increasing the magnesium content results in the transformation of some of the Al5FeSi into Al8Mg3FeSi6, as well as precipitation of Al5Mg8Cu2Si6 in the form of branched crystals or ultra-fine eutectic, growing out of Al2Cu particles during the final solidification of the complex eutectic reaction that takes place in the final stages of solidification. Increasing the Mg content gradually reduces the temperature of the incipient melting. The presence of traces of Fe and Ni in the base alloy and their interactions with the Mg and Cu forming insoluble compounds lead to increasing the temperature of incipient melting.

Effect of Section Size and Cooling Rate Variation in the Microstructure of Al-Ce-Ni-Graphite Composites (25-102)

Kaustubh Rane, Swaroop Behera, Mehran Zare, Alec Buhler, Luke Wilson, Benjamin Church, and Pradeep Rohatgi, University of Wisconsin-Milwaukee, Milwaukee, WI; David Weiss, Vision Materials, Manitowoc, WI

The effect of cooling rate variation on the microstructure and properties of Al-12Ce-2.5Mg alloy reinforced with Ni-Graphite has been presented in this study. The composite melt prepared by stir mixing was cast in a preheated permanent step mold wherein the section size varied from 3.7 mm to 30 mm. The distribution of graphite, primary and eutectic phases, hardness, and density have been studied as a function of section size and cooling rate. The volume percentages of intermetallic phases changed with an increase in section size, and the hardness decreased with an increase in section size, suggesting that other mechanical properties are a function of section size and cooling rate. The results were compared with those of the Al-12Ce-2.5Mg base alloy cast using the same process to understand the effects of Ni-Graphite additions on the microstructure and properties of Al-12Ce-2.5Mg alloy in different sizes.

Cast Iron Division

Room: A311

Session Chair:

Brad Steinkamp
Charter Dura-Bar, Crystal Lake, IL

Brandon Reneau
Caterpillar, Inc. Dunfermline, IL

Effect of Ceramic Aggregate on Cast Iron Mechanical Properties (25-067)

Scott Giese and Justine Radunzel, University of Northern Iowa, Cedar Falls, IA

Because of the recently passed OSHA Silica Rule , many iron foundries have or are considering changing from silica sand to a ceramic aggregate to alleviate the issue. The AFS Cast Iron Division initiated a research project to understand the impact of the change in the microstructure and associated mechanical properties on cast iron that might accompany the use of these ceramic molding media. Funded by AFS, a research project was performed to assess the mechanical properties of class 40 gray iron and 80-55-06 ductile iron castings using an experimental casting matrix of the three aggregates with two sand to metal ratios. Results indicated that ceramic aggregates have a noticeable influence on mechanical properties of gray and ductile iron but sand to metal ratio has an influence on the degree of properties variation.

Understanding the Effects of Boron on the Microstructure and Mechanical Properties of Pearlitic Ductile Iron (25-089)

Colleen Lehrer, Laura Bartlett, and Simon Lekakh, Missouri University of Science & Technology, Rolla, MO

Trace quantities of boron affect the microstructure and mechanical properties of spheroidal graphite irons (SGI). To quantify these effects, a pearlitic SGI with controlled boron residuals from 12 to 96 ppm was cast into no-bake silica molds featuring step blocks with 5, 15, 30, and 50 mm thicknesses, chill wedges, and integrated thermal analysis cups. Tensile properties were determined via modified Keel blocks. Solidification simulations predicted cooling rates of resulting castings. Boron additions up to 39 ppm decreased the tensile and yield strengths of the alloy, as well as reduced the pearlite fraction and hardness for all section thicknesses. Additions up to 39 ppm decreased the temperature at the end of solidification and raised eutectoid temperatures of interest. The interacting effects of boron and cooling rate were prominent in the 5 mm section, displaying increased ferrite content, nodule number density, and decreased nodularity at all levels of boron.

A Novel Technique for Improved Measurement of Graphite and Inclusions in Ductile Iron Contaminated by Boron (25-079)

Chase Schroeder, Laura Bartlett, Simon Lekakh, and Colleen Lehrer, Missouri University of Science & Technology, Rolla, MO

The highly heterogeneous microstructure of ductile iron in casting includes graphite particles, non-metallic inclusions, microporosity, and other features, such as carbides distributed in the ferrite/pearlite matrix. Determination and comprehensive quantification are both practically important and extremely challenging. The microstructure of ductile irons with different boron concentrations in section sizes from 5 to 50 mm were used for comparative studies. An advanced methodology based on an automated SEM/EDX analysis was developed and compared to the standard optical imaging method. In addition to back scattered electron contrast, sensitive to atomic number, a novel methodology added EDX data to identify and classify the multiple structural features at micron resolution thresholding. To quantify the shape of individual graphite particles, several algorithms including ferret diameter, actual, and eight-based chord raster perimeters were compared. The advantages of this novel methodology were statistically proven.

1:30 – 3 p.m.

Engineering & Smart Manufacturing Division

Room: A314

Session Chair:

Francois Audet
Foundry Solutions Metallurgical Services, QC, Canda

Building Resiliency in the Casting Industry Using Composite, Industry-wide 4.0 Assessment Lessons Learned and Best Practices (25-017)

Todd Hutcheson, University of Northern Iowa, Cedar Falls, IA

Domestic foundries are challenged to improve their bottom line to ensure an ability to meet baseline/surge demand for cast parts. Accelerated integration of new technologies like integrated sensors, autonomous robots, additive manufacturing, augmented reality, simulation/digital twin models and large real-time dataset analysis is allowing casting companies to continue to meet demand. Consolidating industry-wide data gathered during DLA project outreach activities has provided information on condition of Industry 4.0 technology best practices/lessons learned implementation. Value is obtained by applying these lessons learned in each business, and additional value is gained by viewing the industry as a whole in driving focus towards improving supply chain availability and agility.

AI-Driven Casting Simulation for Faster Design Developments (25-065)

Milan Raval, Altair Engineering, Troy, MI

Casting Simulation is the most amazing innovation for casting experts. When it was introduced in the early '70s, industry people felt relief as they were facing challenges like cost, trial and error methodology, and time consumption. Simulation technology solved most of these problems, but additional challenges arose. Challenges like performing multiple casting simulations by design engineers for decision-making, and simulations that can take days to run on large models like Megacasting. In both cases computational time became a bigger challenge. The way the traditional trial and error method was replaced by casting simulation, here we will be talking about leveling up with the fundamentals of AI. Casting simulations that could take days to compute, AI integration can predict in seconds or minutes.

Lost Foam Division

Room: A315

Session Chair:

Mark DeBruin
Skuld LLC, Piqua, OH

Preliminary Roughness and Dimensional Control Data for Additive Manufacturing Evaporative Casting Process (25-054)

Sarah Jordan and Mark DeBruin, Skuld LLC, Piqua, OH

Additive Manufacturing Evaporative Casting (AMEC) is a new patent pending process that merges polymer extrusion 3D printing with lost foam investment casting. The key question for designers to use any novel manufacturing process is what is the resulting geometric output. This study beings to address those questions for AMEC by looking at the dimension and surface metrology data from AMEC A356 aluminum coupons. Thus far the data indicates that AMEC has worse dimensional control than standard lost foam but superior to sand casting. The resulting surface roughness of the casting is highly dependent on the 3D print's starting surface. Typical roughness is higher than lost foam and traditional sand casting but superior to typical sand printing.

Optimizing 3D Printable Filaments for Printed Expendable Patterns in Lost Foam Casting (25-045)

Jacob Belke and Sean Frank, Mercury Marine, Fond du Lac, WI

The lost foam casting process offers significant advantages, including the elimination of parting lines and cores, leading to reduced machining and material waste. However, the traditional method of creating foam patterns involves expensive and time-consuming tooling, which limits the process's flexibility and cost-effectiveness, particularly for low-volume production and rapid prototyping. 3D printing emerges as a transformative solution to these challenges, allowing for the direct fabrication of complex lost foam patterns without the need for traditional tooling. Despite these advancements, a significant knowledge gap remains in the selection of appropriate materials for 3D printed patterns. Sixteen 3D printable materials were assessed for use as expendable printed patterns using thermogravimetric analysis (TGA) and casting trials. Variants of polyethylene performed the best in TGA and casting trials, but face printing challenges. High impact polystyrene (HIPS) was designated the best overall and shown to be improved further with plasticizers and foaming agents.

Molding Methods & Materials Division

Room: A313

Session Chairs:

Liam Miller
American Colloid Co., Hoffman Estates, IL

Sairam Ravi
Atek Metal Technologies, New Hampton, IA

Time Evolution of Hot Permeability and its Relation to Darcy's Number in Foundry Sand Systems (24-114)

Robert Makin, Dr. Sam Ramrattan, and Zachary Tay, Western Michigan University, Kalamazoo, MI

A hot permeability test was designed to provide time series data to examine venting characteristics in foundry sands at an elevated temperature. This was achieved by modifying the standard AFS Mold Quality Indicator (MQI) permeability tester and applying induction technology to create a hot surface tip which is constantly in contact with the sand specimen. This technique can be used for both green and chemically bonded sand specimens. The focus of this study was to investigate any potential deviations in permeability number of foundry sand specimens at ambient and elevated temperatures to form a correlation within the mold-metal interface and venting characteristics in foundry sand. For each sand system in this study, the time evolution of the permeability number was measured from ambient to 500 °C. From this time series data, the rate of change, and change in permeability number was captured by calculating a permeability index. Furthermore, Darcy's number was calculated using the permeability number and characteristic length of the sand system. This results from these test show that as the green sand moisture (compactability) condensation layer is driven back in the specimen due to heat transfer, the permeability number changes and the rate of change can be determined. Correspondingly, hot permeability rates of change are shown among various chemically bonded sand binder specimens at various binder level. The finding of this study offers an enhanced understanding of the gas flow venting in foundry sand systems. The measured time series data at elevated temperature can provide beneficial boundary conditions to casting solidification simulation.

Schedule is subject to change.

1:30 – 3 p.m.

Molding Methods & Materials Division

Room: A313

Session Chairs:

Liam Miller
American Colloid Co., Hoffman Estates, IL

Sairam Ravi
Atek Metal Technologies, New Hampton, IA

Thermo-mechanical Properties of Shell Resin Coated Sands to Identify Cure Parameters (24-116)

Dr. Sam Ramrattan, Robert Makin, and Zachary Tay, Western Michigan University, Kalamazoo, MI

Shell molding technology remains an important part of metal casting technology because it permits precision sand castings. As the ever-growing need to produce complex castings increases, so does the complexity of cores and molds. In order to accomplish near-net-shape casting with minimal defects, it is necessary to understand the thermal-mechanical effect suffered by the cured cores and molds at the superheat temperature for an alloy. Aeration filling using free flowing resin coated shell sand offers a superior means to fill a core box. Aeration technology makes it possible to sand fill complex shapes, deep pockets, and thin sections in tooling that heretofore were not possible by conventional gravity or high-pressure blow. However, a conundrum remains in determination of the optimal shell cure temperature. The foundry industry has generally used a visual criterion based on a cure color chart. This study points out the issues caused when using a subjective methodology. This research study examines the effects of tight thermal curing parameters on both silica and ceramic shell sand systems. Laboratory testing equipment was utilized as opposed to the more laborious foundry casting trials. Productivity and quality issues such as shakeout and dimensional accuracy was used to determine optimal cure. Aeration filled shell disc-shaped core specimens were fabricated and testing included scratch hardness, retained strength, and thermal distortion. With a shell aeration sand filling system, it is possible to produce cores and molds having superior abrasion resistance, strength, and thermal stability especially with a ceramic sand.

1:30 – 4:30 p.m.

The AFS Institute

Room: A316

Introduction to Quality and Process Improvement - Part Two (25-152)

Ted Schorn, Enkei America, Inc., Columbus, IN

Introduction to Quality and Process Improvement is a concise summary of three AFS courses taught by Ted Schorn, one of the leading experts on foundry system quality in the industry. Ted will begin with the role of quality, providing context for the application of process quality control. He will then move though the critical application of problem solving and the use of quality tools before sharing his key enterprise improvement strategies. The two sessions will give an introduction and overview of the NEW QC certificate bundle by AFS and The Institute.

2:15 – 3:15 p.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

Update on AFS Project for Digitizing Various Knowledge Platforms (25-010)

Brian Began, American Foundry Society, Inc., Schaumburg, IL

This presentation will focus on AFS's efforts to improve digital accessibility and operability of its various knowledge platforms. This digitization entails improving navigation and functionality/searchability between various platforms including the digital library, AFS Onlive webinars, a new, yet-to-be-developed digital publication platform, CADS (Casting Alloy Database Search), and others. These efforts will also make AFS platforms more mobile-friendly and include creating new reference instructional/educational

3:15 – 3:45 p.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

2024 Casting of the Year Case Study (25-204)

Matthew Pettus and Karl Warsinski, St. Marys Foundry Ltd., St. Marys, OH

Members from the foundry engineering team at St Marys pull back the curtain on how they produced a 6,600-lb. frame for a hard-working frac pump that put their casting and coremaking skills to the test. Hear the specs, the challenges, and the solutions they achieved through collaboration with their oil-and-gas industry customer.

3:15 – 4:45 p.m.

Additive Manufacturing Division

Room: A313

Session Chairs:

Jerry Thiel
Precision Casting Technologies, Dysart, IA

Dave Rittmeyer
Matthews Additive Technologies, Pittsburgh, PA

Advanced AM & 3D Printed Sand Mold Technologies to Support Casting Supply (25-034)

Greg Colvin, Honeywell Aerospace, Phoenix, AZ

US casting supply has limited responsiveness for many high integrity hardware especially for sporadic low quantity demand military applications. Additive Manufacturing provides an opportunity to augment the casting supply chain by filling gaps in supplier readiness. This presentation will discuss new advanced AM technologies that can be leveraged by the casting supply chain to improve their responsiveness to new casting orders especially those of low demand high integrity hardware. Technologies discussed will include improvements to 3D printed sand mold production methods for producing sand castings. These will include improving sand mold surface roughness, reducing outgassing from 3D printed sand mold during casting and methods to reduce dimensional variation between repetitive mold builds. AM technologies available to build rapid tooling including machining fixtures and inspection tooling will be discussed. Advanced AM high strength metallic and polymeric systems will be presented that can be leveraged for tooling and other applications. In summary, this session will help the casting industry practitioner review and possibly leverage Additive Manufacturing technologies to support their particular casting processes and applications.

3:15 – 4:45 p.m.

Additive Manufacturing Division

Room: A313

Session Chairs:

Jerry Thiel
Precision Casting Technologies, Dysart, IA

Dave Rittmeyer
Matthews Additive Technologies, Pittsburgh, PA

Printed Sand Equipment Options and New Innovations (25-131)

Greg Colvin, Honeywell Aerospace, Phoenix, AZ

US casting supply has limited responsiveness for many high integrity hardware especially for sporadic low quantity demand military applications. 3D Printed Sand provides an opportunity to augment the casting supply chain by filling gaps in supplier readiness and producing mold sections with greater geometric complexity relative to traditional sand mold production methods. This presentation will discuss current printed sand equipment available to US foundries versus new equipment that has recently become available for printing sand cores and mold sections. The presentation will discussed what is required to satisfy Honeywell sand casting requirements for will be discussed relative to the different printed sand equipment casting quality results. The different equipment types offer options in printed sand binder compositions, differences in surface finish of printed sand and variation in ease of sand removal post-casting. It is important for the foundry professional to understand the different equipment performance outcomes to optimize the characteristics of the printed sand core/mold sections relative to the casting and customer requirements. In summary, this session will help the casting industry practitioner improve their leverage of printed sand technologies to support their casting processes and applications.

Printed Sand Best Practices Driven Research using AFS Test Casting (25-141)

Jiten Shah, Product Development & Analysis LLC, Naperville, IL; Greg Colvin, Honeywell Aerospace, Phoenix, AZ

The results from America Makes / AFRL funded and Honeywell led research focused on making improvements in the complex aluminum sand castings surface finish and dimensional tolerances using 3D printed cores and molds, with reduction in out-gassing will be presented using the best practice driven data generated with the AFS Test Casting poured at Denison Industries and other military castings poured at Ohio Aluminum and Chicago Magnesium foundries. This is a two year research project and results till-date will be presented. The knowledge generated will be incorporated into the future AFS courses and training courses including revised pocket book on 3D printed sand.

Cast Iron Division

Room: A311

Session Chair:

Kramer Pursell
Metal Technologies Auburn Castings, Columbia City, IN

Mike Riabov
Elkem Silicon Products, Appleton, WI

Effects of In-Mold Additions of Al, Ca, Ce, Sr, or Ti on Austenite Grain Morphology and Eutectic Cell Size of a Hypoeutectic Gray Cast Iron (25-055)

Evan Carter, Jingjing Qing, and Mingzhi Xu, Georgia Southern University, Statesboro, GA

This work is a study of the effects that different in-mold additions have on the morphology of austenite and the eutectic cell structure in grey iron. The experiment utilizes a novel heat-treatment process that revealed the grain boundaries of austenite at room temperature in low-alloy cast iron. The in-mold additions studied were Al, Ca, Ce (mischmetal), Sr, and Ti. Each was poured during the same heat of a hypoeutectic grey iron with a high-purity silicon in-ladle addition. The austenite grain boundaries and the eutectic cell structure were revealed successfully. The results indicated that the Al addition sample had the least refined structure of austenite, and the Sr sample has the most refined austenite. Additionally, there is evidence to suggest a correlation between a larger equiaxed zone size and larger eutectic cells in the equiaxed zone.

Machinability of Solution Strengthened Ferritic Ductile Iron (25-145)

David Labyak, Michigan Tech University, Houghton, MI

Solution strengthened ferritic ductile iron is a grade of ductile iron where the ferritic matrix is solution strengthened by silicon. The addition of silicon results in a combination of higher mechanical properties and higher elongations as compared to standard grades of ferritic ductile iron. Some research suggests silicon solution strengthened ferritic ductile iron (SSFDI) grades can result in a 10-50% machining cost savings compared to conventional grades. Although these grades can result in lower machining costs, some grades have an increased base cost in the raw material form. For example, 500-14 SSFDI and 600-10 SSFDI ductile iron grades can be 1% to 4% higher in base casting costs over comparable conventional grades. With the lack of machining knowledge has impeded the growth of 500-14 SSFDI and 600-10 SSFDI in North American markets, due to machining costs being kept at conventional grade speeds and feeds.

Some Factors Affecting the Hot Workability of Ductile Iron (25-099)

David Sponseller, OMNI Metals Laboratory, Inc., Ann Arbor, MI

The hot workability of ductile Iron has been studied in the range 2.08 - 4.36 pct C, using 10-lb ingots. The highest workability was observed at low carbon levels. In a preliminary experiment, an ingot containing 3.24 pct C was successfully rolled at 1850 F to 3/64 inch strip. Other ingots containing approximately 2.25 pct C developed no cracks when rolled without reheats from 1900 F to just below 1500 F. Hypereutectic ingots cracked extensively during rolling. Workability was considerably better at 1950 F than at 1850 F, and with lighter reductions (3-5 pct per pass) than with heavier (10-15 pct per pass). Variations in Si concentration from 0.63 to 1.45 pct did not significantly affect workability. Hot workability correlated rather well with ductility in hot tensile tests at the working temperature, a hot elongation of 50% minimum indicating good workability at that temperature.

Steel Division

Room: A312

Session Chairs:

Koushik Balasubramanian
Missouri University of Science & Technology, Rolla, MO

Maximizing Casting Yield for Common Industry Steels by Comparing Outcomes of Experiments that Vary Riser Size, Shape, Material, Sleeve Thickness and Breaker Core Aperture (25-011)

Joshua Gammariello, Foseco, Chattanooga, TN

Maximizing casting yield is essential for a steel foundry's economic performance. In this paper, the authors will walk through a design of experiments via simulation and real-world testing which provides information that helps steel foundries make complex risering decisions. It will evaluate how variables such as sleeve material type, sleeve wall thickness, breaker core opening, riser diameter, riser height, and riser shape affect yield, casting porosity, and riser safety margin. Based on the conclusions found in this paper, foundries may be able to increase the yield of their casting by refining their sleeve utilization practice, resulting in equally performing risers with smaller diameters, shorter heights, or a combination of both.

3:15 – 4:45 p.m.

Steel Division

Room: A312

Session Chairs:

Koushik Balasubramanian
Missouri University of Science & Technology, Rolla, MO

Convective Current Manipulation in Steel Castings (25-050)

Mark Thompson and Soren Andersen, MAGMA Foundry Technologies, Inc., Schaumburg, IL

Two common defects in steel foundries are shrinkage and macro-segregation. Depending on the alloy, the effects of macro segregation may be critical to mechanical properties and composition requirements. Both macro segregation and shrinkage indications can be affected by convective currents in large steel castings. These currents can be accurately simulated to understand the impact metal flows during solidification have on casting quality. In this study, convection and its effects on shrinkage indications and macro-segregation in large steel castings will be investigated. A large steel casting will be reviewed and simulated using advanced casting process simulation software. This process will allow for physical casting properties to be cross analyzed with simulation results. Design alterations of risers, chills, and the casting will be implemented to allow for castings with larger section sizes and create a more constant element dispersion through the solidified part.

World Foundry Organization (Aluminum)

Room: A315

Session Chairs:

Carl Soderhjelm
Advanced Casting Research Center, Irvine, CA

Secondary Phase Increases the Elastic Modulus of a Cast Aluminum-Cerium Alloy (25-179)

David Weiss, Vision Materials, Manitowoc, WI

Alloying in metal castings is one of the principal methods of strengthening an alloy for various structural and functional applications, but very rarely does it modify an alloy's elastic modulus. We report a methodology of combining alloying elements to form a multi-component, high symmetry, rhombicuboctahedron (RCO) phase that was discovered to enhance the elastic modulus of a cast aluminum alloy to 91.5 ± 7.4 GPa. Flux grown single crystals of the RCO phase were used to enhance understanding of the structure and mechanical properties of the phase. The pure RCO phase's structure and site occupancies were co-refined using x-ray and neutron diffraction. Dynamic nanomechanical testing of the cast alloy shows the primary RCO phase has a high, relatively isotropic, elastic modulus. This RCO containing aluminum alloy is found to have a specific modulus that exceeds that of the leading Al, Mg, Steel, and Ti alloys. For casting designs that are stiffness driven, this alloy has important implications for cast lightweight products.

Temperature Losses in Cups of Tilt-Poured Permanent Molds (25-016)

David Levasseur, Gheorge Marin, and Franco Chiesa, Centre de Metallurgie du Quebec, QC, Canada

Tilt-poured permanent mold casting is a process where a cast-iron or steel mold is filled by tilting it from the horizontal to the vertical position to reduce the turbulence which takes place when the mold is "gravity filled" in a vertical position. The liquid aluminum is first poured into a cup that will deliver the liquid metal to the mold as the cup-mold assembly is tilted; normally, the cup is generally emptied when a tilt angle of 45 degrees is reached; the mold continues its motion until it reaches the vertical position which is kept until the casting and the gating are fully solidified. The temperature of the metal poured into the mold is less than that of the metal poured in the cup by an amount that we shall call the temperature loss in the cup. This loss depends on factors such as the amount of metal poured, the tilt speed and the number of cycles per hour. It is rarely considered when modeling the thermal history of the process, if not by at times, by subtracting several degrees to the temperature of the metal poured into the cup. The purpose of this paper is to evaluate these temperature losses via thermal modeling; the accuracy of these predictions will be tested on 2 castings involving widely different conditions in terms of amount of metal poured, filling time and number of castings poured per hour.

How to use Alloy Variations to Enhance Mechanical Performance (25-180)

David Weiss, Vision Materials, Manitowoc, WI

The aluminum casting industry has done a lot of work to improve the quality of molten metal alloys, such as proper de-gassing and cleaning, grain refinement and modification. The mechanical properties of properly prepared materials are expected to meet standards when cast within the allowable chemical compositions of the alloys. If the customer is asking for more, or if section size differences and other factors make it difficult to achieve those properties, the chemical composition range can be used to optimize properties. This presentation will discuss maximizing properties in three commonly used aluminum alloys, A356, E357 and A206 through heat treatment and adjustments to alloy chemistry within the allowable chemistry ranges of those alloys.

6 – 7 p.m.

Omni Atlanta Hotel at Centennial Park - North Tower - International Ballroom Lobby

Annual Banquet Reception

(Cashless Bar)

Join us for a memorable evening with friends new and old. The cashless bar opens at 6 p.m.

7 – 9 p.m.

Omni Atlanta Hotel at Centennial Park - North Tower - International Ballroom

Annual Banquet

(Ticketed event)

Join us for business networking and the presentation of the highest AFS honor, the Gold Medal and the WFO Jozef Suchy Award. The cashless bar opens at 6 p.m. The awards presentation and banquet start at 7 p.m. The President's After Party starts at 9 p.m. Recommended dress is business formal.

9 – 10 p.m.

Omni Atlanta Hotel at Centennial Park - North Tower - International Ballroom

President's After-Party

(Cashless Bar)

Network with your industry peers at this fun capstone to the evening.

Schedule is subject to change.

Monday, April 14, 2025

7 – 8 a.m.

Room: A302

Author/Chair Breakfast

This breakfast is for AFS speakers, session chairs, students and staff to meet and coordinate details for the day's educational sessions.

7 a.m. – 5 p.m.

Georgia World Congress Center Lobby

Registration Open

Attendee bags sponsored by:

Humtown
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Lanyards sponsored by:

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7:30 – 10:30 a.m.

Outside Technical and Management Sessions

Coffee Station by AFS Technical and Management Sessions

Coffee Sponsored By:

FORTE TOOLING TECHNOLOGIES
PATTERNS - MOLDS - CORE BOXES

MacLean™ POWER SYSTEMS

8 – 9 a.m.

Additive Manufacturing Division

Room: A313

Session Chair:

Jerry Thiel
Precision Casting Technologies, Dysart, IA

Dave Rittmeyer
Matthews Additive Technologies, Pittsburgh, PA

3D Printed Pattern Wear High Pressure Green Sand (25-032)

Marshall Miller, 3D Systems, Rock Spring, GA

Although the AFS Library contains at least 10 papers on the wear rates and the application of various pattern materials, only 2 are available that apply to extrusion additive manufacturing and the various materials used or available to use for the application. Most of the outcome of the wear studies are based on the rate of loss of material by weight or simple dimensions and not geometric changes to complex shapes. And, studies reviewed have the testing performed in a laboratory setting on test components, not actual patterns. While laboratory studies are useful, they do not reflect the actual effect different molding processes such as high pressure vertical and cope and drag molding, sand types (angular, sub-angular, round), binders, squeeze/blow pressures and other parameters only experienced in the true foundry molding environment. This presentation will show the wear rate of various materials based on cycle count and geometric measurement over time.

Enhancing Efficiency and Quality in Investment Casting with Additively Manufactured Ceramic Shells (25-094)

Jason Walker and Michael Enciso, The Ohio State University, Columbus, OH

This paper describes improvements aimed at enhancing manufacturing efficiency and casting quality for investment castings using additively manufactured (AM) ceramic shells. These shells, created through a resin-based AM process, incorporate specific design modifications that simplify mold assembly and improve geometric fit. Additionally, new inspection methods were developed to ensure the shells meet specifications before the pouring stage, helping to identify defects earlier in the manufacturing process and thereby reducing costs and waste. By validating shells prior to pouring, the process minimizes unnecessary expenses and material loss. The findings from this work provide valuable insights into the unique considerations of using AM in the foundry industry. This research contributes to better understanding the challenges and benefits of integrating AM technologies in traditional manufacturing processes, highlighting how continuous process refinement can lead to more efficient, reliable, and cost-effective production outcomes in the foundry sector.

Schedule is subject to change.

8 – 9 a.m.

Cast Iron Division

Room: A311

Session Chair:

Angella Sell
Aalberts Surface Technologies, Livonia, MI

Lizeth Medina-Balliet
Neenah Foundry, Neenah, WI

Characteristics of "Monday Morning" Base Iron (25-113)

Cathrine Hartung, Leander Michels, and Mike Riabov, Elkem Silicon Products; Robert Schmidt, Grede St. Cloud

The term "Monday morning" iron refers to metal that has been held in a furnace over an extended period, typically over a weekend. A key characteristic of these irons is poor potential for graphite nucleation, combined with a high amount of undercooled graphite. Foundries face a labor-intensive process to enhance the quality of this metal before casting. The undesirable microstructure is commonly attributed to the loss of carbon. In this context, the current study examines the role of microinclusions in Monday morning irons under three conditions: after a prolonged holding time, following addition of new carbon, and when the metal is ready for production use. The findings reveal that the poor nucleation condition is not due to carbon loss, but rather to a lower number density and change in morphology of microinclusions, especially sulfides.

The Effect of Carbon Equivalent and Nodularity on Multi-Axial Casting Wall Movement during Spheroidal Graphite Iron Solidification and Cooling (25-056)

Noah Brack, Jingjing Qing, and Mingzhi Xu, Georgia Southern University, Statesboro, GA

Spheroidal Graphite Iron (SGI), also known as ductile iron, is an iron-carbon casting alloy used in industry for its good castability, balanced mechanical properties, and low cost. Ductile iron consists of round graphite nodules in an iron matrix. During solidification and cooling, ductile iron castings experience dynamic volume changes due to the precipitation of graphite nodules and formation of austenite. These dynamic volume changes can distort external casting surfaces, causing swell and shrinkage porosity. A novel apparatus was custom built to capture the casting wall movement in real time along three axes. This study aims to correlate Carbon Equivalent (CE) and nodularity to casting wall movement.

Marketing Division

Room: A315

Session Chair:

John Belmont
American Foundry Society, Inc., Schaumburg, IL

Safety as a Brand Attribute: Internal Buy-In and External Recognition for Your Foundry (25-189)

John Belmont, American Foundry Society, Inc., Schaumburg, IL

This session, developed by the AFS Marketing Division, will explore how a strong safety culture can enhance both internal operations and external brand reputation. Attendees will learn strategies for fostering internal buy-in, ensuring that safety is not just a compliance requirement but a core company value at all levels. The session will also highlight how prioritizing safety can serve as a powerful differentiator in the marketplace, attracting customers, talent, and industry recognition. Through real-world examples and insights from small and large foundries, participants will gain the tools needed to position safety as a defining attribute of their brand.

Thoughts on the Marketing of Quality Castings (25-121)

Theodore Schorn, Enkei America, Inc., Columbus, IN

This paper begins with the observation that quality is a term frequently found in marketing and advertising material, but its definition is elusive for many, leading to vague promises and messages of little attractive power. As important as quality is to foundry products and services, it is under-utilized as an approach to distinguish brand identity and enterprise capability. Sharpened messages with greater content regarding quality, as they arise from an effective definition, can be of great benefit to foundry sales. The author, with over 40 years of quality experience, identifies four steps foundries can take with their marketing and promotional materials that could better utilize quality messaging.

Metalcasting Research

Room: A314

Session Chair:

Mark Adamovits
Matthews International Corp., Searcy, AK

Quantifying Process Relationships for Surface Defects on Chemically-Bonded Sand Systems (25-129)

Dr. Robert Tuttle, Western Michigan University, Kalamazoo, MI

This presentation will provide an update on the current research into the causes of casting surface defect causes. Current progress on both defect scanning technologies and classification will be presented. Future efforts in determining process variable effects on defects in aluminum castings will also be discussed.

Industry Best Practice Data Driven Design Allowable Properties for Some Common Alloys in CADS (Casting Alloy Data Search) Online Tool (25-130)

Jiten Shah, Product Development & Analysis LLC, Naperville, IL

DLA funded and AMC/AFS managed research project has led to the development of a web-based casting alloy data search tool for the design and simulation engineers which provide engineering properties and in most cases fatigue with the supporting pedigreed data, such as chemistry, mold material, casting process, section thickness, type of test bar and heat treatment etc in contrast to the typical handbook static data with no or little supporting pedigree information. Improved data will enable better casting part designs capable of delivering a collection of long-term objectives, i.e., longer service life, lower scrap, lighter weight, and better performance. Through CADS, AFS provides current and qualified information generated using the latest methods and disseminates this information in a user-friendly format to both users and manufacturers of castings. Our latest effort will be presented and will be focused on developing industry best practice-data driven design allowable property values using standard MMPDS methods for 24 new alloys (two copper-base, four aluminum-base, six iron-base, and twelve steel-base grades) from over 11 foundries. The AFS foundry members provided the data and PDA LLC performed the data analysis using MMPDS established statistical method which takes into account the heat and lot variability from the same foundry as well as from one foundry to another foundry for the same alloy grade.

8 – 10 a.m.

The AFS Institute

Room: A316

The 10-Step Method for Corrective Action - Part One (25-153)

Patrick Kluesner, Grede Castings, Waterford Township, MI

Participants will be introduced to a basic overview of a casting defect analysis procedure: identification, composing a problem statement, recording process parameters, identifying the correct defect and its root cause for correction action. This course is an introduction to navigating the practical handbook, International Atlas of Casting Defects.

9 a.m. – 5 p.m.

Exhibit Hall A1-3

Exhibits Open

9:15 – 10:15 a.m.

Additive Manufacturing Division

Room: A313

Session Chairs:

Marshall Miller
3D Systems, Rock Spring, GA

Brandon Lamoncha
Humtown Products, Columbiana, OH

Process and Design Freedom with LightSpeed's BlueNano TM Binder-Enabled 3D Printing of Molds and Cores (25-041)

Daniel Shirkey, LightSpeed Concepts, Inc., Jackson, MI

Recent binder development innovations are enabling additive manufacturing of molds and cores like never before. LightSpeed Concepts Inc. of Jackson, Michigan has developed BlueNanoTM binder that is a sustainably sourced, organic, one-part binder system applicable for all common metals and is environmentally friendly without explosion or other health & safety risks, and fully reclaimable at relatively low temperature. The odorless binder can be used with all raw mold/core media (no mixing or pH management), does not require ovens or microwaves for curing, and the simple desanding/depowdering process eliminates quality defects, labor and costs from the process. Additionally, the free flowing desanding characteristic allows for gating, risering, and casting design features like small cavities, undercuts, blind risers, etc. that are impossible with traditional binders and methods, yielding lighter, stronger, and more sustainable castings.

Density and Surface Texture Measurements of 3D Printed Sand to Improve Molding (25-078)

Samuel Morris and Philip King, University of Main, Orono, ME

Within the field of 3D sand printing, there is a growing need to understand the anisotropic behavior of sand in the build envelope of 3D sand printers. For metal casting, this understanding will improve mold accuracy and design. This work provides methodologies to characterize printed sand's density and surface texture as related to orientation within a printer build envelope, two properties that directly impact liquid metal flow and solidification. Density of printed sand samples was found to vary based on the travel direction of the printer recoater. Surface roughness was found to be influenced by multiple factors, each raising the surface roughness by up to 13%. These findings highlight the importance of considering anisotropy in the design of 3D printed sand molds. The methodologies developed in this study provide a foundation for future research aimed at improving the modeling of complex 3D printed sand molds.

Aluminum & Light Metals Division

Room: A312

Session Chair:

Adam Kopper
Brunswick Corp., Fond du Lac, WI

Gas to Air Heat Recovery from Aluminum Melting Furnaces using Heat Pipe Technology (25-084)

Scott Harris, Solex Thermal Science, AB, Canada

Heat pipes are an effective and reliable way to recover heat from aluminum melting furnace gas streams in US foundries. Lower operating costs are achieved with a failsafe production bypass design, independent heat pipe reliability, and ease of maintenance. Heat pipes are proven in the dirty flue gas environments of aluminum melting furnaces and several cases will be presented.

Methodology for Evaluating Converting Ar for N2 for Liquid Metal Treating: A Case Study (25-120)

Robert Mackay and Glenn Byczynski, Nemak, Southfield, MI

Well established liquid metal treatment is critical towards the production of high quality casting components made in North American foundries which compete on the worldwide markets. This also hold critically true for foundries cost of operations which can impact their ability to be competitive on the same worldwide markets. This manuscript is a case study on converting costly Ar used for rotary degassing to N2 without stopping production for metallurgical assessments on the inset gas conversion. However, it will be critical to review the melting processes involved as an insert gas replacement for cost optimizations may not be achievable in limited environments.

Engineering & Smart Manufacturing Division

Room: A315

Session Chair:

Greg Bray
Electric Controls & Systems, Birmingham, AL

Digital Characterization of Casting Surfaces (25-138)

Frank Peters, Iowa State University, Ames, IA; Daniel Schimpf, Volkswagen, Germany

Casting surface specifications are set based on aesthetics, functionality or a combination of both. To classify casting surfaces, visual inspections are performed by an operator who compares the casting surface to pictures or comparator plates that represent a certain roughness level. This inspection process is highly subjective, disagreements arise on the acceptance of a casting between the casting producer and buyer. To minimize these disagreements and use developments in 3D scanning, the objective of this project is to develop a digital surface characterization method. The method developed and implemented in this project utilizes underlying geometry estimation, abnormality detection, and a new roughness characterization formula based on a variogram to determine a surface roughness value. Tests were done to compare the new roughness characterization formula with existing quantification methods and to compare the results of the method with human operators.

9:15 – 10:15 a.m.

Environmental, Health & Safety Division

Room: A314

Session Chair:

Earl Miller
Hiler Industries, La Porte, IN

PANEL: EHS Hot Topics (25-177)

Air Quality:
Jeet Radia, McWane, Inc., Birmingham, AL

Water, Waste & Byproducts Management
Dan Plant, Metal Technologies Corporate Center, Auburn, IN

Safety & Health
Mickey Hannum, McWane, Inc., Birmingham, AL

Environmental, Health & Safety Committees overview.

Steel Division

Room: A311

Session Chair:

Robert Tuttle
Western Michigan University, Kalamazoo, MI

Controlling Nitrogen Pick-Up during Induction Melting of Ultra-High Strength Cr-Mo-Ni-V Steels (25-022)

Kingsley Amatanweze, Viraj Athavale, Mario Buchely, Laura Bartlett, and Ronald O'Malley, Missouri University of Science and Technology, Rolla, MO; Daniel Field, DEVCOM Army Research Laboratory, Adelphi, MD

Nitrogen pickup during air induction melting can result in porosity and a loss of fracture toughness in ultra-high strength quenched and tempered steel castings. Nitrogen atoms are easily adsorbed into the liquid steel upon exposure to the air and argon shrouding alone has limited effectiveness. Previous studies have shown that proper charge sequencing and keeping a high amount of dissolved oxygen in the melt prior to tapping and deoxidation can limit nitrogen pickup in the melt. In the current study, the effect of melt practice and charging procedure on nitrogen pickup was studied as a function of hold time in a series of lab scale and commercially produced heats of a Cr-Ni-Mo steel intended for ground engaging equipment. By controlling the melting time, purity of charge materials, and development of a dome shrouding method, the nitrogen content was reduced from 170PPM to less than 80PPM.

Q&P Heat Treatment of a FeCSiMn Steel (25-026)

Robert Tuttle, Western Michigan University, Kalamazoo, MI; Mujeeb Shaik, Maynard Steel, Milwaukee, WI

The specialized quench and partition (Q&P) heat treatment process appears to have broad application, including in cast products. This study investigates the response of a 0.25C-1.7Si-3.4Mn cast steel to different Q&P heat treatment cycles. A 25 mm thick Y-block casting provided a longer solidification time and diffusion distance than has been done in this alloy before. Smaller samples were extracted from the Y-block casting for heat treatment. These were then examined to determine their hardness, microstructure, and phase formation. X-ray diffraction (XRD) confirmed phase evolution and retained austenite carbon content. Data also suggests that the time lengths for the various Q&P stages must be longer for thicker sections to achieve the desired structures and properties.

9:30 – 10:15 a.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

Reduce Defects to Reduce Rejects: Improving Quality in Your Castings (25-192)

Dr. Sudesh Kannan, Consultant, Schaumburg, IL

No one wants to deal with rejected product. Our metalcasting expert explains the causes behind the most common casting defects and what foundries can do to ensure your components meet your quality requirements.

10:30 – 11:30 a.m.

HOYT MEMORIAL LECTURE

Room: A411-A412

Servant Leadership: A Leadership Concept for Today's World (25-091)

Frank Headington, Retired, Neenah Foundry

Our world is a mess. People are suffering to some degree or another everywhere we look. One major reason the world is like this is that people are using the power model of leadership which focuses on power and control. That coupled with the reduction in interpersonal communications has created a more divisive climate at work and in our government relations with our citizens. Servant leadership is about serving people, not using people. Serving others is the most meaningful and satisfying way for leaders to live and lead. It begins with "the natural feeling that one wants to serve."

Since starting at Neenah Foundry in 1989, Frank Headington has over 49 years of foundry experience. He has a Master's of Science in Industrial Management from Georgia Institute of Technology and a Master's of Science in Ceramics Engineering from the University of Illinois at Urbana-Champaign. Respected for his expertise in metalcasting, Headington was the 2016 recipient of the AFS Peter L. Simpson Gold Medal. Headington has been an active member of AFS serving on numerous technical committees, the AFS Board of Directors, AFS Research Board and as AFS staff holding the position of Interim Technical Director from 2017-2020.

11:30 a.m. – 1:30 p.m.

Ray's in the City

Past Presidents' Luncheon

The annual gathering for all past AFS Presidents. *Must be a previous AFS President to attend. Must register to attend. Shuttle available for attendees.*

12:30 – 1:15 p.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

What to Ask a Prospective Foundry Partner (25-193)

TBA

You've got your CAD design and specifications, but where do you begin the journey of evaluating which foundry is best suited to produce your casting? We'll walk you through all the questions you need to ask to make an informed decision – this checklist could prevent a costly mistake.

1:30 – 2:15 p.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

Selecting the Right Alloy (25-203)

Tom Prucha, MetalMorphasis LLC, Rochester Hills, MI

Getting the material properties required for a casting often hinges on using the correct metal alloy––and there are literally hundreds to choose from. Don't be inundated; be educated. This overview will equip you on the fundamentals of alloy selection and why foundries make different recommendations depending on the end-use application and your specifications.

1:30 – 3 p.m.

Environmental, Health & Safety Division

Room: A314

Session Chair:

Jeet Radia
McWane, Inc., Birmingham, AL

Property Risk Management and Insurance Strategies for Metalcasters (25-164)

Katie Hensley, Cottingham & Butler, Dubuque, IA

In the evolving landscape of property risk management, metalcasters face unique challenges that necessitate specialized insurance and risk engineering strategies. This paper explores the critical aspects of property risk management, focusing on the increased frequency of catastrophic events, the reinsurance dilemma, and the proactive steps metalcasters can take to improve their insurability and secure favorable insurance terms.

3D Printing Safety (25-175)

Jeff Krause, HA Group, Westmont, IL

The rapid adoption of 3D printing technology for foundry molds and cores has brought use of furan binder technology to many new facilities, some of which may not be fully aware of the inherent hazards of this binder system. This paper explains the chemical reaction hazards inherent in the furan binder technology and describes a comprehensive approach toward managing these hazards.

Foundry Safety Management System at Virginia Tech (25-092)

Alan Druschitz, Virginia Tech, Blacksburg, VA

The Environmental Health and Safety Department at Virginia Tech created a safety management system for the on-campus Kroehling Advanced Materials Foundry. This system was so successful that it was rolled out to the entire University. This paper describes the safety management system and how it is used by students, faculty, and staff at the foundry.

Government Affairs

Room: A313

Session Chair:

Stephanie Salmon
AFS Washington Office, Washington, D.C .

Update on the Trump Trade Agenda: New and Future Tariffs, Status of USMCA & Efforts to Enhance Trade Enforcement (25-190)

Nicholas Birch, Schagrin Associates, Washington, D.C.; Brad Muller, Charlotte Pipe & Foundry Co., Oakboro, NC; Stephanie Salmon, AFS Washington Office, Washington DC

President Trump campaigned heavily on expansive trade policy changes and vowed to use tariffs to rebalance trade relationships and create leverage to win concessions and make deals on both economic and non-economic issues. Join us for this important session with Nick Birch, a Washington, DC-based trade lawyer, who will provide an overview of the new tariffs and likely forthcoming trade measures, how they might leverage international agreements, enhancing trade enforcement tools, and overview of filing a trade case.

Lost Foam Division

Room: A312

Session Chair:

Jeff Prickett
Metals Alloys & Refractories, Lenoir City, TN

Lost Foam Retrospective: A Look Back and Looking Forward (25-053)

Sarah Jordan and Mark DeBruin, Skuld LLC, Piqua, OH

The co-founders of Skuld have worked in lost foam casting since 2000. They have created numerous innovations including surface alloying with lost foam, low carbon steel in lost foam, thin walled ductile iron, and most recently the additive manufacturing evaporative casting (AMEC) process. This presentation will cover a brief history of lost foam casting and various now closed plants. Then we will pivot to a more optimistic view of the future outlook and what Skuld forecasts for the future.

1:30 – 3 p.m.

Lost Foam Division

Room: A312

Session Chair:

Jeff Prickett
Metals Alloys & Refractories, Lenoir City, TN

Lost Foam Stainless Steel (25-031)

Marshall Miller, 3D Systems, Rock Spring, GA

In order to improve the possibility to re-shore castings sourced overseas to lower (cost) labor regions, and in accordance with the Mission Statement of the Lost Foam committee, a project to produce low carbon ASTM A352 Grade CF8M (.08% C maximum) stainless steel was proposed to and approved by the AFS Research Board. The market for these materials is currently dominated by the sand and investment casting processes. The Lost Foam process has significant potential advantages in this market by producing products with the delivery time advantages of sand casting, and the precision levels of investment casting. This paper shares test data and product results from tests conducted at 4 global production facilities, not laboratories, to produce ASTM A351 CF8M Stainless Steel with .08% maximum Carbon level in the Lost Foam Process. Results from testing at 4 separate foundries found that the process can produce high temperature stainless steel with a .015% max. carbon and indicators that adjustments to process parameters can likely produce the desired end result of .08% max. chemistry.

Steel Division

Room: A311

Session Chair:

Robert Tuttle
Western Michigan University, Kalamazoo, MI

Solidification of Medium Manganese Q&P Steels (25-073)

Robert Tuttle, Western Michigan University, Kalamazoo, MI

Quench and partition steels with medium manganese contents have attracted increasing interest for a variety of applications. This study examined two med-Mn steel alloys to better understand their solidification and phase reactions that occur. Thermal analysis results were compared to thermodynamic predictions to determine the validity of the predictions. Overall, the thermodynamic predictions were fairly accurate in terms of the liquidus and peritectic temperatures. However, the solidus temperatures differed dramatically. The as-cast microstructure was fully martensitic, which was not expected. Computed TTT and CCT diagrams were done to determine the predicted structure, but these did not accurately predict the observed microstructure.

PANEL: Feeding in Steel (25-157)

Gerald Richard, MAGMA Foundry Technologies, Inc., Schaumburg, IL; Joshua Gammariello, Foseco, Chattanooga, TN

The panel will answer questions on the best way to feed steel castings. These experts range from foundries, suppliers, and simulation experts. They will each provide insights into their approach to feeding and discuss best practices. The broad membership will help foundries learn about new techniques from across the industry.

Talent Development Division

Room: A315

Session Chair:

Cathy Potts
American Foundry Society, Inc., Schaumburg, IL

PANEL: From Toxic to Thriving: Boosting Engagement Through Positive Workplace Cultures (25-160)

Panelists:
Amanda Groves, Lodge Mfg. Co., South Pittsburg, PA;
Jim Peterson, ADECCO, Perryville, MO
Patrick Frazier, ME Global, Inc., Tempe, AZ
Derek Brown, Safepath Solutions, Birmingham, AL

You've heard it before…Culture has the power to make or break a team. Culture impacts EVERYTHING…from your ability to attract and retain talent to organizational performance to employee morale. During this panel discussion, several industry HR practitioners will discuss their experiences identifying and understanding the impact of toxic workplace attributes and working across their organizations to positively impact their company culture driving employee commitment and engagement. Join this panel discussion and win some cool door prizes.

1:30 – 3:30 p.m.

The AFS Institute

Room: A316

The 10-Step Method for Corrective Action - Part Two (25-154)

Patrick Kluesner, Grede Castings, Waterford Township, MI

Participants will be introduced to a basic overview of a casting defect analysis procedure: identification, composing a problem statement, recording process parameters, identifying the correct defect and its root cause for correction action. This course is an introduction to navigating the practical handbook, International Atlas of Casting Defects.

3 – 4 p.m.

Casting Source Theater in the AFS HUB - Booth 320

Casting Dreams Competition

The Casting Dreams program is a national program that provides local educational opportunities and industry connections that include casting design and production that qualify for local, regional and national competitions. The Casting Dreams Competition is designed for individuals ages 8 to 18, welcoming everyone who wishes to participate. 1st, 2nd, and 3rd place will be announced curing this session.

3:15 – 4:45 p.m.

Aluminum & Light Metals Division

Room: A312

Session Chair:

Carl Soderhjelm
Advanced Casting Research Center, Irvine, CA

Development for High Cycle Fatigue Durability using the Precision Sand Casting Process (PSCP) Cast Component (25-119)

Robert Mackay and Glenn Byczynski, Nemak, Southfield, MI

The Precision Sand Casting Process (PSCP) using secondary grade aluminum is used to manufacture components that have complex architectures but also sustain high cyclical compression and tensile loads in service. The literature generally argues the key to improved fatigue life is to keep porosity as low as possible. There are multiple approaches in the casting development process to achieve improved fatigue durability. This paper reviews most of the main PSCP options which can address high cycle fatigue requirements in high horsepower (hp) applications and identifies the research needed in the future to further push secondary aluminum PSCP fatigue performance.

Conductivity and Structural Changes in Al-Ni Alloys with Varying Ni Content (25-112)

Kentaro Lunn, Diran Apelian, and Zac Han, University of California-Irvine, Irvine, CA

The Al-Si eutectic has been the standard casting alloy system since the early 1900's. However, its conductivity properties are inherently limited to ~50% and 70% of pure Al's in the as cast and heat treated states, respectively. The Al-Ni system is one of the leading candidates offering a potential for a higher combination of conductivity and mechanical properties. However, relationships between Ni content, conductivity, and structural changes have not been explored thoroughly for cast Al-Ni alloys. This study aims to clarify these microstructure-property relationships to provide guidance to alloy design efforts.

Formation of Graphene by Co_2 Bubbling in Magnesium Melt to Synthesize Magnesium Composite (25-105)

Mehran Zare, Omid Ghaderi, Swaroop Behera, Kaustubh Rane, and Pradeep Rohatgi, University of Wisconsin-Milwaukee, Milwaukee, WI; Behzad Niroumand, Isfahan University of Technology, Isfahan, Iran

Carbon and its allotropic structures have been considered as promising materials in state-of-the-art applications. Since the invention of graphene, it has been extensively studied due to its enhanced properties. Graphene can be used in the manufacturing of metal matrix composites (MMCs) to enhance their mechanical, physical, and structural properties. The findings suggest that by employing CO2 bubbling, graphene-embedded magnesium composites can be successfully synthesized. Based on the previous works, with CO2 bubbling, Graphene embedded magnesium composite can be synthetized successfully, and mechanical and physical properties of final composite can be enhanced significantly. Furthermore, this paper presents the initial results from experiments performed at the University of Wisconsin-Milwaukee (UWM). Raman spectroscopy, scanning electron microscopy (SEM), and mechanical testing investigations demonstrate the formation of graphene within the magnesium matrix, leading to a 16.5% improvement in hardness compared to the control sample.

Metalcasting Research

Room: A314

Session Chairs:

Vasko Popovski
Ransom & Randolph, Canonsburg, PA

Benchmarking Shell Recycling, Productivity Metrics, and Risering Practices in the North American Investment Casting Industry (25-061)

Victor Okhuysen, Cal Poly Pomona University, Pomona, CA; Brian Began, American Foundry Society, Inc., Schaumburg, IL

This paper documents the results of a recent survey of the domestic investment casting industry. It was conducted in support of a research project co-sponsored by the project team and by the Defense Logistics Agency-Troop Support, Philadelphia, PA and the Defense Logistics agency Information Operations, J68, Research and Development, Ft. Belvoir, VA. The 26-question survey shed light on prevalent industry practices related to risering castings, shell and casting productivity, and they use/opportunity involve in recycling investment casting shells.

The results largely confirmed the research team's observations of the industry and provided metric references for the various opportunities involved in developing improved risering tools/technologies specific to investment castings, recycling shells, and improving productivity in shell production.

Investment Casting Agility and Sustainability Research (AMC/DLA Funded) (25-140)

Jiten Shah, Product Development & Analysis LLC, Naperville, IL; Brian Began, American Foundry Society, Inc., Schaumburg, IL

This five-year research program focusses on reducing shell drying cycle time and smart pattern burn out algorithm; recycling and reusing alumino-silicate investment shells and better understanding feeding behavior of investment cast steels by establishing feeding distances and risering guide. We will present the progress made since the start of the project in October 2023 with some preliminary results to share and outline the investment foundry participation into this on-going project.

World Foundry Organization (Molding)

Room: A313

Session Chair:

Brian Rachwitz
EJ, East Jordan, MI

Enhancing Indian Bentonites for Foundry Green Sand Applications with the Addition of Minerals from India (25-013)

Victor LaFay and Patricia LaFay, Common Sense Applications LLC, Cincinnati, OH; Robert Steele, FACT, Ponte Vedra Beach, FL

India has the second-largest metal casting production in the world, with green sand molding as one of its predominant processes. Naturally occurring Indian bentonite has been used successfully for many years. Enhancing these bentonites to produce high-quality metal castings and reduce bond consumption by adding naturally occurring minerals has proven successful.

3:15 – 4:45 p.m.

World Foundry Organization (Molding)

Room: A313

Session Chair:

Brian Rachwitz
EJ, East Jordan, MI

Influence of Powder Additives on the Final Properties of Inorganic No-Bake, Inorganic Cold Box and Hot Box Binders (25-044)

Sritama Kar, Tim Ziehm, Markus Jonek, and Martin Oberleiter, ASK Chemicals, Dublin, OH

In recent years, inorganic sodium silicate binders for Hot Box-processes have garnered significant attention within the foundry industry due to their environmental as well as processual benefits and their potential in producing critical aluminum cast parts for automotive engines, e-engines, suspensions and subframes. As water-based systems, these binders emit zero harmful educts of reactions, aligning with stringent environmental standards. As regulations tighten it is compulsory to transfer this experience of core and mold making in Hot Box processes to other segments of inorganic binder systems: Ester-cured No-Bake and CO2-cured Cold Box. This study investigates the effects of powder additives on the performance of No-Bake and Cold Box sodium silicate binders, with the goal of enhancing the overall performance of these inorganic binder systems. The findings are expected to provide valuable insights for improving the bandwidth of inorganic binder applications, expending these further into No-Bake and Cold Box applications, opening an environmentally friendly solution to non-automotive foundries that need to reduce their emissions or want to improve their EHS footprint for the sake of employees, stakeholders, and shareholders.

3:15 – 4:45 p.m.

Young Professionals

Room: A315

Session Chair:

Cathy Potts
American Foundry Society, Inc., Schaumburg, IL

PANEL: Choosing a Path Forward: Balancing Technical and Management Experiences (25-159)

Panelists:
Jay Morrison, Carpenter Brothers Inc., Mequon, WI
Mark Didion, Didion International, Inc., Saint Peters, MO
Jarek Olszak, Laempe Reich, Trussville, AL
Ashley Folden-Ecker, MacLean Power Systems, Mankato, MN

Do you feel like you have to choose between deepening your technical expertise or stepping into management?

What if you could blend both to create a unique and rewarding career path?

In this engaging panel, we'll dive into the stories of professionals in the metalcasting industry—each with their own journey of balancing technical mastery and leadership roles. Whether you're drawn to deepening your expertise or the challenges of leading teams, our panelists will share how they navigated their careers and what they looked for in others.

Whether you're just starting out or looking to pivot, this panel will equip you with practical guidance and inspiration to carve your own successful path in the dynamic world of metalcasting.

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Schedule is subject to change.

5 – 6 p.m.

Room: A404-405

Young Professionals Reception

You're Invited! AFS Young Professionals Networking Reception – Cocktails & Great Connections! Ready to mix, mingle, and make valuable connections at CastExpo 2025? Join us for the AFS Young Professionals Networking Reception in Room A404-A405 at the Georgia World Congress Center! Enjoy some beverages while networking with fellow rising leaders in metalcasting. Whether you're already on the management track or aspiring to be, this is the perfect chance to build relationships, swap ideas, and take your career to the next level—all in a relaxed, fun atmosphere. Don't miss out—grab a drink and grow your network! We can't wait to see you there!

Thank you to our sponsors:

6 – 9 p.m.

College Football Hall of Fame

Alumni Dinner

(AFS Alumni only. Ticket Required)

Alumni will experience the College Football Hall of Fame touring the special exhibits and permanent installations, while enjoying bold American cuisine. *Must be a member of AFS Alumni to attend.*

Tuesday, April 15, 2025

7 – 8 a.m.

Room: A302

Author/Chair Breakfast

This breakfast is for AFS speakers, session chairs, students and staff to meet and coordinate details for the day's educational sessions.

7:30 – 10:30 a.m.

Outside Technical and Management Sessions

Coffee Station by AFS Technical and Management Sessions

Coffee Sponsored By:

8 – 9 a.m.

Additive Manufacturing Division

Room: A313

Session Chair:

Jerry Thiel
Precision Casting Technologies, Dysart, IA

Dave Rittmeyer
Matthews Additive Technologies, Pittsburgh, PA

Utilizing 3D Sand Printing to Create Community Art (25-097)

Elijah Kallio, Waupaca Foundry, Waupaca, WI

How we used our 3D sand printer to create castings for a community art project for the city of Waupaca.

Utilizing 3D Printing to Solve Supply Issues (25-156)

Ryan Hansch, Waupaca Foundry, Waupaca, WI

We recently encountered a scenario where the sole supplier of our date codes went out of business and there were no readily available commercial alternatives. We developed a program within CAD modelling software to make models of our date codes as the dates change. We then utilized commercial/industrial 3D printers to begin printing all of our date tag inserts for the whole company.

8 – 9 a.m.

Metalcasting Research

Room: A314

Session Chair:

Mark Osborne
Wabtec,
Haslet, TX

Progress and Problems in the Production of Nano-Reinforced Aluminum Alloys (25-128)

David Weiss, Vision Materials, Manitowoc, WI

The production of aluminum nanocomposites with conventional and experimental aluminum alloys reinforced with nano-sized alumina using a master alloy is discussed. The reinforcement phase can have both positive and negative interactions with various alloying elements in both the liquid matrix and the solid master alloy. Magnesium is usually bound to the particles, reducing the amount available for solid-solution strengthening or as mixed precipitates. On the other hand, certain elements (Mg, Ce) are highly reactive aiding in the dispersion of the master or reduce the surface tension of the matrix alloy (Mg, Zr, Ni, Ce), or produce exothermic reactions during mixing (Ce,Zr,Cu2O, CuO) which also aids in master alloy dispersion.

World Foundry Organization (Engineering)

Room: A312

Session Chair:

Doug Starr
Saudi Mechanical Industries,
Strongsville, OH

Avoiding Defects Appearing During Shut Down Phase in Vacuum Arc Remelting Using Process Modeling (25-071)

Swapnil Salokhe and Ole Koeser, ESI Group, Novi, MI; Vahid Rastegar, Materion Newton, Inc., Newton, MA

A leading producer of specialty materials uses the vacuum arc remelting process to manufacture high-quality ingots of Niobium alloys for aerospace, defense, and semiconductor applications. Under specific ingot geometries and process parameters, they observed large shrinkage cavities at the top of the produced ingots, impacting the process's productivity (see Figure 1). Despite diligent efforts, minimizing or eliminating these defects has been difficult, posing an obstacle to their production efficiency.

To address the production issue, it was decided to use process modeling using ProCAST casting FEM software solution to simulate the principal aspects of the specific volume arc remelting process to identify the potential root causes of the defect creation and, subsequently, identify viable solutions for mitigation.

Revolutionizing Metalcasting: Mega Casting Innovations and Complete Process Simulation (25-104)

Loic Calba, Swapnil Salokhe, and Sandesh Kharvi, ESI Group, Novi, MI; Loic Calba, University of Metz-Lorraine, Bagneux, France

Mega casting presents significant challenges and opportunities in metal casting. This paper examines how advanced process simulation technologies are crucial for overcoming these challenges and maximizing Mega casting innovations. It begins with a co-design castability check, highlighting the importance of incorporating casting considerations early in design to tackle Mega casting's unique hurdles. The paper discusses gate design optimization and how simulation tools manage large-scale gating complexities for better outcomes. It also addresses the integration of Mega press capacity with process modeling for precise casting control, identifying and mitigating defects, and enhancing overall quality. Additionally, the paper explores strategies to predict and mitigate part deformation and prolong die life, emphasizing simulation's role in reducing development time and improving accuracy. Ultimately, this paper shows how process simulation technologies are transforming metal casting, enabling unprecedented advancements in Mega casting while addressing its inherent challenges.

8 – 10 a.m.

The AFS Institute

Room: A316

Introduction to Casting Design (25-155)

Jiten Shah, Product Development & Analysis LLC, Naperville, IL

Introduction to Casting Design is an overview of the Institute's popular, 2-day Casting Design course. Attendees will explore alloy selection, metalcasting process capabilities and limitations, and their effects on casting design, including the impact of secondary operations.

8 a.m. – Noon

Georgia World Congress Center Lobby

Registration Open

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Schedule is subject to change.

9 a.m. – Noon

Exhibit Hall A1-3

Exhibits Open

9:15 – 10:15 a.m.

Additive Manufacturing Division

Room: A313

Session Chair:

Jason Walker
The Ohio State University, Columbus, OH

Rich Lonardo
Defense & Energy Systems, Poland, OH

Advancing Sustainability in 3D Sand Printing: Reclamation and Reuse of Non-Printed Sand to Improve Process Economics (25-124)

Kelley Kerns and Michael Anthony, HA Group, Westmont, IL; Nathaniel Bryant, University of Northern Iowa, Cedar Falls, IA; Dave Rittmeyer, Matthews Additive Technologies; Mark Lamoncha, Humtown Products, Columbiana, OH; Michael Anthony, HA Group, New Castle, PA

The growth of 3D sand printing in metal casting has resulted in substantial non-printed waste sand from sand core production using binder jetting technology. This research investigates methods for blending, mechanical and thermal reclamation methods to recycle this waste sand, aiming to improve sustainability and reduce costs in additive manufacturing. By evaluating these techniques' effectiveness in maintaining sand properties, the study seeks to establish sustainable practices for sand reuse and reclamation. The findings are expected to aid in developing guidelines for using reclaimed sand in 3D sand printing applications.

Prototypes Produced using Additive Manufacturing Compared to Alternate Methods (25-090)

Bernard Potts, Consultant, Shelbyville, IN

This paper compares 3D printed prototypes to other methods used to produce prototypes. The prototype production methods are as follows. 3D printed parts, machined parts from billet, cast prototype parts using conventional tooling such as wood or metal patterns, prototype castings using 3D printed plastic patterns and Poly/Styrofoam patterns. Comparisons of the various methods will be made considering delivery, quality and cost. Also addressing how much technical expertise that will be required to produce and quality part. The equipment will also be required to manufacture the prototypes will also be discussed. Example: 3D Printers for Sand, Metal, Plastic etc.

Aluminum & Light Metals Division

Room: A312

Session Chair:

Alan Luo
The Ohio State University, Columbus, OH

Material Characterization of Aluminum Castings Using Machine Learning Techniques (25-101)

Meysam Akbari, Liang Wang, and Qigui Wang, General Motors, Warren, MI

The emergence of ML techniques has significantly improved the accuracy and efficiency in materials characterization. This paper reviews the application of ML algorithms in microstructure analysis and defect detection processes of aluminum castings at GM. By leveraging ML methods, multiple ML models were trained to automatically identify and classify different types of casting defects and microstructural features. Advanced image processing techniques, combined with convolutional neural networks (CNNs), enable the detection of casting defects such as shrinkage porosity and oxides and multiscale microstructure features for instance eutectic phases and secondary dendrite arm spacing of aluminum. This study highlights the advantages of the developed ML models in the accuracy and reduction of measurement time in the lab and reducing the reliance on manual analysis and subjective judgment. The findings emphasize the significant impact of ML techniques on metallurgical research and industrial applications, enhancing the reliability and performance of material analysis tools.

Structural Casting Alloys with Highest Recycling Content and Lowest Carbon Footprint (25-123)

Jay Armstrong and Grant Hatfield, Trialco, Chicago Heights, IL; Martin Hartlieb, Viami International, Inc., QC, Canada

With the electrification of vehicles, less powertrain castings and more structural castings are needed. Powertrain castings were mainly made from secondary alloys. Structural castings have been made from primary alloys to guarantee the purity and consistency needed for those safety critical castings. Today not only post- and pre-consumer scrap is coming to the market and must find new homes. Know-how in terms of scrap recycling, segregation and sorting, as well as melt treatment/cleaning practices have been improving a lot. This allows us today to produce structural die casting alloys with high recycling rates and therefore low carbon footprint, without negatively impacting their quality and performance. This paper describes latest trends and developments on this topic and describes which alloys can be made with which types of scrap and what are the limiting factors.

9:15 – 10:15 a.m.

Government Affairs

Room: A315

Session Chair:

Stephanie Salmon
AFS Washington Office, Washington, D.C.

Don't Sit on the Sidelines: What Metalcasters Can Expect from the Trump Administration and Congress in 2025 (25-191)

Stephanie Salmon, AFS Washington Office, Washington, D.C.; Brad Muller, Charlotte Pipe & Foundry Co., Oakboro, NC

Learn about the key tax, trade and workplace matters that AFS is weighing in on in Washington, D.C. as we continue to work to promote pro-growth measures and halt the regulatory onslaught. The expiration of the major portions of the Tax Cuts and Jobs Act is the catalyst for a major tax reform event in 2025 – metalcasters and suppliers will learn about the progress to shape the tax package.

9:30 – 10:15 a.m.

Casting Designers and Buyers

Casting Source Theater in the AFS HUB - Booth 320

Session Chair:

Kim Phelan
American Foundry Society, Inc., Schaumburg, IL

Rapid Prototyping and Advanced Manufacturing (25-194)

Dave Rittmeyer, Matthews Additive Technologies, Pittsburgh, PA

The metalcasting industry is experiencing a tremendous evolution right before our eyes as 3D printing super-accelerates the foundry's ability to produce prototypes, molds, and cores––giving you unprecedented go-to-market speed. Hear the latest advancements and success stories happening throughout the North American manufacturing landscape.

10:30 – 11:30 a.m.

KEYNOTE

Room: A411-A412

Reshoring Update for North American Foundries (25-170)

Harry Moser, Founder, The Reshoring Initiative

Reshoring and foreign direct investment (FDI) have brought back over 700,000 U.S. manufacturing jobs in recent years. At the same time, the COVID crisis demonstrated the risk of long supply chains. These trends have drawn attention to the advantages of reshoring and nearshoring.

Harry Moser, Founder of the Reshoring Initiative, will provide fresh new examples of how U.S. foundries are taking advantage of the trend toward shorter supply chains and what that means for your company and your customers. Plus, discover how Reshoring Initiative's Total Cost of Ownership Estimator and the Import Substitution Program can help your company land contracts that otherwise would have gone overseas.

Noon

CastExpo 2025 Concludes

Schedule is subject to change.

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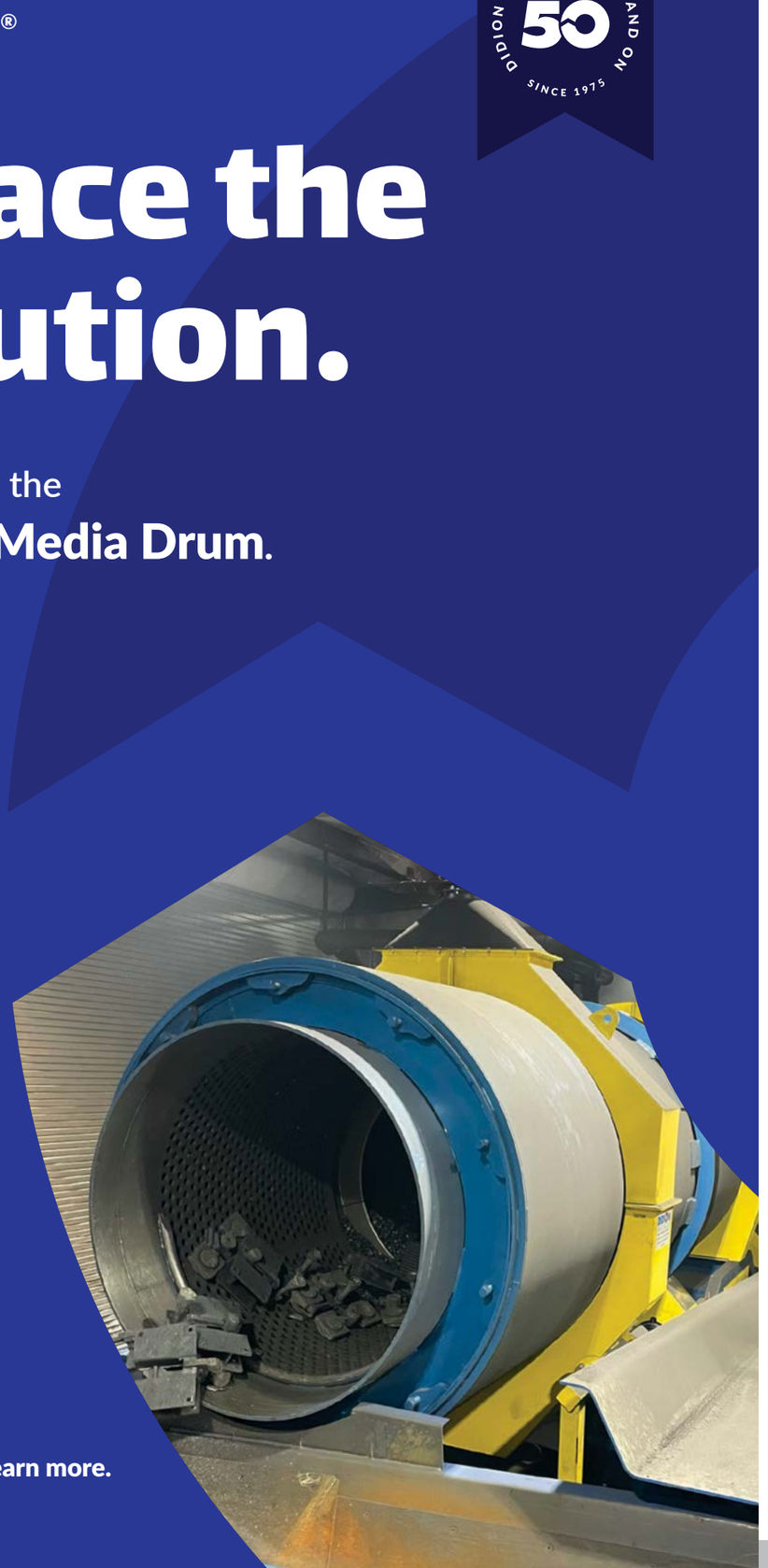
- **Josh Magill**
Plant Engineer,
Progressive Foundry



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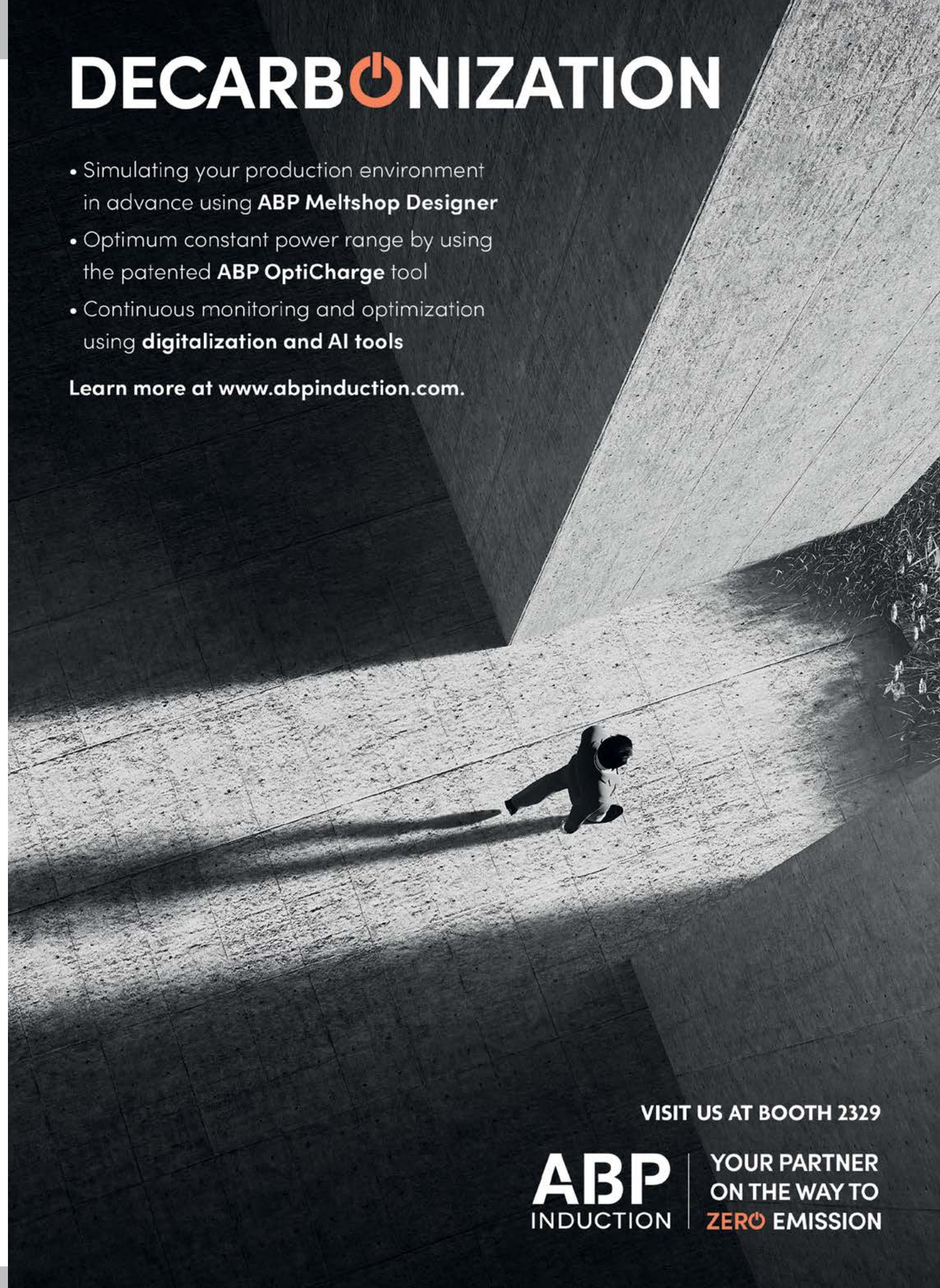
Supplier Exhibitor Booth List: Alphabetical *(As of 2/21/2025)*



Supplier Exhibitor Booth List: Category *(As of 2/21/2025)*

Alloys/Materials - Aluminum

Allied Mineral Products Inc.*	1649
American Metalcasting Consortium	754
Anderson Laboratories Inc.	850
Asbury Carbons Inc.	2744
Belmont Metals Inc.*	2150
CCMA LLC	2550
Elemental Metals*	2719
Foundry Solutions Metallurgical Services Inc.	2736
Guardian Bandsaws*	2220
Hebei MaiShi Machinery & Equipment Co. Ltd.	2642
Henan Suihui New Materials Co. Ltd.	1627
Henan Tuorui Abrasive Material Co. Ltd.	2836
Lanzhou Sunrising Ferroalloy Co. Ltd.	2555
Lianyungang Beautech Superfine Co. Ltd.	2340
Molten Metal Equipment Innovations (MMEI)*	2507
Morgan Advanced Materials*	1054
Ningxia Carbonhel New Material Co. Ltd.	2615
Omni	1029
PADNOS*	804
Product Development & Analysis (PDA) LLC	820
Qinhuangdao Hongtong Machinery Co. Ltd.	2409
Quad City Safety*	547
Secat Inc.	1111
SGM Srl	2829-07
Shandong Hengqiao Energy Industrial Co. Ltd.	845
Silver Needle Inc.	2110
Sinto America*	**1137**
Spectro Alloys Corporation	1011
The Schaefer Group Inc.*	2055
Thermo Fisher Scientific	1625
Trialco Aluminum LLC	2244
Zibo Tongpu Vacuum Equipment Co. Ltd.	1147
Zijiang Furnace Nanjing Co. Ltd.	1255

Alloys/Materials - Copper-Base

Aleaciones Prealeaciones y Desoxidantes S L	854
Anderson Laboratories Inc.	850
Asbury Carbons Inc.	2744
Belmont Metals Inc.*	2150
Elemental Metals*	2719
Hebei MaiShi Machinery & Equipment Co. Ltd.	2642
Henan Suihui New Materials Co. Ltd.	1627
Lanzhou Sunrising Ferroalloy Co. Ltd.	2555
Omni	1029
PADNOS*	804
Quad City Safety*	547
SGM Srl	2829-07
Sinto America*	**1137**
Spectro Alloys Corporation	1011
Thermo Fisher Scientific	1625
Unimetal USA Inc-Larpen Metallurgical Service	2018
Zibo Tongpu Vacuum Equipment Co. Ltd.	1147

Alloys/Materials - Iron

Allied Mineral Products Inc.*	1649
Anderson Laboratories Inc.	850
Asbury Carbons Inc.	2744
Danisun International Materials Co. Limited	1949
Elemental Metals*	2719
Engis Corporation*	1907
Guardian Bandsaws*	2220
Henan Weiye New Materials Co. Ltd.	2525
Hickman, Williams & Company*	2446
Hiller Carbon	905
Lanzhou Sunrising Ferroalloy Co. Ltd.	2555
Low Carbon Metal Limited	745
Magaldi Technologies LLC*	1728
Miller and Company*	2513
Ningbo Jingzhi Mould Co. Ltd.	1045
Omni	1029
Product Development & Analysis (PDA) LLC	820
ProFound Alloys LLC	1944
Progelta S R L	2829-05
Proservice Srl	2147
Quad City Safety*	547
Reichmann & Sohn GmbH	2620
Rio Tinto*	2119
Shandong Hengqiao Energy Industrial Co. Ltd.	845
Sinto America*	**1137**
Texan Minerals and Chemicals LLC*	1912
Thermo Fisher Scientific	1625
Unimetal USA Inc-Larpen Metallurgical Service	2018
Washington Mills	827
Winoa USA (W Abrasives)	1007
Zibo Taa Metal Technology Co. Ltd.	2413
Ziheng Tianjin Industry Co. Ltd.	2155
Zijiang Furnace Nanjing Co. Ltd.	1255

Alloys/Materials - Magnesium

Anderson Laboratories Inc.	850
CCMA LLC	2550
Henan Tuorui Abrasive Material Co. Ltd.	2836
Lanzhou Sunrising Ferroalloy Co. Ltd.	2555
Ningxia Hengtai International Trade Co. Ltd.	1254
Ningxia Megastar Co. Ltd.	910
Polymet Alloys Inc.	2250
Spectro Alloys Corporation	1011
Trialco Aluminum LLC	2244

Alloys/Materials - Steel

American Metalcasting Consortium	754
Asbury Carbons Inc.	2744
CCMA LLC	2550
Engis Corporation*	1907
FRC Global	815
Guardian Bandsaws*	2220
Hebei Guoning Heavy Industry Manufacturing Co. Ltd.	1747
Hickman, Williams & Company*	2446
Lanzhou Sunrising Ferroalloy Co. Ltd.	2555
Lianyungang Beautech Superfine Co. Ltd.	2340
Lucky Sound Commodities Supplying Inc.	951
Milwaukee Machine Tool Corp.	805
Omni	1029
PADNOS*	804
Product Development & Analysis (PDA) LLC	820
ProFound Alloys LLC	1944
Quad City Safety*	547
Reichmann & Sohn GmbH	2620
SGM Srl	2829-07
Sichuan Heyi Electrical Technology Co. Ltd.	2251
Thermo Fisher Scientific	1625
U-Metco Inc.	1010
Unimetal USA Inc-Larpen Metallurgical Service	2018
Vulkan Blast Shot Technology	923
Washington Mills	827
Winoa USA (W Abrasives)	1007
Zhengzhou Zhenzhong Fused New Material Co. Ltd.	1945
Zibo Taa Metal Technology Co. Ltd.	2413
Ziheng Tianjin Industry Co. Ltd.	2155
Zijiang Furnace Nanjing Co. Ltd.	1255

Alloys/Materials - Superalloys

Anderson Laboratories Inc.	850
Asbury Carbons Inc.	2744
CCMA LLC	2550
Elemental Metals*	2719
Ningxia Megastar Co. Ltd.	910
Polymet Alloys Inc.	2250
Sichuan High Casting Materials Ltd.	1250
United Alloys R & D Inc.	709
USMFG Inc.*	909
Zhengzhou Zhenzhong Fused New Material Co. Ltd.	1945

Alloys/Materials - Titanium

Elemental Metals*	2719
Ningxia Megastar Co. Ltd.	910
Zhengzhou Zhenzhong Fused New Material Co. Ltd.	1945

Alloys/Materials - Zinc

Belmont Metals Inc.*	2150
Lianyungang Beautech Superfine Co. Ltd.	2340
Omni	1029
SGM Srl	2829-07
Sinto America*	**1137**
Spectro Alloys Corporation	1011
Thermo Fisher Scientific	1625

Engineering/Capital Equipment - Casting Design

Advanced Pattern Works LLC*	912
ESI Group Inc.	911
Finite Solutions Inc.*	1228
Forte Tooling Technologies Nordstern Group*	1048
Hebei Guoning Heavy Industry Manufacturing Co. Ltd.	1747
Hebei MaiShi Machinery & Equipment Co. Ltd.	2642
Maumee Pattern Company	2125
Online Resources Inc.	2826
Product Development & Analysis (PDA) LLC	820
Progelta S R L	2829-05
Shandong Hengqiao Energy Industrial Co. Ltd.	845
Shining 3D Technology Inc.	812
Sichuan Heyi Electrical Technology Co. Ltd.	2251
Visiometa	3024
Zibo Taa Metal Technology Co. Ltd.	2413
Zibo Tongpu Vacuum Equipment Co. Ltd.	1147

Engineering/Capital Equipment - Cleaning, Finishing & Shipping

A W Bell Machinery*	1155
Abrasive Technology*	1919
Acme Manufacturing	1210
Advanced Foundry Specialists	3036
Arcos-USA	914
ATD Engineering & Machine*	2729
Automation Systems & Design Inc.*	2046
Blast Cleaning Technologies*	**1207**
Bronco Blast*	1104
Champion Chisel Works	2749
Clansman Dynamics USA*	643
Conveyor Dynamics*	1227
Daubert Cromwell*	1017
Everett Industries LLC*	539
Fill USA Inc.	2047
Flexovit USA Inc.*	2936

Platinum Sponsor Gold Sponsor Silver Sponsor AFS Corporate Member*

Goff Inc.	2837
Henschel Andromat Inc.*	**1446**
Hi-Vac	2649
Hirado Kinzoku Kogyo Co. Ltd.	1248
JOEST Inc.*	2245
LS Industries	2543
Multi-Vac a Division of M & W Shops Inc.*	1144
New London Engineering	2937
Pangborn LLC*	**2437**
PushCorp*	737
Q&F Engineering*	2311
R Scheuchl America	1818
Reichmann & Sohn GmbH	2620
SGM Srl	2829-07
Suzhou Weijing Automation Co. Ltd.	1549
Trebi Srl*	2829-09
Viking Wheel Blast Systems*	**1428**
Weiler Abrasives	2613

Engineering/Capital Equipment - Engineering

A W Bell Machinery*	1155
Advanced Material Solutions*	2707
Advanced Pattern Works LLC*	912
Advent Silica Materials LLC	2241
Allied Mineral Products Inc.*	1649
Automation Systems & Design Inc.*	2046
Carrier Vibrating Equipment Inc.*	1525
Conveyor Dynamics*	1227
Del Sol Industrial Services Inc.	2611
Didion International Inc.*	1227
Eirich Machines Inc.*	2218
EKK Inc.	904
Elektrim Motors	1113
ESI Group Inc.	911
Fill USA Inc.	2047
Forte Tooling Technologies Nordstern Group*	1048
Foundry Educational Foundation (FEF)	549
Foundry Solutions & Design*	1619
Gemco Cast Metal Technology*	2830
Hi-Vac	2649
IACMI - The Composites Institute	2447
JOEST Inc.*	2245
Kodiak Group*	929
Kuttner North America*	2145
LS Industries	2543
Maumee Pattern Company	2125
Mflex Insulations	1749
Nederman MikroPul*	1016
Novis Works LLC*	1116
Online Resources Inc.	2826
Oritech Solutions Pvt. Ltd.	1755
Palmer Mfg. & Supply Inc.*	2129
Proservice Srl	2147
Pyrotek Inc.	1611
R Scheuchl America	1818
Reichmann & Sohn GmbH	2620
Savelli Technologies S r l	2829-06
Sinto America*	**1137**
SIR SPA*	2829-08
Storey Foundry Assistance/MCM	917
Summit Foundry Systems Inc.*	**1511**
TES-SAN LTD STI	1044
The Schaefer Group Inc.*	2055
Universal Welding & Engineering	809
Versatile Equipment Pvt. Ltd.	2519
VibraPro	1055
VIBROPROCESS SRL	2829-10
Visiometa	3024
Whiting Equipment Canada Inc.*	1823

Engineering/Capital Equipment - Environmental, Health and Safety

Albarrie Environmental Services Ltd.*	1108
Chicago Protective Apparel*	638
Compass Engineering Corp.	2818
DustMASTER Enviro Systems*	2028
Foundry Solutions & Design*	1619
Gradmatic Equipment Inc.	1906
Guardian Bandsaws*	2220
Henschel Andromat Inc.*	**1446**
Hi-Vac	2649
Hirado Kinzoku Kogyo Co. Ltd.	1248
Kuttner North America*	2145
Moffitt Corporation	1012
Mostardi Platt	648
Multi-Vac a Division of M & W Shops Inc.*	1144
Nederman MikroPul*	1016
POLYTEC USA Corp.	1855
R Scheuchl America	1818
Scientific Dust Collectors*	1751
Sinto America*	**1137**
Steel Grip Inc.	2523
Sun Metalon Inc.*	747
USI Insurance Services	751
Waltz-Holst Co.	807
Zibo Taa Metal Technology Co. Ltd.	2413

Engineering/Capital Equipment - Heat Treatment

Anhui Ningguo Hantai New Materials Limited Company	2737
Can-Eng Furnaces International Ltd.	1154
CCEWOOL Thermomax Inc.	1813
Clansman Dynamics USA*	643
LECO Corporation*	1127
Nanjing NianDa Intelligent Equipment Technology Co. Ltd.	1354
Nutec Bickley	913
Oritech Solutions Pvt. Ltd.	1755
Sun-Tec Corporation	954
Zijiang Furnace Nanjing Co. Ltd.	1255

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Engineering/Capital Equipment - Investment Casting Equipment & Accessories

A W Bell Machinery*	1155
Abrasive Technology*	1919
Advent Silica Materials LLC	2241
Anhui Ningguo Hantai New Materials Limited Company	2737
Corona Cadinhos E Refratarios	946
Elektrim Motors	1113
Eriez	2741
ESI Group Inc.	911
Everett Industries LLC*	539
EZG Manufacturing*	1655
Foundry Technologies s.r.o.	2720
Fill USA Inc.	2047
Filtec Precision Ceramics	2255
Gibson Centri Tech Ltd.	1914
Henschel Andromat Inc.*	**1446**
Hypertherm Inc.	1110
JME Technologies Inc.	806
Multi-Vac a Division of M & W Shops Inc.*	1144
New London Engineering	2937
POLYTEC USA Corp	1855
R Scheuchl America	1818
SIR SPA*	2829-08
Tianjin Shengtong Metallurgical Technology Co. Ltd.	2349

Engineering/Capital Equipment - Maintenance

Albarrie Environmental Services Ltd.*	1108
Anhui Ningguo Hantai New Materials Limited Company	2737
Arcos-USA	914
Best Performance Inc.	3018
Bronco Blast*	1104
Compass Engineering Corp.	2818
Daubert Cromwell*	1017
Elektrim Motors	1113
Empire Systems Inc.	2639
EMSCO Inc.*	1117
Epic Machine Inc.*	**1948**
Equipment Manufacturers International Inc. (EMI)*	**2111**
Flexovit USA Inc.*	2936
Hypertherm Inc.	1110
IVI Inc.*	1204
JME Technologies Inc.	806
Multi-Vac a Division of M & W Shops Inc.*	1144
Nederman MikroPul*	1016
New London Engineering	2937
Shining 3D Technology Inc.	812
SIR SPA*	2829-08
ViewTech Borescopes	918
Waltz-Holst Co.	807

Engineering/Capital Equipment - Patternmaking & Tooling

Advanced Pattern Works LLC*	912
Advanced Tooling Inc.	2727
Epic Machine Inc.*	**1948**
Forte Tooling Technologies Nordstern Group*	1048
Griffin Tool Inc.	2146
Guardian Bandsaws*	2220
Hoosier Pattern Inc.*	**1455**
Loramendi Inc.	1555
Maumee Pattern Company	2125
Michigan Pneumatic Tool*	1006
Milwaukee Machine Tool Corp.	805
Ningbo Yitailai Moulds Co. Ltd.	2347
Online Resources Inc.	2826
Q&F Engineering*	2311
Rampf Group Inc.*	2629
Texan Minerals and Chemicals LLC*	1912

Engineering/Capital Equipment - Permanent Mold Equipment & Accessories

Anhui Ningguo Hantai New Materials Limited Company	2737
ATD Engineering & Machine*	2729
Epic Machine Inc.*	**1948**
Griffin Tool Inc.	2146
Maumee Pattern Company	2125
New London Engineering	2937
R Scheuchl America	1818
Zhengzhou Zhenzhong Fused New Material Co. Ltd.	1945

Engineering/Capital Equipment - Software

AMV Soluciones S L	855
B&L Information Systems LLC*	1629
EKK Inc.	904
ESI Group Inc.	911
Finite Solutions Inc.*	1228
FLOW-3D CAST	2637
MAGMA Foundry Technologies Inc.*	**1829**
MPM Infosoft Pvt. Ltd.*	**1112**
Online Resources Inc.	2826
Reichmann & Sohn GmbH	2620
Shining 3D Technology Inc.	812
Sinto America*	**1137**
SIR SPA*	2829-08
Storey Foundry Assistance/MCM	917
Visiometa	3024

Engineering/Capital Equipment - Value-Added Services (Machining, Painting, Assembly, etc...)

Advanced Pattern Works LLC*	912
Albarrie Environmental Services Ltd	1108
AFS - The Hub*	320
Arcos-USA	914
Best Performance Inc.	3018
Daubert Cromwell*	1017
EMSCO Inc.*	1117
Epic Machine Inc.*	**1948**
Fill USA Inc.	2047
Guangdong Kingstone Robot & Technology Co. Ltd.	940
Henschel Andromat Inc.*	**1446**
Hirado Kinzoku Kogyo Co. Ltd.	1248
Hypertherm Inc.	1110
ITALCARRELLI	2829-02
Kaka Industrial LLC	1850
Milwaukee Machine Tool Corp.	805
Nanjing Guhua Electromechanical Technology Co. Ltd.	2445
Nederman MikroPul*	1016
New London Engineering	2937
Non-Ferrous Founders' Society	755
Online Resources Inc.	2826
POLYTEC USA Corp.	1855
PushCorp*	737
Q&F Engineering*	2311
Ruf Briquetting Systems	713
Saveway USA	1724
SIR SPA*	2829-08
The Bright World of Metals - Messe Duesseldorf	2621
VisiConsult X-ray Solutions Americas Corp.	2051
Zhejiang Wanfeng Technology Development Co. Ltd.	649

Melting/Melting Quality - Casting Quality & Testing

Ajax TOCCO Magnethermic Corp - Pillar Induction*	**1519**
Allied Mineral Products Inc.*	1649
AMV Soluciones S L	855
Carrier Vibrating Equipment Inc.*	1525
Foundry Solutions Metallurgical Services Inc.*	2736
FRC Global	815
Hitachi High-Tech America	1150
Inductotherm Corp.*	**1537**
Molten Metal Equipment Innovations (MMEI)*	2507
MPM Infosoft Pvt. Ltd.*	**1112**
Ningxia Carbonhel New Material Co. Ltd.	2615
Qinhuangdao Hongtong Machinery Co. Ltd.	2409
Shandong Hengqiao Energy Industrial Co. Ltd.	845
Shining 3D Technology Inc.	812
SYSCON Sensors*	2237
Youngstown State University	640

Melting/Melting Quality - Ferrous Melt Quality

Diamant Polymers Inc.	1811
Didion International Inc.*	1227
Hiller Carbon	905
Hitachi High-Tech America	1150
Joyo Carbon Materials Co. Ltd.	2019
Ningbo Jingzhi Mould Co. Ltd.	1045
Ningxia Carbonhel New Material Co. Ltd.	2615
Proservice Srl	2147
Sichuan Heyi Electrical Technology Co. Ltd.	2251
U-Metco Inc.	1010

Melting/Melting Quality - Ferrous Melting

Ajax TOCCO Magnethermic Corp - Pillar Induction*	**1519**
AMAFOND	2829
AMV Soluciones S L	855
Bartley Crucible & Refractories Inc.	2246
Empire Systems Inc.	2639
Henan Weiye New Materials Co. Ltd.	2525
Induction Technology Corp.*	920
Inductotherm Corp.*	**1537**
Joymark*	1820
Kodiak Group*	929
Low Carbon Metal Limited	745
Ningxia Carbonhel New Material Co. Ltd.	2615
Quigley Crucible R & S Co. Inc.*	1854
RHI Magnesita	2123
Saint-Gobain Ceramics & Plastics	2706
Silver Needle Inc.	2110
Texan Minerals and Chemicals LLC*	1912
The Hill & Griffith Co.*	2529
Unimetal USA Inc-Larpen Metallurgical Service	2018
United Refractories Co.	1819
Washington Mills	827
Whiting Equipment Canada Inc.*	1823

Melting/Melting Quality - Ferrous Pouring

Ajax TOCCO Magnethermic Corp - Pillar Induction*	**1519**
Bartley Crucible & Refractories Inc.	2246
Filtec Precision Ceramics	2255
Hebei Guoning Heavy Industry Manufacturing Co. Ltd.	1747
Inductotherm Corp.*	**1537**
IRB Inc.	1910
Kodiak Group*	929
Kuttner North America*	2145
Ningxia Carbonhel New Material Co. Ltd.	2615
Quigley Crucible R & S Co. Inc.*	1854
Sinto America*	**1137**
The Hill & Griffith Co.*	2529
United Refractories Co.	1819
Whiting Equipment Canada Inc.*	1823

Melting/Melting Quality - Nonferrous Melt Quality

AMV Soluciones S L	855
Diamant Polymers Inc.	1811
Foundry Solutions Metallurgical Services Inc.	2736
Hitachi High-Tech America	1150
Molten Metal Equipment Innovations (MMEI)*	2507
Morgan Advanced Materials*	1054
Nanjing Guhua Electromechanical Technology Co. Ltd.	2445
Palmer Mfg. & Supply Inc.*	2129

Melting/Melting Quality - Nonferrous Melting

Ajax TOCCO Magnethermic Corp - Pillar Induction*	**1519**
AMAFOND	2829
AMV Soluciones S L	855
Applied Foundry Solutions	2619
Bartley Crucible & Refractories Inc.	2246
Henan Weiye New Materials Co. Ltd.	2525
Induction Technology Corp.*	920
Inductotherm Corp.*	**1537**
Molten Metal Equipment Innovations (MMEI)*	2507
Qinhuangdao Hongtong Machinery Co. Ltd.	2409
Quigley Crucible R & S Co. Inc.*	1854
RHI Magnesita	2123
Saint-Gobain Ceramics & Plastics	2706
Scott Sales Co.*	1355
Sichuan High Casting Materials Ltd.	1250
United Refractories Co.	1819
Whiting Equipment Canada Inc.*	1823
ZIRCAR Ceramics Inc.	1745

Melting/Melting Quality - Nonferrous Pouring

A W Bell Machinery*	1155
Ajax TOCCO Magnethermic Corp - Pillar Induction*	**1519**
Bartley Crucible & Refractories Inc.	2246
Foundry Solutions Metallurgical Services Inc.	2736
Inductotherm Corp.*	**1537**
LPM SPA	2829-03
Molten Metal Equipment Innovations (MMEI)*	2507
Palmer Mfg. & Supply Inc.*	2129
Polymet Alloys Inc.	2250
Qinhuangdao Hongtong Machinery Co. Ltd.	2409
Quigley Crucible R & S Co. Inc.*	1854
Scott Sales Co.*	1355
Sinto America*	**1137**
The Hill & Griffith Co.*	2529
The Schaefer Group Inc.*	2055
Thermtronix Corporation	2454
United Refractories Co.	1819
Whiting Equipment Canada Inc.*	1823

Molding Processes - Centrifugal

FLOW-3D CAST	2637
Hebei MaiShi Machinery & Equipment Co. Ltd.	2642
REFCOTEC Inc.*	**1737**
Zibo Taa Metal Technology Co. Ltd.	2413

Molding Processes - Chemically-Bound Sand

Conveyor Dynamics*	1227
Del Sol Industrial Services Inc.	2611
Didion International Inc.*	1227
Fargowear Inc.	2350
Gemco Cast Metal Technology*	2830
HA Group*	**1245**
Henan Tuorui Abrasive Material Co. Ltd.	2836
IRB Inc.	1910
JOEST Inc.*	2245
Kuttner North America*	2145
Palmer Mfg. & Supply Inc.*	2129
Mancuso Chemicals Ltd.	1737
Novis Works LLC*	1116
REFCOTEC Inc.*	**1737**
Sinto America*	**1137**
Southeastern Foundry Products & Foundry Coatings Inc.*	1807
Suzhou Xingye Material Technology Co. Ltd.	2257
TEMC Metal & Chemical Corp.*	1946

Molding Processes - Continuous

Best Performance Inc.	3018
TES-SAN LTD STI	1044
Zijiang Furnace Nanjing Co. Ltd.	1255

Molding Processes - Diecasting

AMAFOND	2829
Diamant Polymers Inc.	1811
FLOW-3D CAST	2637
GFS Gravity SRL	2829-01
Griffin Tool Inc.	2146
Henan Tuorui Abrasive Material Co. Ltd.	2836
LPM SPA	2829-03
Magaldi Technologies LLC*	1728
Progelta S R L	2829-05
Qinhuangdao Hongtong Machinery Co. Ltd.	2409
Shandong Hengqiao Energy Industrial Co. Ltd.	845
Southeastern Foundry Products & Foundry Coatings Inc.*	1807
TEMC Metal & Chemical Corp.*	1946
The Hill & Griffith Co.*	2529

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Molding Processes - Green Sand

Conveyor Dynamics*	1227
Didion International Inc.*	1227
ELM DOKUM MAKINELERI	1046
Empire Systems Inc.	2639
Equipment Manufacturers International Inc. (EMI)*	2111
Forte Tooling Technologies Nordstern Group*	1048
Gemco Cast Metal Technology*	2830
Green Diamond Performance Materials*	851
HA Group*	1245
Henan Weiye New Materials Co. Ltd.	2525
JOEST Inc.*	2245
Joymark*	1820
Kodiak Group*	929
Kuttner North America*	2145
MPM Infosoft Pvt. Ltd.*	1112
Proservice Srl	2147
Q&F Engineering*	2311
Qingdao Huacan Heavy Industry Co. Ltd.	2624
REFCOTEC Inc.*	1737
Savelli Technologies S r l	2829-06
Sinto America*	1137
Southeastern Foundry Products & Foundry Coatings Inc.*	1807
Summit Foundry Systems Inc.*	1511
TEMC Metal & Chemical Corp.*	1946
Texan Minerals and Chemicals LLC*	1912
Thermotec LLC*	1846
VIBROPROCESS SRL	2829-10
Ziheng Tianjin Industry Co. Ltd.	2155

Molding Processes - Investment

A W Bell Machinery*	1155
Advent Silica Materials LLC	2241
FLOW-3D CAST	2637
HA Group*	1245
Italian Trade Agency	2829

Molding Processes - Lost Foam

HA Group*	1245
Hebei Guoning Heavy Industry Manufacturing Co. Ltd.	1747
REFCOTEC Inc.*	1737
Southeastern Foundry Products & Foundry Coatings Inc.*	1807
TEMC Metal & Chemical Corp.*	1946
Zibo Tongpu Vacuum Equipment Co. Ltd.	1147

Molding Processes - Permanent Mold

ATD Engineering & Machine*	2729
CMH Manufacturing Co.	2718
FLOW-3D CAST	2637
Forte Tooling Technologies Nordstern Group*	1048
Foundry Solutions Metallurgical Services Inc.	2736
Gemco Cast Metal Technology*	2830
Griffin Tool Inc.	2146
HA Group*	1245
Ningbo Jingzhi Mould Co. Ltd.	1045
TEMC Metal & Chemical Corp.*	1946
The Hill & Griffith Co.*	2529

Molding Processes - Vacuum Processes (sand or metal mold)

Advent Silica Materials LLC	2241
Kaeser Compressors Inc.	1149
REFCOTEC Inc.*	1737
Sinto America*	1137
Zhengzhou Zhenzhong Fused New Material Co. Ltd.	1945

Sand Mold/Core Making - Additive Manufacturing

Chesapeake Specialty Products*	841
ESI Group Inc.	911
HA Group*	1245
Henan Weiye New Materials Co. Ltd.	2525
Hoosier Pattern Inc.*	1455
Humtown Products*	637
Jinan Shengquan Group Share-holding Co. Ltd. (SQ Group)	2148
LightSpeed Concepts Inc.*	537
MPM Infosoft Pvt. Ltd.*	1112
Product Development & Analysis (PDA) LLC	820
Shining 3D Technology Inc.	812
Sichuan High Casting Materials Ltd.	1250
Suzhou Xingye Material Technology Co. Ltd.	2257

Sand Mold/Core Making - Core Machines

AMAFOND	2829
ATD Engineering & Machine*	2729
CASTEC Inc.	808
Equipment Manufacturers International Inc. (EMI)*	2111
Foundry Technologies s.r.o.	2720
Gaylord Family Enterprises Inc.	2013
Hebei Guoning Heavy Industry Manufacturing Co. Ltd.	1747
LAEMPE REICH*	1337
Loramendi Inc.	1555
MEC IND SRL	2829-04
Palmer Mfg. & Supply Inc.*	2129
Proservice Srl	2147
Qingdao Huacan Heavy Industry Co. Ltd.	2624
Sichuan High Casting Materials Ltd.	1250
Sinto America*	1137

Sand Mold/Core Making - Coremaking

Best Performance Inc.	3018
CARBO*	2738
Hoosier Pattern Inc.*	1455
Humtown Products*	637
IRB Inc.	1910
Joymark*	1820
Kore Mart Ltd.*	1847
Mancuso Chemicals Ltd.	1737
Novis Works LLC*	1116
Nugent Sand	2044
Q&F Engineering*	2311
Rampf Group Inc.*	2629
Shells Inc.	945
Southeastern Foundry Products & Foundry Coatings Inc.*	1807
Supreme Cores*	810
Thermotec LLC*	1846

Sand Mold/Core Making - Rapid Prototyping

Hebei MaiShi Machinery & Equipment Co. Ltd.	2642
Hoosier Pattern Inc.*	1455
Humtown Products*	637
Maumee Pattern Company	2125
Qingdao Huacan Heavy Industry Co. Ltd.	2624

Sand Mold/Core Making - Sand Molding Equipment

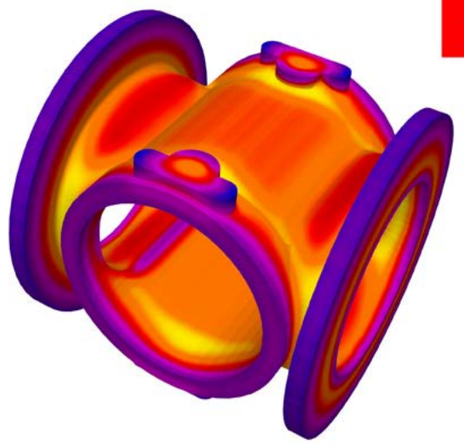
ATD Engineering & Machine*	2729
Best Performance Inc.	3018
Conveyor Dynamics*	1227
Del Sol Industrial Services Inc.	2611
Eirich Machines Inc.*	2218
Empire Systems Inc.	2639
Fremont Flask Company	1051
Magaldi Technologies LLC*	1728
MEC IND SRL	2829-04
Novis Works LLC*	1116
Qingdao Huacan Heavy Industry Co. Ltd.	2624
Sinto America*	1137
TES-SAN LTD STI	1044
Texan Minerals and Chemicals LLC*	1912
Zibo Tongpu Vacuum Equipment Co. Ltd.	1147
Ziheng Tianjin Industry Co. Ltd.	2155

Sand Mold/Core Making - Sand Preparation & Testing

AMAFOND	2829
Badger Mining Corporation*	844
Covia Corporation*	837
Didion International Inc.*	1227
DustMASTER Enviro Systems*	2028
Eirich Machines Inc.*	2218
Empire Systems Inc.	2639
Fargowear Inc.	2350
Gemco Cast Metal Technology*	2830
HA Group*	1245
Henan Tuorui Abrasive Material Co. Ltd.	2836
ITOCHU Ceratech Corp.	711
JOEST Inc.*	2245
Kodiak Group*	929
Mancuso Chemicals Ltd.	1737
Novis Works LLC*	1116
Qingdao Huacan Heavy Industry Co. Ltd.	2624
REFCOTEC Inc.*	1737
Savelli Technologies S r l	2829-06
Sinto America*	1137
Versatile Equipment Pvt. Ltd.	2519
VIBROPROCESS SRL	2829-10

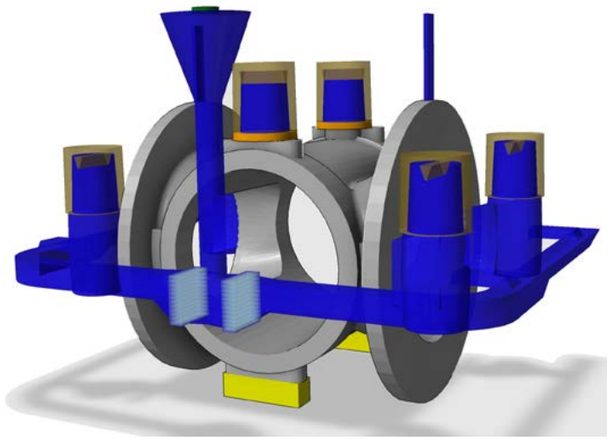
SOLID 9 CAST

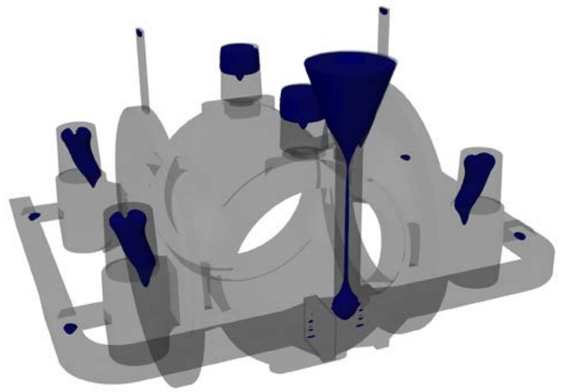
FLOW 9 CAST



From a 'naked' casting...

To a fully rigged model...





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0-9

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333 Three D Systems Cir.
Rock Hill, SC 29730
http://www.3dsystems.com
(888) 598-1438

A

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Australia
http://www.bellmachinery.com
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http://www.abpinduction.com
(732) 932-6400

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https://www.abrasive-tech.com/
(740) 548-4100

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http://www.advacedpatternworks.com
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Hundreds of foundries, castings purchasers, and suppliers to the metalcasting industry rely on the Institute each year to train and develop their employees. The Institute has trained nearly 91,600 students since 1957. The Institute offers training in these convenient formats:

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http://www.afsinc.org
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Warren, OH 44483-2860
https://www.ajaxtocco.com
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Italy
http://www.amafond.com
+39 02 7750219

Founded in 1946, AMAFOND is the Italian Association of Foundry Suppliers'. It currently represents about 100 manufactures responsible for the majority of the Italian output in this sector, which is sold worldwide. Among its members, Amafond counts the leading Italian manufacturers of industrial furnaces, green sand and no-bake plants, core shooters, gravity and low pressure plants, die casting machineries, moulds and cores and products for the ferrous and non-ferrous foundry industry.

American Metalcasting Consortium **754**
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https://amc.ati.org/
(803) 507-1877

AMV Soluciones S L **855**
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http://www.amvsoluciones.com
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Au Gres, MI 48703
http://www.atdemllc.com
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http://www.badgerminingcorp.com
(920) 361-2388

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Saint Marys45885
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(262) 785-7577

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Can-Eng Furnaces International Ltd. **1154**
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http://www.carpenterbrothersinc.com
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Carrier Vibrating Equipment Inc.* **1525**
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http://www.carriervibrating.com
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CASTEC Inc. **808**
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http://www.castecinc.com
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http://www.ChampionChisel.com
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Champion Chisel Works, Inc. is a family owned business manufacturing products in Rock Falls, Illinois, and distributing out of multiple warehouses across the United States. Champion serves many industries including rental companies, construction distributors, STAFDA companies and many industrial accounts throughout North America. We at Champion take great pride in supplying high quality products, shipped on time at competitive prices. Many companies claim this, but we deliver it one shipment at a time.

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Chesapeake Specialty Products, Inc. is a U.S.-based company that operates worldwide with facilities in both the USA and Asia. We are committed to sustainable manufacturing practices in the production of metallic abrasives, foundry sand additives, and iron products. Our eco-friendly products not only reduce waste and minimize emissions but also provide cost-effective solutions to consumers.

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http://www.ClansmanDynamics.com
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http://compassengr.com
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(636) 278-1111

Conveyor Dynamics will feature its line of Vibratory Foundry Equipment. Mold Dump Conveyors, Shakeout/Attrition Mills, Sorting Conveyors, Indexing Furnace Charging Feeders, Shot Blast Feeders, Sand Screeners, and Casting Cooling Conveyors. Unique features include variable speed and our dynamically balanced and isolated design to isolate vibration and lower foundation and installation costs.

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http://www.CoviaCorp.com
(800) 243-9004

Covia is a leading provider of diversified mineral solutions to a variety of industrial markets, including glass, ceramics, coatings, metals, foundry, polymers, construction, water filtration, and sports and recreation. The company serves its customers through a broad array of essential, high-quality products, including high-purity silica sand, nepheline syenite, feldspar, kaolin and ball clays, cristobalite, and coated materials. Long-standing relationships with a broad customer base enable Covia's market-inspired approach to innovation to enhance solutions and customer benefits.

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D

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China
http://www.danisun.com
+86 13501674625

As an ISO9001-2015 certified manufacturer, Danisun International Materials Co., Limited offers a variety of foundry materials and measurement instruments serving foundry industry, e.g. recarburizer, slag coagulant, liquid metal cleaner, foam ceramic filter, thermocouple, CE cup and thermal analyzer. Over the past 15 years of foundry materials supply, the company has accumulated rich experience in serving foundry industry. Today, Danisun is well recognized as a professional provider of not only proven products with functional performance, but also value-added technical consultation.

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http://www.daubertcromwell.com
(708) 293-7750

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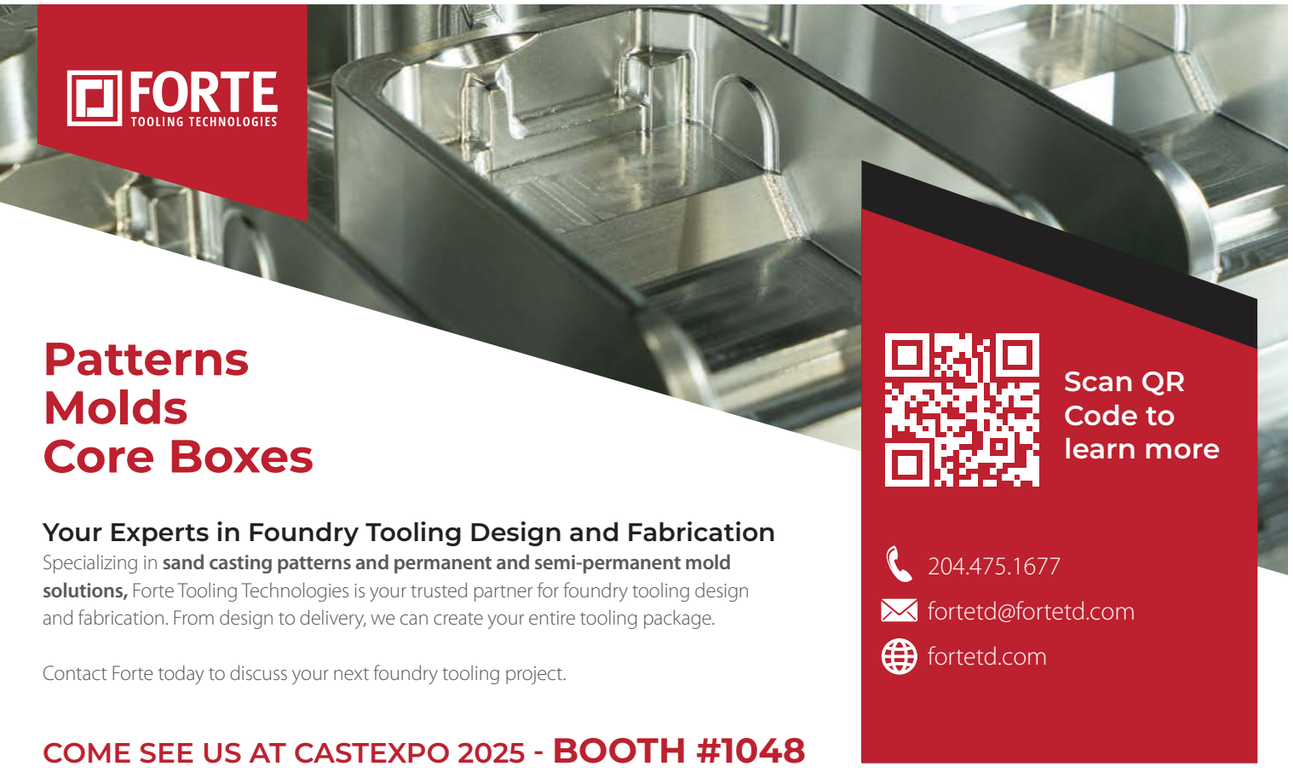

Del Sol Industrial Services, Inc. offers foundry engineering and project management, foundry equipment, and specialized technical foundry consumables. We specialize in difficult projects and detailed technical solutions.

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E

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http://www.eirichusa.com
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http://www.empiresystemsinc.com
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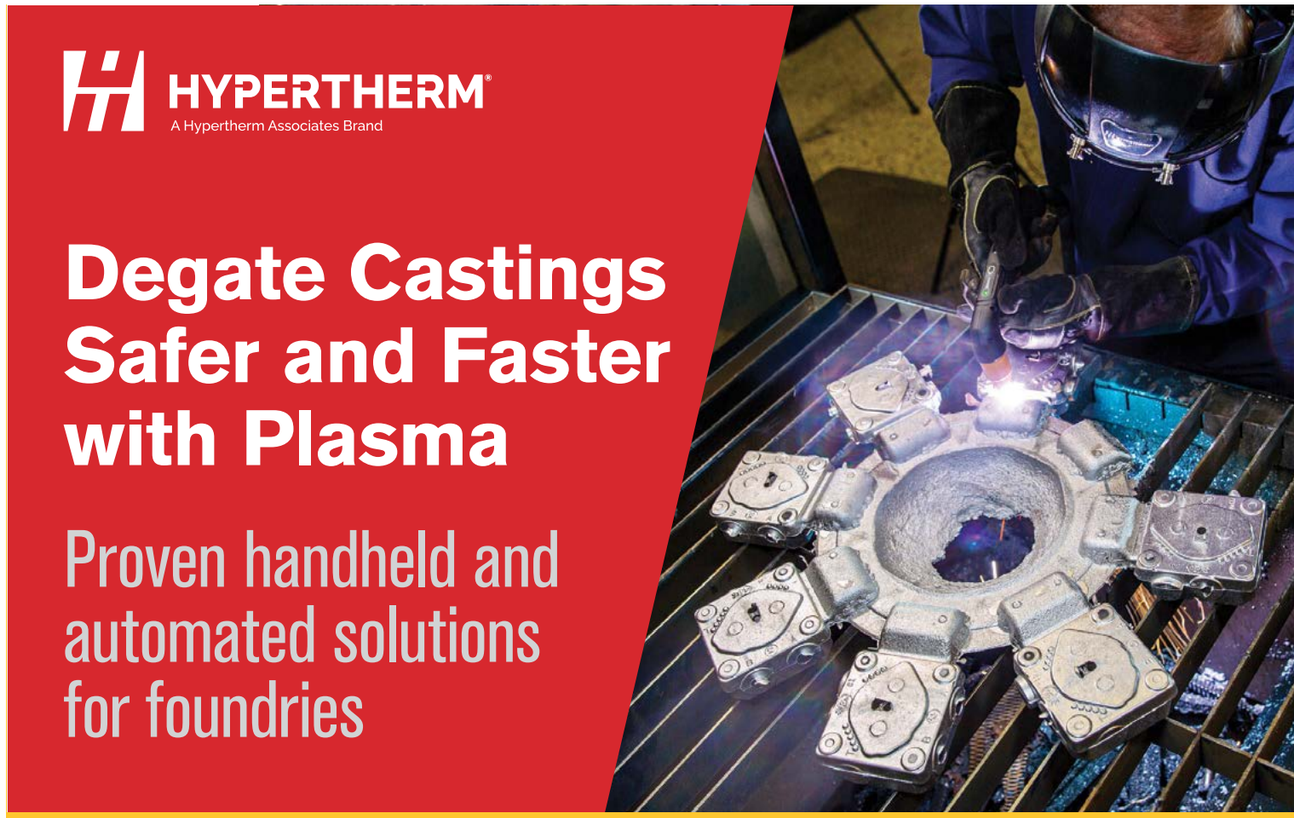

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http://www.ezgmfg.com
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http://www.fptscrap.com
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Filtec Precision Ceramics **2255**
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Smart City, Chancheng District
Foshan, Guangdong 528000
China
http://www.filteco.com
+86 0757-82667098

Filtec Precision Ceramics Co., Ltd. (In short: Filtec) launched in April 2005, from the historical city Foshan, Guangdong, China. We specialized in manufacturing consumable engineering ceramics and unique refractory products for the foundry industry, metallurgical industry, air-purification, heat treatment area, etc. With more than 20 years of experience, our products have been used

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http://www.foundry-technologies.eu
+393455506224

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Gibson Centri Tech Ltd. **1914**
Hilltop Works Trent Valley Industrial Estate Eastern Ave
Lichfield, Staffordshire WS13 6UY
United Kingdom
http://www.gibsoncentritech.com
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(215) 368-7265

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Guangdong Kingstone Robot & Technology Co. Ltd. 940
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China

Founded in 2010, Kingstone Robot is a high-tech enterprise which focuses on researching and developing of software and hardware systems for robotic grinding & polishing system and provides turnkey solutions for customers. Kingstone has established strategic cooperation partnerships with world-classed robotic companies, such as FANUC, KUKA, and ABB. Kingstone provide customers with automatic control system of polishing in different industries. The products are widely used in sanitary ware kitchen, automobile and motorcycle parts, building hardware, sports equipment.

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https://www.guardianbandsaw.com/
(402) 708-7199

Gudgeon Thermfire Intl. Inc.* 2336
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London, ON N6M 1A1
http://www.gudgeon.on.ca
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HA Group* 1245
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(262) 569-7410

Hebei Guoning Heavy Industry Manufacturing Co. Ltd. 1747
1101, Block C, Tianshan Galaxy Plaza,
No.358 Yuhua East Road, High tech Zone
Shijiazhuang 050000
China
http://www.gnepc.com
+86 13231138565

Hebei Guoning Heavy Industry Manufacturing Co.,Ltd.,located inShijiazhuang City,Hebei Province,specializes in the production,research and development,and sales of lost foam casting equipment.We provide customers with a conplete set of lost foam castingequipment,lost foam production line design planning,and processtraining.We adhere to the principle of "taking casting processrequirements as the guide and ensuring process with exclusivedesign solutions"!its products are exported to more than 20countries and regions,And has been awarded the title of"High Quality Supplier" by customers.

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Zhengzhou, Henan
China
https://sanhuiabrasive.com/
0086-371-5683130

Sanhui Abrasives Co. Specializes in producing black silicon carbide, green silicon carbide, brown fused alumina, white fused alumina, chrome (pink) fused alumina, and engineering applications of high-quality abrasives for customers around the world, with advanced air grading machine, pickling pure water fine rinsing technology, our abrasives are widely used in sandblasting surface treatment, sand belt, coated abrasive tools, sponge abrasive tools, buffing &polishing wheels and other fields.

Henan Tuorui Abrasive Material Co. Ltd. 2836
1810 Yaxing Bldg Shangjie Dist
Zhengzhou, Henan 450041
China
http://www.rnabrasives.com/
0086-371-63371160

Henan Tuorui Abrasive Material Co.,Ltd is the professional supplier of abrasives and refractory material.We are available to produce according to America ANSI standard, Japan JIS standard,Europe FEPA standard,etc. With more than 15 years experience of exporting,our products are mainly export to Europe, India, South Korea, Japan, Turkey,etc. Our main products include Brown Fused Alumina, White Fused Alumina, Tabular Alumina, Low sodium white fused alumina, Silicon Carbide and Fused zircon alumina for industries in coated & bonded abrasives, grinding, polishing, sandblasting, refractory material and more.

Henan Weiye New Materials Co. Ltd. 2525
No.6,High-tech Torch Park, No. 666 Shenma Avenue
Pingdinshan, Henan 467000
China
http://www.shengshiweiye.cn
375-3990 x699

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Japan
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(309) 756-0200

Hoosier Pattern Inc.* **1455**
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Decatur, IN 46733
https://hoosierpattern.com/
(260) 724-9430

At Hoosier Pattern we pride ourselves on being innovative and consistently raising the bar within the industry while maintaining the level of quality that we have always been known for. Located in Decatur, Indiana, Hoosier Pattern started in 1997 in a 3,500 square foot space. Today, we operate a 90,000 square foot facility with state-of-the-art technology allowing us to cater to our customers' ever-changing 3D printing and tooling needs. Our technology includes: 3D Sand Printing, CNC Machining, CNC Turning 3D Modeling, 5-Axis Machining Laser Scanning, CMM Verification, and FDM Printing.

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I

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https://iacmi.org/

IACMI – The Composites Institute is a national leader in advanced manufacturing, composite materials, and technologies. Founded in 2015 by the Department of Energy, IACMI connects industry, academia, and government to strengthen U.S. manufacturing and workforce development. Recognized for programs like METAL and ACE, supported by IBAS, IACMI empowers the next generation of innovators. Headquartered in Knoxville, Tennessee, it advances technology to position the U.S. as a leader in advanced manufacturing.

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https://www.ice.it/it
(312) 670-4360

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J

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L

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Ferroalloy Products

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China
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8613818521759

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https://lsindustries.com
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http://www.luckysoundgroup.com

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M

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http://www.magaldi.com
(678) 705-9219

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Matthews Additive Technologies* **1925**
Two North Shore Center
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(313) 933-5890

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Laguna Hills, CA 92653
http://www.miraclesteels.com
(714) 955-9006

Moffitt Corporation **1012**
1351 13th Ave S.
Ste 130
Jacksonville Beach, FL 32250
http://www.moffittcorp.com/

Moffitt creates better industrial environments through custom ventilation solutions. Designing the right ventilation solution for your specific facility can solve problems like extreme temperatures, excessive dust or particulate or high humidity to meet your goals within your budget. We offer free building assessments and ventilation designs, advanced computational fluid dynamics (CFD) modeling and expert installation. Contact us today to moderate building temperatures and create a safer, more comfortable, more productive work environment. industrial environments.

Molten Metal Equipment Innovations (MMEI)* **2507**
15510 Old State Rd.
Middlefield, OH 44062
http://www.mmei-inc.com
(440) 632-9119

MMEI designs, manufactures, sells, and supports a complete line of engineered molten metal circulation pumps and transfer pumps to improve metal flow challenges and solve flow problems. MMEI also offers a complete scrap submergence solution called the ScrapEater, designed to increase metal reclamation and improve metal quality. To compliment the entire process, MMEI offers complete in-line degassing systems and replacement parts designed to withstand harsh foundry requirements and provide many years of trouble-fee service, while minimizing maintenance costs.

Morgan Advanced Materials* **1054**
2102 Old Savannah Road
Augusta, GA 30906
http://www.morganmms.com
(+1) 984-2270 x691

Morgan Molten Metal Systems is a global leader in manufacturing high-performance crucibles and foundry products, serving ferrous and non-ferrous foundries worldwide. With decades of expertise, we deliver sustainable solutions that enhance efficiency and reliability. Our product range made from advanced ceramics, designed for superior performance and durability for aluminium, copper, zinc, precious metals and ferrous alloys. With a global network and expert support, we provide tailored, high-quality solutions that evolve with industry needs, ensuring optimal performance and sustainability.

Mostardi Platt **648**
888 Industrial Drive
Elmhurst, IL 60126
https://mostardiplatt.com/
(219) 775-6790

Mostardi Platt is a full-service environmental consulting firm, proudly serving clients in the US and worldwide since 1976. As the world grows more environmentally conscious, Mostardi Platt recognizes the need for an all-encompassing consulting service to help businesses navigate environmental compliance and workplace related health and safety risks. Mostardi Platt is committed to bringing regulation changes to the forefront of our client's attention, and to offering holistic solutions for all industries served.

MPM Infosoft Pvt. Ltd.* **1112**
M-22 Hingna Ind. Est.
Nagpur, Maharashtra 440 016
India
http://www.mpminfosoft.com
91 (973) 0031025

SANDMAN is a globally patented, cloud-based data analytics software designed to optimise the entiregreen sand foundry system. Standing at the forefront of casting technology, SANDMAN offers more than just analytical insight,it provides real-time,actionable guidance that keeps foundry systems and processes operating at peak eficiency.At the heart of this innovation is the ablity not only to optimise sand but also to digitally transform the end-to-end foundry eco-system creating a seamless flowof datafrom sand preparation to molten metalpouring.

MRO Resources **907**
PO Box 2482
Mount Pleasant, SC 29465
https://mroresources.net/
(843) 801-2955

Multi-Vac a Division of M & W Shops Inc. **1144**
21115 Radius Bend
Union Grove, WI 53182
https://multivacinc.com/
(262) 878-0366

Multi-Vac Industrial Vacuums have been keeping foundries clean since 1990. Designed for and around the foundry industry, our Industrial Vacuum Cleaners are built to last, just like your castings. From Molding, to Core Room, to Casting, to custom machine integration- our sales and engineering staff are committed to fitting the right machine to your operation and application. With a variety of models, capacities, and custom features, Multi-Vac units are built for reliability and longevity, giving you the most for your investment. The Multi-Vac team is ready to get to work for you!

N

Nanjing Guhua Electromechanical Technology Co. Ltd. **2445**
No 16 Chenlv Rd. Xiongzhou St. Luhe District
Nanjing, Jiangsu 211500
China
https://en.njguhua-et.com/
+86-25-57501609

Nanjing Guhua Electromechanical Technology Co., LTD is a national high-tech enterprise and a member of the China Foundry Association in China. GUHUA brand ultrahard grinding tools & equipment for foundry industry have independent brand, independent intellectual property rights, and are specially developed and produced for the characteristics of foundry industry and problems of traditional grinding tools and equipment.are the upgrade and update of traditional diamond ultrahard grinding tools, resin silicon carbide and corundum grinding tools.

Nanjing NianDa Intelligent Equipment Technology Co. Ltd. **1354**
Building 13, Xianlin Zhigu Qixia District
Nanjing Jiangsu 210033
China
https://en.ndly.com.cn/
(86) 258666 2021

Nianda, established in 1973, specializes in the production of industrial furnaces and ovens. Today, it is a leading company in the design and manufacturing of heat treatment equipment for a wide range of industries, including casting, catalysts, steel, metallurgy, automotive, aerospace, machinery, ferrous and non-ferrous metals, new energy, and petrochemicals. With over 50 years of expertise in thermal processing, Nianda leverages its technical knowledge to provide innovative solutions for critical applications across various markets worldwide.

Nederman MikroPul* **1016**
4433 Chesapeake Dr.
Charlotte, NC 28216
https://www.nedermanmikropul.com
(704) 736-3593

Nederman MikroPul is a global organization that specializes in industrial air filtration for heavy process industries, like metal production, power generation, mineral processing, chemical industry, etc. Along with the patented pulse-jet dust collector, Nederman MikroPul develops a broad range of air pollution control technologies.The production of non-ferrous metals creates unique air pollution control changes. Keep operating and maintenance costs to a minimum with safe, clean, and efficient production using complete solutions for dust and fume extraction at all stages in the foundry process.

New London Engineering **2937**
1700 Division Street
New London, WI 54961
http://www.nleco.com
(920) 982-4030

New London Engineering is a full-line manufacturer of standard and custom engineered conveyors and conveyor systems located in New London, Wisconsin. With 75 years of experience making some of the toughest, most cost-effective, and well-designed conveyor equipment available. We are confident you'll find the right conveyor for your needs. Product offering includes hinged steel belt conveyors, cleated incline belt conveyors, magnetic conveyors, plastic chain belt conveyors, tabletop chain conveyors, slat conveyors, harsh environment heavy duty chain driven live rollers and wire mesh conveyors.

Ningbo Jingzhi Mould Co. Ltd. **1045**
No. 78, Xiangshenhe Road, Industry Zone
Ningbo, Zhejiang 315700
China
http://www.jz-mold.com
(86) 574-2570 x3306

Ningbo Jingzhi Mould Co., Ltd. is one of the market leaders in the development, design and manufacture of metal casting moulds and tools in China. Over the years, we have developed solutions for sand casting, gravity casting and low pressure casting processes such as iron and light metal casting for the global market. Main equipment: 12 high-speed CNC machining centers, 1 five-axis deep drilling machine, 1 five-axis machining center. Quality system: ISO9001:2015. Software: Autocad, Siemens NX, Pro/E, Catia, etc.

Ningbo Yitailai Moulds Co. Ltd. **2347**
No.232, Danyang Road, Economic Development Zone, Xiangshan County
Ningbo, Zhejiang 315700
China
http://www.yitailai.com

NINGBO YITAILAI MOULDS CO.,LTD. is located in Xiangshan County Industrial Park , Ningbo city,Zhejiang province,which is nationally famous capital of casting moulds. YTL covers an area of 15000 square meters, construction area of 13000 square meters. YTL a history more than 30 years of design, manufacturing casting tooling, we have a professional design and manufacture team. YTL main business include:1) Sand casting mold; 2) Gravity casting mold; 3) Low pressure casting mold; 4) Die casting mold

Ningxia Carbonhel New Material Co. Ltd. 2615
#1366, 13/F, Xintong Building, Beijing Road,
Jinfeng Area
Yinchuan City, Ningxia 750001
China
http://www.carbonhel.com
86 15378995030

NINGXIA CARBONHEL NEW MATERIAL CO.,LTD have more than 20years experiences for producing carbon and coke products. The main products including graphitized petroleum coke, calcined petroleum coke, gas calcined anthracite/carbon additive/carbon raiser, electricity anthracite coke, calcium aluminate, silicon carbide, silicon metal etc. Products main used for steel making, foundry/casting, ductile iron and so on industries.

Ningxia Hengtai International Trade Co. Ltd. 1254
Room No1603, Shanshang Building Commercial Comprehensive Block B
West of Hongqiao South Road, Desheng Commercial and Residential Area, Xigang Town, Helan County, Yinchuan, Ningxia
China
http://www.hengtaicarbons.com
0086 0951 5105780

Ningxia Hengtai International Trade Co., Ltd, is the subsidiary company of Ningxia Hengtai Carbons Co., Ltd, which was established in 2014, mainly in the business of exportingof Carbon & Graphite products, such as Carbon Raiser, Calcined Petroleum Coke, Silicon Carbide, Met Coke, Foundry Coke. We also have Ferro Alloys products like: Fesi, Nodularizer, Inoculator, etc. Over the years, we have partners all over the world, including South Korea, Japan, United States, India, Brazil and Thailand Countries and Regions.

Ningxia Megastar Co. Ltd. 910
10th Fl., Hengtai Bldg., Huanghe East Rd.
Yinchuan, Ningxia 750002
China
http://www.megastar-china.com
+86-951-6993099, 4112168

Ningxia Megastar Co., Ltd. is specialized in supplying non-ferrous metals (Silicon, Magnesium, Calcium, Titanium) Ferro-alloys (FeSiCa, FeSiBa, FeSiZr, FeSiRE, Inoculants and Nodulizers), Rare Earth metals, Mischmetals, Lanthanum, Cerium Metals, and Graphite/ Carbon products as well as Cored Wires for foundry industries.

Non-Ferrous Founders' Society 755
905 E. Chicago Road, Suite One
Sturgis, MI 49091
http://www.nffs.org
(847) 299-0950

The Non-Ferrous Founders' Society (NFFS) is the premier North American trade association for the non-ferrous metalcasting industry. NFFS is your proven resource for information and services vital for effective non-ferrous foundry management. Joining NFFS provides your foundry with information and resources to help you remain competitive and strong in a volatile business climate.

Norican Group: DISA | ItalPresseGauss Monitizer | SIMPSON | StrikoWestofen Wheelabrator* 1936
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LaGrange, GA 30240
http://www.noricangroup.com/en-us
(706) 884-6884

NovaCast Solutions USA Inc.* 1815
1952 McDowell Road, Ste. 110
Naperville, IL 60563
http://www.novacast.se
(630) 450-1647

Novis Works LLC* 1116
400 Shroyer Ave SW
Canton, OH 44702
http://www.novisworks.com
(330) 453-4646

Novis Works, LLC is a specialty chemical company located in NE Ohio that developed and uses a unique method of manufacturing. Our Technical Sales Team has over 300 years of combined experience in the metalcasting industry. Novis Works is strategically linked with MT Systems, an industry leader in process control & system automation. This unique blend of experience yields superior process support, process control and chemical knowledge. Products include specialty resins, release agents, sand additives, adhesives, amine recycling and engineering services. Please visit us at Booth 1116.

Nugent Sand 2044
4912 Russell Rd.
Muskegon, MI 49445
http://www.nugsand.com
(231) 755-1686

Nutec Bickley 913
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Santa Catarina, NL 66359
http://www.nutecbickley.com
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"ENGINEERED THERMAL SOLUTIONS" Nutec Bickley, created in 2000 when Bickley joined Nutec, is committed to carry on the tradition of excellence that began with the delivery of the first Bickley furnace in 1958. When coupled with Nutec Bickley's high quality and low-cost manufacturing capabilities, this synergy results in a company that can offer top quality and high tech Heat Treating equipment at very competitive prices. Nutec Bickley, has established itself as one of the prime furnaces and ovens engineering /manufacturing companies in the world.

O

Omni 1029
7575 West Jefferson Blvd.
Fort Wayne, IN 46804
http://www.omnisource.com
(260) 422-5541

Omni is a trusted, dependable source of ferrous and non-ferrous recycled metals; producing an array of high-quality products for foundry and mill raw material applications including busheling, cast, P&S, shred, slitter, copper, aluminum, brass, stainless & alloys. Our focus on customer needs and in-depth knowledge of melting operations makes Omni the obvious choice for foundry scrap products. Advanced processing and material management systems ensure consistency and reliability across all product categories, providing solutions that are customer driven and environmentally responsible.

Online Resources Inc. 2826
125 N West Street
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http://www.onlineresourcesinc.com
(765) 482-9700

Online Resources, Inc., is a 3D solutions provider offering innovative tools for 3D design, reverse engineering, dimensional inspection, and AQC Automation allowing you to revolutionize the way you get the data you need. In addition, our expert team of 3D Engineers offer services to help you along the way.

Opta Group 555
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Amherst, NY 14226
http://www.optainc.com
(716) 446-8888

Oritech Solutions Pvt. Ltd. 1755
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Denim Changodar-Bavla Hwy Vill Sari
Ahmedabad, Gujarat 382220
India
https://www.oritech.in/
+91-9374772650

Oritech Solutions P. L. is manufacturing induction melting furnace and heating equipment with IGBT technology since 2005. We at Oritech manufacture melting furnaces ranging from 25KW to 14MW power and from 5KG TO 30MT capacity.

Otto Junker USA* 1729
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http://www.otto-junker.com
(630) 231-3770

P

PADNOS* 804
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Grandville, MI 49418
http://www.padnos.com

Every foundry is unique and we create products to meet your specific requirements. You need quality, consistency, and on-time delivery to keep your business moving. From the beginning, we have specialized in specialty materals with customers' needs driving our growth and diversity of processing capabilities. With our industry-leading manufacturing processes, we are able to providee a higher level of purity, consistency, and quality across our full range of products.

Palmer Mfg. & Supply Inc. 2129
18 N. Bechtle Ave
Springfield, OH 45504
http://www.palmermfg.com
(937) 323-6339

Palmer Manufacturing & Supply, Inc has long been known as a producer of heavy-duty, high-quality, long lasting foundry equipment. Started as a jobbing iron and aluminum foundry in 1975, Palmer has grown into one of the world's most recognized names in foundry equipment through our values:

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- Our equipment is built to last
- Our level of service is second to none
- Our equipment is designed and constructed with our customer's safety as a top priority
- Our quality is a top priority

Palmer Manufacturing looks forward to helping you with your project, be it a single machine or a complete facility.

Pangborn LLC* **2437**
4630 Coates Dr.
Fairburn, GA 30213
http://www.pangborn.com
(404) 665-5700

Pangborn provides superior shot blasting equipment and surface preparation solutions. Our sales, engineering, and service teams design best-in-class solutions, parts, and service that help our customers drive operational excellence, realize improved total cost of ownership, and increased profitability.

Polymet Alloys Inc. **2250**
1701 Providence Park
Suite 100
Birmingham, AL 35242
http://www.polymetalloys.com
(205) 981-2200

The RIMA group is leader in the production and sale of magnesium and silicon-based alloys in Brazil. RIMA is the only primary magnesium producer in the southern hemisphere. RIMA's products are manufactured from its own dolomite and high purity quartz reserves under processes certified by SA8000, ISO45001, ISO14001, IATF 16949 and ISO9001, in addition to being certified by FSC-C121993. Our goal is to continuously improve and surpass the standards of excellence in meeting our customer's needs following strict quality controls.

POLYTEC USA Corp. **1855**
9000 Clay Rd. Ste. 110
Houston, TX 77080
http://www.bmgroup.com
(346) 571-2583

Polytec serves foundry market with a range of purpose-built robotic systems designed to elevate safety standards, improve operational efficiency, and streamline processes. At the forefront of Polytec's foundry offering is its newly developed sampling robot, designed specifically for induction furnaces. The system automates the sampling process, ensuring precise and consistent results while safeguarding operators from direct exposure to the high-temperature environment.

ProFound Alloys LLC **1944**
1400 Ashwood Dr.
Suite 1401
Canonsburg, PA 15317
http://www.profoundalloys.com
(412) 833-9733

ProFound Alloys is a supplier of raw materials for the foundry industry. We carry a complete line of Ferro-Alloys including FeMn, FeCr, FeMo, FeSi, FeTi, and more. In addition to Ferro-Alloys, we inventory the following metals in stock: Nickel, Copper, Chrome. To complement these products, we are active selling Foundry Inoculants, Pig Iron, and Scrap.

Progelta S R L **2829-5**
Via Archimede 13
Rubano, Padua 35030
Italy
http://www.progelta.com
+39 0497985705

Proservice Srl **2147**
Via Marco Polo 3
Borgoricco, Padova 35010
Italy
https://www.proservicetech.it/
(+39) 495-7971 x89

After the foundation in 2002 ProserviceTech quickly established a reputation in the market for its technical innovation for cast iron foundries. In just a few years ProserviceTech had become a reference point for many world foundries. Our innovations have helped the industry to improve the quality of their castings and strive to maximize productivity & stabilize processes. With its highly integrated & customized solutions ProserviceTech aims to be the obvious partner for the foundry of tomorrow. Our goal is to share our foundry know-how and to inspire a future generation of foundrymen.

PushCorp* **737**
3001 W. Kinglsey Rd.
Dallas, TX 75041
http://pushcorp.com
(972) 840-0208

PushCorp is a robotic tooling manufacturer, specializing in material-removal equipment. As inventors of the force compliance device, we have helped automate thousands of robotic processes across the globe.

Pyrotek Inc. **1611**
705 W 1st Ave
Spokane, WA 99201-3909
https://www.pyrotek.com/
(866) 797-6835

Pyrotek® is a global manufacturing leader and technology innovator, engineering advanced systems and delivering experienced consulting services to the aluminum industry. Pyrotek has global resources and dependable local support in more than 35 countries with over 80 locations. Pyrotek's foundry team helps aluminum die casters and foundries improve metal quality and overall operational safety and performance with integrated systems for melting, metal holding, transfer, treatment, and casting.

Q

Q&F Engineering* **2311**
18245 N Pima Rd. Unit 3045
Scottsdale, AZ 85255
http://www.qf-engineering
(630) 803-9277

QF Engineering is an international business development organization dedicated to bringing state-of-the-art equipment to the North American market. We focus on providing solutions that contribute to increased productivity in foundries, aiming to create competitive business operations. QF Engineering partners have been providing cost-competitive equipment while enhancing Overall Equipment Effectiveness (OEE) performance. Our esteemed partners include:

- Kuenkel-Wagner Germany GmbH
- Automatic Foundry Solutions
- Dalca Robotic
- Walbert
- Resend_Finland
- Rotavi

Qingdao Huacan Heavy Industry Co. Ltd. **2624**
No.381 Zhaizishan Road, Huangdao District
Qingdao, Shandong 266400
China
http://www.qdhuacan.com
+86-532-85135899

Our company has 21 years experience on designing and manufacturing shot blasting machine and foundry equipment, our main products include:

1. Shot blasting machine, shot peening machine, industry dust collector;
2. Jolt squeeze moulding machine(line), flaskless automatic moulding machine(line), green sand production equipment(line);
3. Hot box core shooting machine, cold box core shooting machine, shell core machine, shell mold and core casting production line, resin sand production equipment(line); Other casting accessory equipment like sand mixer machine, ladle, sand box, trolley, etc.

Qinhuangdao Hongtong Machinery Co. Ltd. **2409**
No. 62, Xigang North Road
Qinhuangdao, Hebei 066000
China
http://www.nbhdtd.net/
+86 0335-8582589

HDTD was founded in 2005, based on innovative technology, the company made a breakthrough in the technology of low pressure die casting machine, gravity casting machine and foundry automation. HDTD has become a world leader. Our products are exported to all over the world, and win wide reputation. HDTD Europe in Italy, Turkey, and agencies in India, Brazil, South America and Indonesia. Qinhuangdao Hong Tong Machinery Co., Ltd., covers an area of 20000 square meters, the main products are low pressure casting machine & gravity casting machine, robot system integration.

Quad City Safety* **547**
5311 Tremont Ave
Davenport, IA 52809
http://www.quadcitysafety.com
(563) 445-2170

We specialize in PPE for the Metal Casting Industry. We realize that no two facilities are the same, therefore PPE at every facility has to be customized to the operations of that facility. We work with your team to develop the correct FR Clothing Solutions, correct Respirator Protection, Correct Hand and Eye Protection. We do onsite PPE Evaluations so we can come up with the best solutions for your employees for the tasks at hand. Please stop by and let's discuss the challenges that you are having and how we can help. Would love to become a part of your Safety Team.

Quigley Crucible R & S Co. Inc.* **1854**
270 Lancaster Ave Suite D1
Malvern, PA 19355
http://www.quigleycrucible.com
(610) 272-5450

Providing quality crucibles and refractories in all shapes, sizes and compositions to the metal casting market.

R

R Scheuchl America **1818**
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RS product range includes everything from manual to fully automated systems, covering the entire value stream:

- casting
- cooling
- core removal
- sawing/milling/deburring
- cleaning processes
- wire coating
- regeneration of inorganic sand
- core printing

Since its foundation in 1962 R. Scheuchl has been synonymous with innovation and customized solutions in foundry technology, process engineering, energy technology and 3D printing. From consultation and design to installation and after-sales service, RS offers end-to-end solutions tailored to its customers' needs in aluminium and grey cast iron foundries.

Rampf Group Inc.* **2629**
49037 Wixom Tech Dr.
Wixom, MI 48393
https://www.rampf-group.com/en/gifa/
(248) 295-0223

RAMPF Tooling Solutions has been a leading supplier of epoxy and polyurethane systems for the foundry industry. Our RAKU® TOOL product range offers reliable solutions for foundry applications, including models, pattern plates, cores, and core boxes. Designed to meet the unique challenges of the casting industry, our products provide outstanding abrasion resistance, dimensional stability, and low moisture sensitivity. These innovative solutions help foundries optimize production efficiency while ensuring high-quality results.

REFCOTEC Inc.* **1737**
542 Collins Blvd.
Orrville, OH 44667-9796
http://www.refcotec.com
(330) 683-2200

REFCOTEC is a leading manufacturer of high performance foundry consumables with a focus on refractory coatings and resin systems. We offer a complete line of most cosumables used in the foundry industry including; sand additives, pastes, mudding compounds and partings. Through our partnership in Thermotec we also have a complete line of feeding aids, metal transfer and hot toppings. With attention to casting quality and improving productivity, REFCOTEC offers innovative and reliable solutions that meet the demanding needs of metal casting facilities.

Refractory & Insulation Supply Inc.* **1726**
101 E. Trails Rd.
Eldridge, IA 52748-9308
http://www.refins.com
(563) 285-9229

Reichmann & Sohn GmbH **2620**
Rudolf-Diesel-Str. 6-8
Weissenhorn, Bavaria 89264
Germany
https://www.casting-finishing.com
(497) 309-8750

Reichmann & Sohn GmbH has more than 100 years of engineering expertise in grinding and cutting technology. Customers worldwide rely on the high innovative strength, reliability and quality of the machines "Made in Germany". The Reichmann Casting Finishing division offers customer-oriented solutions for automatic cut-off grinding, deburring, surface grinding and belt grinding of castings. The systems for automatic fettling and casting finishing enable positive effects on costs, productivity, quality, health and safety in foundries worldwide.

Reno Refractories Inc.* **2337**
PO Box 201
Morris, AL 35116
http://www.renorefractories.com
(205) 647-0240

RHI Magnesita **2123**
425 S. Salem Church Rd.
York, PA 17408
http://www.rhimagnesita.com
(717) 792-3611
RHI Magnesita is the global leader in refractories. We have the largest number of locations around the world and the most innovative, reliable products and services. We also provide the most robust supply and quality security, thanks to our exceptional vertical integration – from mining to production to full service solutions.

Rio Tinto* **2119**
200 E. Randolph St. Ste. 7100
Chicago, IL 60601
https://www.riotinto.com/
(773) 270-6500

Rio Tinto is finding better ways™ to provide the materials the world needs to grow and decarbonise. Operating in 35 countries, we are a leading global mining and materials company that produces iron ore, copper, aluminium, minerals, and battery materials. Our high purity pig iron (HPPI), known as Sorelmetal™, is often used as the preferred metallic charge in foundries for the automotive, machine, construction, and heavy industries. Sorelmetal is a high purity iron-carbon alloy containing very low concentrations of manganese, phosphorus, sulfur, and other impurities.

Ruf Briquetting Systems **713**
771 Sugar Lane
Elyria, OH 44035
http://www.ruf-briquetter.com
(440) 779-2747

RUF Briquetting Systems is a leading manufacturer of industrial briquetting machines that convert waste materials like wood, metal, and biomass into compact, eco-friendly briquettes. These briquettes offer a sustainable solution for waste management, reducing storage space and increasing the efficiency of recycling processes. RUF's machines are known for their durability, innovative design, and ability to enhance material value while contributing to environmental conservation efforts.

S

Saint-Gobain Ceramics & Plastics **2706**
1 New Bond Street
Worcester, MA 01606
https://www.ceramicsrefractories.saint-gobain.com/

We lead the industry in design, development and production of Engineered Ceramics and Refractory products for extreme operating conditions and high temperature applications. Every product and material are designed to maximize performance and durability while minimizing environmental impact.

Savelli Technologies Srl **2829-6**
Savelli Technologies Srl
Rodengo Saiano, Brescia 25050
Italy
http://www.savelli.it
+39 030 22795

SAVELLI, legal name "Savelli Technologies S.r.l." and registered trademark "SAVELLI since 1842" is a worldwide leading supplier of automatic horizontal tight flask molding lines and complete sand preparation and return systems for "Green Sand" foundries. The SAVELLI Group headquarters is located in Brescia, northern Italy, and it has subsidiaries in Mexico, China and India.

Saveway USA **1724**
4305 Mount Pleasant St. NW
Ste 101
North Canton, OH 44720-5429
https://www.savewayusa.com/

Saveway is the #1 worldwide leader in Refractory Monitoring Solutions. Among its many benefits, Saveway most importantly provides utmost safety for operating staff and molten-process equipment. Furnace breakthroughs, plant damage and operating disruptions can be avoided. Since relining becomes predictable, maximum service life of the refractory is ensured without any risk.

Scheuch/Camcorp/Schust **1922**
15729 College Blvd.
Lenexa, KS 66219
https://scheuchna.com/
(913) 951-8548

Scientific Dust Collectors* **1751**
4101 West 126th Street
Alsip, IL 60803
http://www.scientificdustcollectors.com
(708) 597-7090

For over 40 Years, Scientific Dust Collectors® has continued to manufacture the most efficient Baghouse Dust Collector on the market today. And with your support, we'll continue for another 40 years. If you have any questions about how we can assist you with your current dust collection issues, with our Full line of Dust Collection Systems, please keep us mind. SDC will show you how our systems will help to lower your Carbon Footprint and explain why our Patented UniFlow Supersonic Nozzle™ can save you energy and maintenance costs. Let us help you to "Discover the Difference".

Scott Sales Co.* **1355**
6115 Maywood Ave
Los Angeles, CA 90255
http://www.scottsalesco.com
(323) 588-3251
Crucible Supplier Servicing the Foundry Industry Since 1961.

Secat Inc. **1111**
1505 Bull Lea Rd.
Lexington, KY 40511
http://www.secat.net
(859) 514-4989

Secat Inc. is a metallurgical research laboratory specializing in aluminum technology. We assist companies with materials testing, failure analysis, alloy development, and process optimization. Our services also include new

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product development, energy assessment, and business analysis. With a focus on innovation and efficiency, we help clients improve material properties, manufacturing processes, and overall performance across various industries.Secat collaborates with industry consultants and national laboratories to enhance our onsite capabilities.

SELEE Corporation* 811
700 Shepard St.
Hendersonville, NC 28792
(828) 694-3424

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Via Gian Battista Stucchi 66/4
Monza and Brianza, 20900
Italy
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Process metal components, the end products after the thermal deburrin treatment.

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Rizhou, Shandong 276800
China
http://www.hengqiaocarbon.com
86-633-3385366

Shandong Hengqiao Energy Industrial Co.,Ltd is mainly committed to the production and sale of Calcined petroleum coke (GPC), Graphite petroleum coke (CPC), Silicon carbide (SiC), Metallurgical coke, Semi coke, Electrode paste, Graphite electrode, anode material for Lithium battery industry. Our headquarter is located in Rizhao, Shandong province with more than 700 employees currently.

Shells Inc. 945
502 Old US Hwy. 30 East
Bourbon, IN 46504
http://www.shellsinc.com
(574) 342-2673

Outsourced producer of conventional cores and 3D additive technology for printed cores.

Shining 3D Technology Inc. 812
2450 Alvarado St. Bldg. #7
San Leandro, CA 94577
https://www.shining3d.com/
(888) 597-5655

Founded in 2004, SHINING 3D has been focused on the research & development, manufacturing, and application of high-accuracy 3D digital products for over 20 years. Offering accessible, efficient and high-tech solutions, SHINING 3D is a key contributor to the 3D digital technology field. Our primary focus is on high-accuracy digital industrial 3D scanning and digital dental scanning technologies.

Sichuan Heyi Electrical Technology Co. Ltd. 2251
Hongguang lndustrial Park
Longchang, SiChuan 642150
China
http://www.schydq.net/
+86-0832-8700722

Sichuan Heyi Electric Technology Co., Ltd. is located in Hongguang Industrial Park, Longchang City, Sichuan Province, the beautiful home of Chinese stone archways and Chinese bluestone. The park is located 500 meters from the Longchang South Exit of Xia-Rong Expressway, with very convenient transportation. Excellent location. It is an enterprise specializing in R&D, production and sales of intermediate frequency furnace accessories series and steel-making furnace refractory materials series used in steelmaking and casting fields.

Sichuan High Casting Materials Ltd. 1250
No 2319, Unit 1, Building 5, No 666,
Guandong 1st St., Hi-Tech Zone
Chengdu, Sichuan 610000
China
http://www.schcmcasting.com
+86 18980775233

HCM is an international group corporation. We have two plants in China producing special alloys and silicon carbide. We specialize in manufacturing and exporting foundry raw materials from China over 13 years, and have been successfully built up a tight network with international trading partnerships all over the world by our honest reputation. Our products are exported to South Korea, Taiwan, Vietnam, Malaysia, India, Indonesia, Turkey, Egypt, Ukraine, etc. Annual exports of 20,000 tons. Our business target is to create an honest business by our best service and reputation with you together.

SiiF 2111
130, Rue Leonard de Vinci
Caudan 56850
France
http://www.siif.fr

Silver Needle Inc. 2110
1628 Big Creek Rd.
Kellogg, ID 83837-5000
http://www.silverneedleinc.net
(800) 8693-7733

The goal of Silver Needle Inc.™ is to help our customers make informed decisions about keeping their workers safe when purchasing our products. We know properly selected personal protective equipment is critical when working with hazardous materials to ensure the safest work environment possible, and we provide unsurpassed expertise and adherence to only the highest industry standards to ensure that happens for you and/or your employees. With over 30 years of experience manufacturing PPE, you can be confident we will provide you with the safest and highest quality garments available.

Sintex Minerals & Services Inc.* 829
29810 Southwest Freeway
Rosenberg, TX 77471
http://www.sintexminerals.com
(281) 239-2799

Sinto America* 1137
150 Orchard St.
Grand Ledge, MI 48837
http://www.sintoamerica.com
(517) 371-2460

Roberts Sinto Corporation is a leading company in the design and manufacture for foundry, surface treatment and material handling markets. Founded over 50 years ago, Roberts Sinto began as an engineering and manufacturing firm with an emphasis on equipment for the foundry industry. As the industries have evolved, Roberts Sinto has developed and refined its capabilities to offer a broad range of services and equipment for all industrial applications.

SIR SPA* 2829-8
Strada Nazionale del Canaletto Centro, 450
Modena 41122
Italy
http://www.sir-mo.it/en
+39 059 31 64 811

SIR Robotics is a Global Robotic System Integrator with more than 3,000 applications installed worldwide, providing robotic solutions to the foundry industry since 1984. From simple tending and handling units up to grinding / cutting /degating systems, SIR's unique aim is to identify the idea, the solution and the technology needed to ROBOTIZE your technological process.

Smart Sand* 819
1168 US Rt. 5
Ottawa, IL 61350
https://smartsand.com/
(231) 884-7272

Southeastern Foundry Products & Foundry Coatings Inc.* 1807
42 Longview Circle
Alabaster, AL 35007
http://www.sefp.net
(205) 620-0146

Foundry Coatings, Inc. is one of the leading coating manufacturing companies for water and solvent based coating, release agents, boron nitride releases, and a distributor for foundry product lines. We are the producer of Lost Foam Coatings, Sand Coatings, Investment Casting Coatings, Permanent Mold Coatings, Ladle Coatings For All Metals, Die Cast Coatings, Liquid Parting, Mold/Core Paste, Mudding Compounds, Boron Nitride Releases, and Release Agents For All Foundry Systems.

Specialty Foundry Products Inc. 1219
1130 Raimund Muscoda Rd.
Bessemer, AL 35020-7261
http://www.specfoundry.com
(205) 424-0307

Spectro Alloys Corporation 1011
13220 Doyle Path E
Rosemount, MN 55068
http://www.spectroalloys.com
(651) 437-2815

Spectro Alloys is an industry leading secondary aluminum smelter founded in 1973. We offer a diverse range of aluminum alloys from 100% recycled content to primary aluminum alloys. We provide scrap tolling getting you maximum value for your scrap while delivering the best quality ingot in return. We also sell raw materials and master alloys to meeting all of your aluminum and zinc casting needs. Visit us at www.spectroalloys.com.

Spectro Analytical Instruments* 1719
50 Fordham Rd.
Wilmington, MA 01887
http://www.spectro.com
(201) 642-3000

Steel Grip Inc. 2523
1501 E. Voorhees St.
Danville, IL 61832
http://www.steelgripinc.com
(800) 397-8390

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Steel Grip, Inc. manufactures personal protective clothing also known as Personal Protective Equipment (PPE) for domestic and international applications. We are a privately owned American industrial protective clothing company headquartered in Danville, Illinois, with many years of experience. Business is conducted through distribution in all 50 states, and internationally. We have the ability to manufacture specialty attire such as electrical protective clothing and high temperature protective clothing. We design products to meet customer needs, lower costs, and enhance protective values.

Storey Foundry Assistance/MCM **917**
5213 Dunewood Way
Avon, IN 46123
https://storeyfoundryassistance.com/

Storey Foundry Assistance (SFA) is the exclusive North American supplier for MCM Foundry, specializing in enhancing foundry productivity and efficiency. MCM designs and manufactures machines and complete plants for No Bake foundries, develops equipment for Foundry 4.0, refurbishes machines, and provides engineering, consulting, and maintenance services. With a focus on reliability and innovation, SFA and MCM offer seamless support, technical service, and spare parts to ensure optimal foundry operations.

Stratasys **1004**
7665 Commerce Way
Eden Prairie, MN 55344
https://www.stratasys.com/en/

Summit Foundry Systems Inc.* **1511**
2100 Wayne Haven St.
Fort Wayne, IN 46803-3279
http://www.summitfoundrysystems.com/
(260) 749-7740

Summit provides Sand Systems, Automatic Mold Handling Indexing Systems, Casting Handling Systems, and Turnkey Foundry Design Projects from Concept through Installation. Exhibit will highlight various projects for the Foundry Industry. Video Clips will illustrate the latest concepts in operation of Automatic Mold Handling Indexing Systems to integrate with the Automatic Molding Machines. COOLtech Sand Cooling Water Additon System will be featured. Summit provides individual components such as Conveyors, Bucket Elevators, Rotary Screens, Sand Feeder Bins, and Storage Bins.

Sun Metalon Inc.* **747**
712 N. Central Ave
Suite B
Wood Dale, IL 60191
http://www.sunmetalon.com
SUN METALON INC., is dedicated to reducing the environmental impact of current metal recycling methods and fundamentally revolutionizing equipment to recycle all types of metal, responsibly and at reduced costs. Its proprietary heating technology can recycle and recover various metals, transforming dirty metal waste into valuable, clean materials with reduced energy consumption, CO2 emissions, and costs. SUN METALON maintains offices in the US and Japan. New address: 712 N Central Ave, Suite B, Wood Dale, IL 60191, USA

Sun-Tec Corporation **954**
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Novi, MI 48377
http://www.sunteccorp.com
(248) 669-3100 | (248) 669-1199

At Sun-Tec, our goal is to be the sole source for all of your hardness testing needs. We specialize in Rockwell-type, Brinell, Vickers & Knoop, Leeb, Tensile / Compression and Ductility equipment. Located in Novi, Michigan in our 20,000 sq. ft. facility, we repair, rebuild and offer new equipment, accessories along with indenters and test blocks from our ISO/IEC 17025 accredited laboratory. Our service department can calibrate and certify all makes and models of testing equipment with our technical expertise.

Supreme Cores* **810**
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http://supremecores.com
(205) 664-4127

Three manufacturing locations (AL, SC, WI) produce sand cores and molds for the metal casting industry.

Suzhou Weijing Automation Co. Ltd. **1549**
No 156 Xinzhuang town
Changshu, Suzhou City
Jiangsu 215500
China
http://www.weijingsz.com
+8615306124775

WEIJING AUTOMATION is a professional manufacturer of molten metal transporting machine, pouring machine, degating machine, grinding machine in China. WEIJING has two plants. One in Suzhou, another in Yanzhou. Total areas are up to 9000 SQM. 2 plants have 93 employees in total. By Jan 1st, 2025, WEIJING already sold 1103 wedge breakers, 60 runner cutters, 228 degating hammers, 281 auto grinding machines, 77 pouring machines and 21 transporting machines. And WEIJING foundry customers cover up to 27 countries. WEIJING firmly believe from the heart THE MATCHABLE IS THE BEST.

Suzhou Xingye Material Technology Co. Ltd. **2257**
No.15 Daoan Rd, Huguan Industrial
Park High-tech Zone
Suzhou, Jiangsu 215151
China
http://www.chinaxingye.com
+86-512-65399533 | +86-512-68836942

Suzhou Xingye Materials Technology Co., Ltd. (Stock Code SH603928) is a high-tech enterprise focused on R&D, manufacture, sale and related technical services of foundry functional new materials. Founded in 1992, the headquarters is located in Xushuguan town with floor space about 286,000SQM, employees over 600 and three subsidiaries of Suzhou Sinye Chemical Co., Ltd., Suzhou Xingye Materials Technology Nantong Co., Ltd. and Ningxia Shengdingfeng New Materials Co., Ltd. In Dec. 2016, the company started IPO on Shanghai Stock Exchange and became a public limited company in China.

Synchro ERP Ltd.* **705**
Phoenix Cottage, Ballacorey Road
Bride, Isle of Man IM7 4AW
United Kingdom
http://www.synchroerp.com
(44) 7977 411116

SYSCON Sensors* **2237**
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For more than four decades, we've been in the business of creating tools to help accurately measure temperature for molten metal analysis. As industry experts, we know how to produce equipment that delivers the solutions your foundry or plant needs at affordable price points.

T

TEMC Metal & Chemical Corp.* **1946**
2F.-3, No.6, Aly. 25, Ln. 113, Sec.3, Minsheng E. Rd.,
Shongshan Dist.
Taipei City, Taiwan 105
Taiwan
http://www.temc.com.tw/?avia_forced_reroute=1
+88648873676

TEMC has been part of the foundry industry for more than 30 years. TEMC is derived from the terms technology, engineering, material, and corporation.

TES-SAN LTD STI **1044**
Basak Mah Cankoy SK A Blok 12/A
Konya 42080
Turkey
http://www.tes-san.com.tr
0905468485651

Our company founded by Mechanical Engineer Galip Yarar in 1994 to produce devices to heating sector,today with expert engineers and workers designs and produces heating systems,filtration systems, recycling systems, dunnage accumulation and burning systems in accordance with today's technologic development. Our manufacture thought in company's productions is that the products should be highly productive, environment-friendly,technology. Our company services to current problems of the public and industrialist with its active structure and different engineering solutions.

Texan Minerals and Chemicals LLC* **1912**
14090 Southwest Fwy. Ste. 310
Sugar Land, TX 77478
http://www.tmcgreen.com
(713) 294-4180

Texan Minerals and Chemicals LLC is a premium supplier and trader in the field of foundry raw materials. With our extensive warehouse infrastructure and efficient transport facilities, we ensure timely delivery of goods to our esteemed clients worldwide. We proudly collaborate with reputable principals and partners in the industry, ensuring access to cutting-edge technologies and superior-quality products to meet the diverse needs of our clientele worldwide.

The Bright World of Metals - Messe Duesseldorf **2621**
150 N. Michigan Avenue
Suite 2920
Chicago, IL 60601
http://www.tbwom.com
(312) 781-5180

Messe Duesseldorf is one of the world's leading trade show management companies. Along with our subsidiaries and partners, we organize a global family of market leading trade fairs collectively known as The Bright World of Metals, all of which serve the international foundry and castings industries. The trade shows are held in Germany (GIFA & NEWCAST 2027), Mexico (FUNDIEXPO & GIFA Mexico 2026), Egypt (GIFA Middle East Africa 2025), Thailand (GIFA Southeast

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Asia 2025), Indonesia (GIFA Indonesia 2026), Turkey (Ankiros/ Turkcast 2026) and Saudi Arabia (metalflow ALLIANCE Saudi Arabia 2025).

The Hill & Griffith Co.* 2529
1085 Summer St.
Cincinnati, OH 45204
http://www.hillandgriffith.com
(513) 921-1075

Since its inception in 1896, Hill & Griffith has maintained a top priority around quality and service, using these two fundamental aspects to reach customer satisfaction for 129 years. Investment in people, research, product development, and facilities will ensure we continue to be a leader with our customers and the industries we serve . The integrity of Hill & Griffith is represented in the products and services bearing our name, which is why product quality has been and will always be at the heart of the company.

The Schaefer Group Inc.* 2055
1300 Grange Hall Road
Dayton, OH 45430
http://www.theschaefergroup.com
(937) 253-3342

Frank W. Schaefer, Inc (FWS) started business as a refractory contractor in 1930, and began designing and manufacturing industrial furnaces in 1945. In the early 1970's, FWS's aluminum furnace business grew large enough that it became necessary to form two divisions within the company: A Refractory Sales and Service Division and an Industrial Furnace Division. In 1998, the Industrial Furnace Division was separated from FWS, Inc to form a new company, Schaefer Furnaces, Inc (SFI). A combining of these two related companies took place in late 2002, forming The Schaefer Group, Inc.

Thermo Fisher Scientific 1625
5225-1 Verona Rd.
Madison, WI 53711
http://www.thermofisher.com
(800) 556-2323

Thermo Fisher Scientific is a global leader in scientific and process instrumentation, providing a wide range of products, software, and services to enhance casting and foundry operations. We are committed to innovation and excellence, delivering solutions that meet the highest accuracy, efficiency, and environmental standards. Our advanced analytical instruments, including spectrometers, microscopes, and analyzers, ensure precise material analysis and quality control. Connect with us to help elevate your operational performance.

Thermotec LLC* 1846
PO Box 464
Hamburg, PA 19526
https://www.thermotecindustries.com
(440) 277-1246
Thermotec manufactures riser sleeves, mini risers, shank ladle liners, and direct pour cups out of three locations in the United States. Our products are built on the solid foundation of chemistry and thermodynamics geared towards innovating and enhancing the casting processes. We aim to improve casting integrity, minimize defects, and optimize yield. Look for Thermotec risers in MAGMASOFT® and be confident that our products will perform the way you model them!

Thermtronix Corporation 2454
17129 Muskrat Ave
Adelanto, CA 92301-0100
http://www.thermtronix.com
(800) 309-6337

Thermtronix is a privately held company formed in San Bernardino, California in 1984. As business expanded regional sales/service offices were setup in Connecticut, Wisconsin, Ohio and Tennessee. International agents were established in Canada and Mexico. In 1991 Thermtronix moved to their present headquarters and manufacturing facility located on a five-acre site in the Adelanto Industrial Park in Adelanto, California. Thermtronix is a specialized technology company with a single focus on aluminum melting. While Thermtronix offers a full line of both gas and electric melting and holding.

Tianjin Shengtong Metallurgical Technology Co. Ltd. 2349
No.289 Jinqi Road, Gulin Street, Binhai New Area
Tianjin 300270
China

Transmet Corporation 1013
4290 Perimeter Dr.
Columbus, OH 43228
http://www.transmet.com
(614) 276-5522

Trebi Srl* 2829-9
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Chicago Heights, IL 6041
http://www.trailco.net
(708) 757-4200

Trialco Aluminum LLC is a versatile Primary and Secondary Aluminum smelter, specializing in producing clean, high quality, specification aluminum alloys for die casters, sand foundries, permanent mold foundries, job shops, specialty casting operations and investment castings. With our in-house metallurgist, Trialco can produce virtually every alloy published by the Aluminum Association, along with any custom alloy specifications for your unique castings. Trialco Aluminum LLC is a PSW Group INC Company.

U

U-Metco Inc. 1010
8651 E. 7 Mile Rd.
Detroit, MI 48234-3658
http://www.u-metco.com
(313) 366-1010

U-Metco Inc. is a supplier of high quality steel and stainless steel Melting Stock and Cover Steel Punchings for ferrous foundries throughout North America. They offer a wide range of consistent, guaranteed chemistry steel and stainless steel alloys in the form of punchings, plate and bar. Materials are processed to be clean and dry and packaged for maximum efficiency in handling in charging. Chemical certificates of analysis are also provided with each shipment.

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http://www.larpen.com
(262) 673-9709

Larpen Metallurgical Service is the premier graphite and carbon supplier to the foundry and steel industry in North America. A division of Unimetal, the largest graphite producer in North and South America, Larpen has become part of the global leader in carbon solutions. Larpen offers brands like GRAPH-HEX, DESULCO ECO, and the purest form of carbon additive on the market-DESULCO.

United Alloys R & D Inc. 709
125 Blackstone Ave
PO Box 387
Jamestown, NY 14701
https://unitedalloysrd.com/
(1) 800-356 xWELD

Welding and Maintenance Supply

United Refractories Co. 1819
264 Valleybrook Rd.
Mc Murray, PA 15317-3256
http://www.urc4u.com
(724) 941-9300

Induction melting & holding, high tonnage cupolas, transfer & treatment products for iron and steel, and non-ferrous foundry operations - URC refractory products withstand unique process demands. With an emphasis on R&D, product training & customization, and industry leading responsiveness, URC is committed to providing value to each customers operation.

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https://www.universal-welding.com/
(262) 544-6416

Medium to thick plate metal fabricator providing machined complete foundry flasks, ladle shells, furnaces, furnace lining forms, rotary screens and so much more. With our experience and capability to develop, design, fabricate equipment, we're not just suppliers – we're partners in your foundry's success.

University of Northern Iowa 650
2900 Campus St.
Cedar Falls, IA 50614
http://www.uni.edu

USMFG Inc.* 909
1500 Kalamazoo St.
South Haven, MI 49090
http://www.us-mfg.com
(269) 637-6392

Since 2013, USMFG Inc., continues to serve the American Iron and Steel market from South Haven, Michigan, which is ideally located between Detroit and Chicago. On an area of more than 200,000 square feet and equipped with our long experience, USMFG Inc. can provide the full range of cupola furnace briquettes. In addition to processing strategic raw materials, USMFG Inc. can also provide additive ferroalloys needed during the production. Thus providing a stream line supply for the melting process.

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Verder Scientific Inc. **1810**
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http://www.verder-scientific.com
(267) 757-0351

Versatile Equipment Pvt. Ltd. **2519**
B69 MIDC Gokul Shirgaon
Kolhapur, Maharashtra 416234
India
http://www.sandtesting.group
(231) 672-711

- Versatile Equipments Pvt Ltd. has been in the field of manufacturing of Foundry Sand Testing Equipment since 1966.
- The company is Pioneer in research, design, manufacturing & sales of Laboratory Testing equipment as well as online testing & Control Equipment for Foundry Sands.

VibraPro **1055**
3629 S. Banner Ave
Boise, ID 83709
http://www.vibrapro.com
(208) 362-5548

Located in picturesque Boise, Idaho, VIBRAPRO Manufacturing has been responding to the needs of the timber, casting, and recycling industries since 1983. Our mission has always been to produce the most reliable and efficient linear vibrating screen equipment in the industry. We employ some of the finest tradesmen who take pride in ensuring that the VIBRAPRO name is synonymous with quality.

VIBROPROCESS SRL **2829-10**
Via Calamandrei 81
Arcore, Monza and Brianza 20862
Italy
http://www.vibroprocess.it
0039 0392878381

For the world most important foundries, Vibroprocess designs, manufactures and installs vibrating equipment in order to carry out important industrial processes: starting from the melting furnaces charging, passing to the shakeout and cooling systems of castings in the green sand foundries, up to the shakeout and pre-reclaiming of the sand in the no bake foundries. The Vibroprocess vibrating machines are distinguished by their reliability and durability, moreover, they are designed and built to comply with the environmental parameters respect Italian Trade Agency (ITA).

VIBROTECH Engineering USA LLC **1951**
Ctra San Vicente 17
Valle De Trapaga, Bizkaia 48510
Spain
http://www.vibrotech-eng.com

ViewTech Borescopes **918**
1745 Barlow St.
Traverse City, MI 49686
https://www.ViewTech.com
(231) 943-1171

ViewTech Borescopes is the leading provider of articulating video borescopes in North America, with over 3,000 units in service across a wide range of industries and applications. Our first product, released in 2008, set a new standard for portability, ergonomics and ease-of-use, with its industry-first mechanical, joystick-controlled articulation. This original borescope, the VJ, was followed by the VJ-Advance, VJ-3, and the new VJ-4.

Viking Technologies* **1707**
25169 Dequindre Rd.
Madison Heights, MI 48071-4240
http://www.viking-technologies.com
(248) 548-3038

Viking Wheel Blast Systems* **1428**
731 S Industrial Ct.
Rose Hill, KS 67133
https://vikingcorporation.com/
(316) 634-6699

Viking Wheel Blast Systems manufactures and distributes a full line of industrial shot blast machines. Such equipment cleans and removes mill scale, dirt and rust, and is ideal for the preparation of large numbers or exceptionally complex parts. We also offer an extensive line of replacement parts, including replacement parts for our competitors' equipment.

VisiConsult X-ray Solutions Americas Corp. **2051**
271 17th Street NW Suite 1750
Atlanta, GA 30363
http://www.vc-xray.com

VCxray by VisiConsult - a global market leader for X-ray inspection solutions - serves to the broad range of industries such as aerospace & aviation, automotive, defense and energy. With our cutting-edge X-ray systems, our customers can get an optimum handle on castings, composites, electronics, pipes, tubes/tanks, plastics, turbine blades or welding, solving the challenges in non-destructive testing and quality management. With a wide range of casting inspection solutions for a rapid testing of small to very large sized parts and gigacastings, we have the perfect answer to every requirement.

Visiometa **3024**
Zur Parmke 14
Schmallenberg 57392
Germany
http://www.visiometa.com
(+49) 297-1961 x9891

Visiometa offers unique and innovative software for the planning of casting processes. Within a very short time, users can analyze and modify the cast part using intuitive techniques. Our specialized toolkit also helps to design gating and feeding systems with regard to safe mold filling and controlled solidification. No prior experience with CAD tools or simulation technology is required. Our revolutionary approach to process planning results in significantly less validation effort. This makes the preparation of a qualified delivery quotation quick and easy, creating a competitive advantage.

VJ Technologies Inc.* **1107**
89 Carlough Rd.
Bohemia, NY 11716-2903
http://www.vjt.com
(631) 589-8800

VJ Technologies Inc. (VJT) is a global leaders in providing Digital Radiography & Computed Tomography x-ray inspection systems and solutions for a variety of industries. VJT's visonary and talented engineers have developed ground-breaking solutions in the field of non0destructive testing. VJT's experience has led to innovating decisions and more advanced capabilities than competitors throughout the world for radioscopic inspection of products and assemblies to detect defects or foreign matter, reducting cost and time while increasing quality and saftey.

Voxeljet America Inc.* **2029**
41430 Haggerty Cir. S.
Canton, MI 48188-2227
http://www.voxeljet.com
(734) 808-0025

Vulkan Blast Shot Technology **923**
10 Plant Farm Blvd. Unit 2
Brantford, ON N3S 7W3
Canada
http://www.vulkanshot.com
(800) 263-7674

Pioneering the industry for over 35 years, Vulkan Blast Shot Technology is a leading supplier of highly efficient, durable and reusable non-rusting cast stainless steel shot and grit. Branded as Chronital, Grittal and FINAL, our products are sold both directly, as well as through a network of distributors and re-sellers throughout the United States and Canada. With Vulkan, you can count on obtaining high quality products, strong technical support and efficient and friendly customer service, all at competitive pricing!

W

Waltz-Holst Co. **807**
5900 Greeley Ave. N.E.
Rockford, MI 49341

Washington Mills **827**
13230 Prairie Industrial Pkwy.
Hennepin, IL 61327
http://www.washingtonmills.com
(716) 278-6600

A global leader in the manufacture of metallurgical-grade silicon carbide and major producer and supplier of foundry-ready materials, Washington Mills has supported the iron and steel industry with high-quality, consistent and reliable products since 1978. Our highly trained staff of metallurgists, technicians and production personnel operate the most modern SiC plant in the world in Hennepin, Illinois. The only producer of alpha silicon carbide crude in North America, Washington Mills' metallurgical-grade SiC products are manufactured to the highest standards and proudly made in the USA.

Weiler Abrasives **2613**
1 Weiler Dr.
Cresco, PA 18326
https://www.weilerabrasives.com/catalog/industry/foundry
(800) 835-9999

From blending parting lines to grinding burnt sand castings, the foundry cleaning room presents productivity challenges that can often be a bottleneck in the foundry process. Having the right abrasives is critical — that's why Weiler Abrasives offers a variety of solutions specifically for foundry applications. Our line of abrasives can help you address tough grinding and finishing jobs to decrease cycle times while gaining a quality finish. We know the job of metal casting isn't easy - operators deserve products that are easy and safe to use. Better abrasives mean greater efficiency.

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Whiting Equipment Canada Inc.* 1823
350 Alexander St.
Welland, ON L3B 5P4
Canada
http://www.whiting.ca
(905) 732-7585

Whiting Equipment Canada is a wholly owned subsidiary of Whiting Corp., Monee, Il. The company and its subsidiary manufacture meltshop and material handling equipment, including electric arc furnaces, ladles, transfer cars, charge buckets, EAF control upgrades, tilting stands, AOD systems and furnace transformers. The Whiting booth will be staffed with technical specialists ready to discuss the technical aspects of your future projects, along with Whiting's engineering and manufacturing capabilities.

Winoa USA (W Abrasives) 1007
18900 Rialto St.
Melvindale, MI 48122
(800) 207-4691

Winoa is a manufacturer of High & Low Carbon cast steel shot & Cold Forged Shot & Grit. Our WCare Technicians can inspect, tune, and repair shot blast equipment to ensure our customers are are obtaining maximum efficiency in their cleaning process. Our Testing Center in Pittsburgh, PA can simulate most blasting operations without interupting your production. Reach out to us to see how we can help optimize your blasting process.

Youngstown State University 640
360 W. Commerce St.
Youngstown, OH 44503
http://www.ysu.edu/etc
(330) 941-2357
The Excellence Training Center (ETC) at Youngstown State University is a one-of-a-kind workforce, education, research and commercial center focused on advanced manufacturing. Career pathways for all types of students include traditional and non-traditional certifications and industry recognized credentials offered in a wide range of areas such as manual and CNC machining, industrial maintenance, robotics, automation and additive manufacturing. The ETC houses over $10 million of advanced manufacturing equipment that is used to bring the programs to life.

ZEISS Industrial Quality Solutions 1918
6250 Sycamore Ln. N.
Industrial Measuring Tech Div.
Maple Grove, MN 55369-6310
h*ttp://www.zeiss.com/metrology*
(763) 744-2400

Zhejiang Wanfeng Technology Development Co. Ltd. 649
No.999, Guanhe South Road,
Sanjiang Street, Shengzhou
Shaoxing, Zhejiang China
https://wanfengdiecasting.com/
+8615325858280

Located in Shengzhou, Zhejiang province. Plant area over 200000 square meter with three individual plants. Main business range: intelligent equipment for non-ferrous castings, production line, integrated system provider. Main Product:Low pressure die casting;gravity die casting machine;Counter pressure casting machine;Flow forming machine; Melting furnace;Decoring machine;Deburring machine;Trimming machine;Cutting cell;Turn key service Casting cell automatic whole production line system provider. Product Application:Aluminum ingot melting;Aluminum die casting equipment;Post cleaning process.

Zhengzhou Zhenzhong Fused New Material Co. Ltd. 1945
Goutang Xinmi Zhengzhou City, Henan Province
Zhengzhou, Henan 452384
China
http://www.zz-zirconia.com
0086-371-69251087

Zhengzhou Zhenzhong Fused New Materials Co., Ltd. was founded in 1987. Since its establishment, the company has been committed to becoming a technological leader in China's fused new materials industry as its corporate vision, constantly innovating. Currently, the company has 44 national invention patents in this field.The product applications cover industries such as metallurgical refractory, titanium alloy casting, friction braking, ceramic pigments, plasma spraying, surface treatment, structural ceramics, insulation materials, oxygen sensors, and oxygen probes.

Zibo Taa Metal Technology Co. Ltd. 2413
No 288 Center Ave Mengshui Zhoucun
Zibo, Shandong 255318
China
http://www.taa.net.cn
0086-533-6881687

Founded in Mar.1997, ZIBO TAA METAL TECHNOLOGY CO. LTD is the developer of the national industry standard for Surface Treatment of Steel before Coating. TAA mainly products include high carbon steel shot/grit,3M low carbon steel shot,stainless steel shot/grit,-carbon steel shot,bearing steel grit,sponge media,garnet abrasive,etc. The subsidiary companies include TAA Machinery, TAA Mechanical, TAA Cloud, TAA Thailand,TAA Ningde,except abrasives products,also producing the shot-blasting machine and accessory spare parts, including blades, impeller, control cage, etc.

Zibo Tongpu Vacuum Equipment Co. Ltd. 1147
No. 41 Kaitai Avenue, Economic Development Zone,
Gaoqing County
Zibo, Shandong 256300
China
http://www.topfoundry.com
+86-0533-2904092

Zibo Tongpu Vacuum Equipment Co., Ltd. was established in 2005 and is located in Gaoqing Economic Development Zone, Zibo City, Shandong Province. It is a specialized manufacturer of lost foam and Vacuum casting equipment, as well as various vacuum pumps. We have designed and manufactured multiple lost foam and V-method production lines for our customers. These devices not only cover more than 20 provinces, cities, and autonomous regions across the country, but are also sold to countries such as Russia, South Korea, Thailand, and Kazakhstan.

Ziheng Tianjin Industry Co. Ltd. 2155
No.60, Zhonghuan Xi Rd., Airport Economic Area
Tianjin, 300308
China
ziheng@zihengtj.cn
http://www.zihengtj.cn
+862258821585

Ziheng, a High and new technology enterprise which technically cooperated with foreign companies, has municiple enterprise technical centerand its production has got several states patents. It professinally produce AMF series vertical molding, parallel parting, match-plate, flaskless molding line; BMD flask molding line, Ziheng HMT series molding line, HAP series pouring machine and HVM shell molding line. It has advanced production equipment, perfect detection methods, and strict implementation of IS09001 quality system standards.

Zijiang Furnace Nanjing Co. Ltd. 1255
No. 5 Xianxin middle road, Economic and
Development zone, Qixia district
Nanjing, Jiangsu 210000
China
https://zh-cn.zj-furnace.com/
+86 (0)2585553949

Zijiang Furnace Nanjing Co.,Ltd. is a large enterprise for designing and manufacturing various industrial furnaces. Since the plant is built in 1975, we have developed a strong technical group and an impeccable quality assurance system. There are in total 392 employees in the company which includes 56 engineers. The main products are: no-basket roller type aluminum alloy wheel H/T production line, aluminum bar heating furnace, aluminum wire annealing furnace,walking beam type continuous production line,drop bottom furnace, trolley type furnace, bell type furnace and etc.

ZIRCAR Ceramics Inc. 1745
100 N. Main St.
Florida, NY 10921
http://www.zircarceramics.com
(845) 651-6600

Manufactures ceramic fiber based high temperature thermal insulation products for temperatures to 1825C. Boards, cylinders, blankets, papers, textiles, coatings, adhesives. Insulation Assemblies, Resistance Heated Modules. Special emphasis on precision custom CNC machined components. High Performance!

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Cast in North America Exhibitor Booth List - Alphabetical *(As of 2/21/2025)*

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P

Pier Foundry & Pattern Shop*	523
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Rochester Metal Products Corp.*	618

S

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T

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Cast in North America Exhibitor Booth List - Category *(As of 2/21/2025)*

Alloys/Materials - Aluminum

Aalberts Surface Technologies*	621
Buck Company*	614
Denison Industries Inc.*	822
Eck Industries Inc.*	515
Foundrion Group*	729
Griffin Industries*	506
HyPro Inc.	622
Impro Industries USA Inc.*	828
Ligon Permanent Mold Group*	818
Talumex	415
Tooling & Equipment International (TEI)*	625

Alloys/Materials - Copper-Base

Foundrion Group*	729

Alloys/Materials - Iron

Alliant Castings*	610
Atlas Foundry Company Inc.	721
Bibby-Ste-Croix	409
Buck Company*	614
Casting Solutions LLC*	511
Farrar Corporation*	712
Foundrion Group*	729
Griffin Industries*	506
HyCast LLC*	724
HyPro Inc.	622
Lethbridge Iron Works (Leth Iron)*	620
MacLean Power Systems	628
Monarch Industries Ltd.	728
Rochester Metal Products Corp.*	618

Alloys/Materials - Magnesium

Foundrion Group*	729

Alloys/Materials - Steel

Aalberts Surface Technologies*	621
Badger Alloys Inc.*	521
Eagle Group Manufacturers*	519
Foundrion Group*	729
HyPro Inc.	622

Engineering/Capital Equipment - Casting Design

Farrar Corporation*	712
Impro Industries USA Inc.*	828
MacLean Power Systems	628
Omega Castings Inc.	513

Engineering/Capital Equipment - Engineering

Ligon Permanent Mold Group*	818
Omega Castings Inc.	513

Engineering/Capital Equipment - Heat Treatment

Denison Industries Inc.*	822
Omega Castings Inc.	513

Engineering/Capital Equipment - Maintenance

Omega Castings Inc.	513

Engineering/Capital Equipment - Patternmaking & Tooling

Badger Alloys Inc.	521
Diversified Pattern and Engineering	613
Tooling & Equipment International (TEI)*	625

Engineering/Capital Equipment - Value-Added Services (Machining, Painting, Assembly, etc...)

Creaform	714
Eagle Group Manufacturers*	519
Ligon Permanent Mold Group*	818
MacLean Power Systems	628

Melting/Melting Quality - Casting Quality & Testing

FA Foundry	718
Goldens' Foundry and Machine Company*	510

Melting/Melting Quality - Ferrous Melting

Atlas Foundry Company Inc.	721
HyCast LLC*	724
Impro Industries USA Inc.*	828

Melting/Melting Quality - Ferrous Pouring

Buck Company*	614
Farrar Corporation*	712
Omega Castings Inc.	513

Melting/Melting Quality - Nonferrous Melting

Tooling & Equipment International (TEI)*	625

Melting/Melting Quality - Nonferrous Pouring

Buck Company*	614

Molding Processes - Centrifugal

Bibby-Ste-Croix	409
Goldens' Foundry and Machine Company*	510

Molding Processes - Chemically-Bound Sand

Badger Alloys Inc.*	521
Bibby-Ste-Croix	409
CaneKast	710
Casting Solutions LLC*	511
Eagle Group Manufacturers*	519
Eck Industries Inc.*	515
Monarch Industries Ltd.	728
Talumex	415
Tooling & Equipment International (TEI)*	625

Molding Processes - Green Sand

Bibby-Ste-Croix	409
Buck Company*	614
CaneKast	710
Casting Solutions LLC*	511
Farrar Corporation*	712
Goldens' Foundry and Machine Company*	510
Griffin Industries*	506
HyCast LLC*	724
LeClaire Manufacturing Co.*	706
Lethbridge Iron Works (Leth Iron)*	620
Ligon Permanent Mold Group*	818
MacLean Power Systems	628
Monarch Industries Ltd	728

Molding Processes - Investment

Eagle Group Manufacturers*	519

Molding Processes - Permanent Mold

CaneKast	710
Denison Industries Inc.*	822
Eck Industries Inc.*	515
LeClaire Manufacturing Co.*	706
Ligon Permanent Mold Group*	818

Molding Processes - Vacuum Processes (sand or metal mold)

Harmony Castings LLC*	719
TPi Arcade Inc.*	708

Sand Mold/Core Making - Additive Manufacturing

Badger Alloys Inc.*	521
Creaform	714
Farrar Corporation*	712
Griffin Industries*	506
LeClaire Manufacturing Co.*	706
Tooling & Equipment International (TEI)*	625

Sand Mold/Core Making - Core Machines

Casting Solutions LLC*	511
Goldens' Foundry and Machine Company*	510

Sand Mold/Core Making - Coremaking

CaneKast	710
Eagle Group Manufacturers*	519
Griffin Industries*	506
LeClaire Manufacturing Co.*	706
MacLean Power Systems	628
Monarch Industries Ltd.	728

Sand Mold/Core Making - Rapid Prototyping

Badger Alloys Inc.	521
Denison Industries Inc.*	822
LeClaire Manufacturing Co.*	706

Sand Mold/Core Making - Sand Molding Equipment

Impro Industries USA Inc.*	828

Sand Mold/Core Making - Sand Preparation & Testing

Bibby-Ste-Croix	409

Cast in North America Exhibitor Directory *(As of 2/21/2025)*

A

Aalberts Surface Technologies* 621
12202 Newburgh Road
Livonia, MI 48150
info@aalberts-st.us
http://www.aalberts-ht.us
(734) 464-8000

Aalberts surface technologies is the world's leading provider of heat treatment technologies, services, and solutions. Aalberts has been in business for more than 80 years and has over 200 facilities across 30 countries. Nationwide, Aalberts surface technologies has 14 locations that are capable of the following processes: austempering, carbo-austempering™, marquenching, HIPing, vacuum brazing, ion nitriding, gas nitriding, and vacuum heat treating. Aalberts also provides NitroSteel (a green alternative to chrome) in lengths up to 24ft. and 36" in width. To learn more about us, visit at https://aalberts-ht.us/

Alliant Castings* 610
1200 West 3rd Street
Winona, MN 55987
http://www.alliantcastings.com

Atlas Foundry Company Inc 721
601 N Henderson Ave
Marion, IN 46952-3348
http://www.atlasfdry.com
(765) 662-2525

Atlas Foundry is a jobbing and production foundry specializing in Class 25, 30, and 35 Gray Iron Castings weighing less than 50 pounds. We utilize Disamatic Molding Machines to produce molds for our castings. Production volumes range from 100 mold releases to several thousand molds per release. Our foundry is located in Marion, Indiana about 60 miles to the northeast of Indianapolis. Some of the major markets Atlas Foundry serves include trucking, agriculture, construction, pumps, Hydraulic parts, compressors, bearings, stadium seating, marine, and industrial equipment.

B

Badger Alloys Inc.* 521
5120 W. State St.
Milwaukee, WI 53208-2616
http://www.badgeralloys.com
(414) 258-8200

World-class castings delivered" has been our commitment to customers for 50+ years. Badger Alloys is a family-owned manufacturing group that includes a foundry, pattern facility, machine shop, experienced engineering team, and rapid-response technologies. With 200 alloys poured on site, we can meet your needs for simple to heavily cored, complex castings, from 10 to 4,000+ pounds. We specialize in creating impellers and other pump and valve parts across many industries. Learn more at badgeralloys.com. Visit us today at Booth 521!

Bibby-Ste-Croix 409
6200 Rue Principale
Sainte-Croix, QC G0S 2H0
Canada
https://bibby-ste-croix.com/
(418) 926-3262

Bibby-Ste-Croix operates a foundry in Ste-Croix de Lobtinière, Québec, with sales points in Hamilton, Ontario, and Medicine Hat, Alberta. We employ over 300 people. Our core business includes high-quality cast products like soil pipes and fittings. Our OEM division specializes in custom-molded products for transportation, industrial, agricultural, and maritime sectors, including urban accessories and tactile plates. We manufacture parts from 1.5 to 3000 lbs, with a capacity of 45,000 tons per year.

Buck Company* 614
897 Lancaster Pike
Quarryville, PA 17566
https://www.buckcompany.com/
(717) 284-4114

Buck Company offers a unique experience for both ferrous and non-ferrous castings customers. ISO-9001:2015 certified, Buck Company pours Ductile Iron, Malleable Iron, Aluminum, Bronze, and Brass. At Buck Company, our customers enjoy access to rapid prototyping options, flexible production quantities, and engineering support. We also offer an on-site metallurgical lab and you'll be

supported by an exceptional customer service team that puts customer needs first.

C

CaneKast **710**
1111B S Governors Ave #6061
Dover, DE 19904
http://www.canekast.com
(419) 351-3987

CaneKast™ is creating a coast-to-coast network of non-ferrous casting facilities that provide quality products, on time. Our unique business model uses the latest technology and provides a scalable service model no matter the order size or casting requirement. We treat our employees and customers like family, whether you've been with us for five days or 50 years.

Casting Solutions LLC* **511**
2345 Licking Road
Zanesville, OH 43701
http://www.castingsolutions.com
(740) 452-9371

We strive to be the lowest cost gray cast iron foundry in the world. We know to be successful in today's competitive environment, we must satisfy our customers with quality products at competitive prices and deliver on time. We believe customer satisfaction must be consistently achieved with up-to-date equipment manned by a team of skilled, involved people – and that the customer is an integral part of that team.

Creaform **714**
4903 W. Sam Houston Pkwy N
Ste A 400
Houston, TX 77041
http://www.creaform3d.com
(855) 939-4446

Creaform develops, manufactures, and sells cutting edge 3D portable and automated measurement technologies that provide innovative solutions for applications such as 3D scanning, reverse engineering, quality control, non-destructive testing, and product development. Its products and engineering services redefine the boundaries in a variety of industries, including automotive, aerospace, manufacturing, power generation, and more.

D

Denison Industries Inc.* **822**
22 Fielder St.
Dension, TX 75020
http://www.denisonindustries.com
(903) 786-6500

Denison Industries is your one-stop shop for permium aluminum castinngs. We employ a complete engineering staff that can assist component and casting engineers from design to fit and function in order to accommodate the end user's casting requirements. DI is located in Denison, Texas in the North Texas Regional Airport. Our facilities total of 229,925 sq feet with 10,000 sq feet of office area:100,00 sq ft of warehouse space and a 119,925 sq-ft foundry. We can product partrs sized from 1 lb to 3,000. Our current-poured alloys are Aluninum

Diversified Pattern and Engineering **613**
100 Progress Way PO Box 230
Avilla, IN 46710
http://www.diversifiedpatternco.com
(260) 897-3771

E

Eagle Group Manufacturers* **519**
5142 Evanston Ave
Muskegon, MI 49442-4852United States
http://www.eaglegroupmanufacturers.com
(231) 788-2351
(231) 788-5515
The Eagle Group consists of three seperately run and employee owned companies. Eagle Alloy is a shell-mold foundry pouring many grades of carbon and stainless steels. We offer a broad rannge of value-add services in castings between 1 lb. and 450 lbs. Eagle Precision Cast Parts is an invenstment casting foundry pouring both ferrous and non-ferrous castings. Our castings are manufactured to precision tolerances of +/-.005 inch per inch with survace finishes of 125 RMS. Eagle CNC Technologies specializes in CNC machining of both ferrous and non-ferrous castings, forgings, bar stock and burn outs.

Eck Industries Inc.* **515**
1602 N. 8th St.
Manitowoc, WI 54220
https://eckindustries.com/
(920) 682-4618

Eck Industries, Inc. is a family-owned sand and permanent mold foundry providing premium aluminum castings in defense, aviation and commercial markets. Since 1948, Eck has been a leader in the production of high-strength A206 aluminum castings. We pour over

20 aluminum alloys and are growing with automation. Quality: ISO 9001:2015 and AS9100D. Military: CMMC Level 2 Certification and ITAR Registered.
www.eckindustries.com

Elyria & Hodge Foundry Group* **629**
120 Filbert St.
Elyria, OH 44035-5355
http://www.elyriafoundry.com
(440) 322-4657

For over 120 years, Elyria Foundry and Hodge Foundry have been leading manufacturers of large gray and ductile iron specialty castings, ranging from 50 to 250,000 pounds. Today, we are a fast-paced, technically advanced, customer focused operation. While maintaining a strong presence in the global mining, energy and industrial markets, the foundry's diverse capabilities are regularly applied in the manufacturing of castings for a variety of end applications and markets.

F

FA Foundry **718**
Galeana 501
El Lechugal
Santa Catariana, Nuevo Leon 66376
Mexico
http://www.fafoundry.com

FA Foundry is the most reliable grey and ductile iron foundry in the international market. We offer integral solutions that contribute to improve our CLIENT'S COMPETITIVENESS through production, machining, heat treatment for stress relief for industrial cast iron parts, as well as engineering services for the design, fabrication, maintenance, and reparation of patterns.

Farrar Corporation* **712**
301 Levee Dr.
Manhattan, KS 66502
http://Farrarusa.com
(785) 537-7733

With over 85 years of quality American manufacturing behind us, Farrar Corporation is a leading supplier of ductile iron castings and quality machined components. Our production facilities include a fully outfitted pattern shop, foundry and CNC machine shop. Our diverse manufacturing capabilities allow us to offer a range of innovative and streamlined services that include pattern design, ductile iron castings, heat treating, CNC machining, and assembly—all certified to ISO 9001:2015 quality standards.

Foundrion Group* **729**
1 Sparks Ave
North York, ON M2H 2W1
http://www.foundriongroup.com
(416) 225-6240

The Foundrion Group brings together eleven leading foundries strategically located across the United States and Canada. With decades of experience and a commitment to innovation, we specialize in delivering sand casting, metal casting, and aluminum alloy solutions to meet the diverse needs of industries worldwide. From complex aerospace castings to precision components for industrial manufacturing, fire protection and water work applications, our foundries pour over 100 alloys and are recognized for their ability to tackle challenging projects with unparalleled expertise.

G

Goldens' Foundry and Machine Company* **510**
600 12th Street
Columbus, GA 31901
http://www.gfmco.com
(706) 323-0471

Goldens' Foundry and Machine Company is your single source solution for cast, machined, and assembled gray and ductile iron components for capital and durable goods industries. We have been vertically integrated since the 1800's and have very well established and experienced in-house machining operations.

Griffin Industries* **506**
1898 Pride Terrace
Green Bay, WI 54313
http://griffinindustries.com
(920) 434-4440
(920) 434-4444

Griffin Industries is a small business recognized for short lead times, highly skilled staff, and unmatched reliability in prototyping and low-volume production. We manage every step of the process, from expert CAD design and optimized tooling to casting, machining, and final inspection. Using advanced tools like MAGMA solidification software and ZEISS CMMs, we deliver parts of the highest quality. Backed by strong foundry partnerships, we meet your timeline, budget, and material needs. Our dedicated project managers streamline communication and ensure your project's success at every stage.

H

Harmony Castings LLC* **719**
251 Perry Highway
Harmony, PA 16037
http://www.harmonycastings.com
(724) 452-5811

Harmony Castings specializes in aluminum casting using the innovative V-Process, ideal for complex shapes and high-quality parts. The V-Process enables the production of parts with thinner walls, zero draft, and exceptional precision. It reduces machining time, increases yield, and provides cost-effective solutions with faster lead times. Harmony is committed to innovation and customer satisfaction, we tailor our services to meet your specific needs, whether it's for rapid prototyping or production volumes.

HyCast LLC* **724**
905 W Depot
Fairfield, IA 52556
http://www.hycastfoundry.com
(641) 209-4100

HyCast, LLC, located in Fairfield, Iowa, U.S.A. is rising to be the premier gray and ductile iron casting foundry of the Midwest. With multiple molding lines and a dedicated staff, we can support your gray and ductile iron casting needs. We are prepared to help you from the casting design for manufacturability and quoting process, all the way to shipping your product out the door.

HyPro Inc. **622**
600 Jefferson St.
Waterford, WI 53185
https://www.hypro.com/
(262) 534-5141

From concept to completion, HyPro Incorporated is a full-contract manufacturing leader, supplying machined castings, forgings, and complex assemblies.

I

Imperial Casting Company Inc.* **611**
4440 Chisholm Rd.
Florence, AL 35630
http://www.imperialcastinginc.com
(256) 766-8720

Impro Industries USA Inc.* **828**
21680 Gateway Center Drive
Ste 368B
Diamond Bar, CA 91765-5492
https://www.improprecision.com
(909) 396-6525

Impro is a leading global manufacturer of high-precision, high-complexity, and mission-critical components for diverse end markets. We offer custom castings and machined metal components as well as surface treatment services to a diverse global customer base. The foundation of our global leadership is our integrated business model and our combined ability to provide customers with one-stop solutions.

K

Kimura Foundry America* **619**
789 Boomer Way
Shelbyville, IN 46176
http://www.kimurafoundry.com
(317) 604-5158

L

LeClaire Manufacturing Co.* **706**
3225 Zimmerman Dr.
Bettendorf, IA 52722
http://www.leclairemfg.com
(563) 332-6550

LeClaire Manufacturing has been in business since 1966 as a family-owned and -operated sand and permanent mold aluminum casting supplier. In addition to aluminum castings, we offer value-added services such as engineering and tool building, heat treating, core making, real-time x-raying, impregnating, anodizing, machining, and painting. As our equipment, technology, and processes continue to grow, we see endless possibilities in the future of aluminum casting solutions.

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800-558-7733

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www.pillar.com

Lethbridge Iron Works (Leth Iron)* **620**
720 32nd St. N.
Lethbridge, AB T1H 5K5
Canada
http://lethiron.com
(403) 329-4242

Lethbridge Iron Works (Leth Iron) is a green sand jobbing foundry located in Lethbridge, Alberta. With a history spanning more than 125 continuous years of operation and 4 generations of family ownership, Leth Iron is proud to operate a modern production foundry of over 110,000 square feet. A strong focus on relationships and an ISO 9001 Quality Assurance Program ensure iron castings that exceed expectations. Moulding lines: 2 - Hunter-10 Automated Moulding Machines (14"x19") 3 - Hunter-20 Automated Moulding Machines (20"x24") 1 - SPOmatic Automated Moulding Machine (32"x44")

Ligon Permanent Mold Group* **818**
3312 Lakeshore Dr.
Sheboygan, WI 53081
https://ligonpermanentmold.com/

Providing Turnkey Aluminum Casting Solutions From Prototype to Production. The Ligon Permanent Mold Group is 4 vertically integrated permanent mold foundries that feature world-class permanent mold and semi-permanent mold aluminum castings.

- Multiple Casting Processes – Static Pour, Tilt Pour, Low Pressure, Pump, and Semi Permanent
- Internal Core Making and CQ19 Certified Heat Treating
- Extensive In-House Machining
- Cosmetic Finishing with State-of-the-Art Powder Coating
- Complete Quality Control Systems

M

MacLean Power Systems **628**
200 W. Rock St.
Mankato, MN 56001
http://www.dotson.com
(507) 345-5018
(507) 299-9429

MacLean Power Systems is a leading manufacturer of ductile iron castings to various markets, including agriculture, electrical, construction, heavy truck, railroad, oil & gas, and industrial. Our capabilities include in-house tooling, machining, painting, heat treatment, and galvanizing. MacLean Power Systems supplies the industry with the shortest lead times, award-winning engineering, and a dedicated account team. If you are tired of unstable suppliers and inconsistent quality, it's time to experience the "MPS Difference".

Monarch Industries Ltd. **728**
51 Burmac Rd. PO Box 429
Winnipeg, MB R2J 4J3
Canada
http://www.monarchindustries.com
(204) 786-7921

O

Omega Castings Inc. **513**
301 Fritz Keiper Blvd.
Battle Creek, MI 49037
http://www.omegacastings.com
(269) 968-8105
(269) 968-1661

We want to design and create high quality world-class heat treatment equipment that is delivered on time. Our company has been around for 50 years, and we have done this successfully with hundreds of customers through this time. There are three reasons that our customers tend to come to us with. Those are: 1 – They are looking for a world class cast-link belts and drive drums. 2 – They need furnace infrastructure such as rollers and radiant tube. 3 – They are looking for a custom design to help them fill a niche in the market.

Osco Industries Inc.* **529**
734 11th St.
PO Box 1388
Portsmouth, OH 45662
http://www.oscoind.com
(740) 354-3183
(740) 353-1504

P

Pier Foundry & Pattern Shop* **523**
51 State St.
Saint Paul, MN 55107-1408
http://www.pierfoundry.com
(651) 222-4461

Product Development & Analysis (PDA) LLC * **820**
1776 Legacy Cir Suite 115
Naperville, IL 60563
http://www.PDA-LLC.com
(630) 505-8801
(630) 585-3006

Providing design, engineering, contract research and contract manufacturing solutions for over 32 years to foundries, tool shops and OEMs in various alloys and

processes in transportation, military, aerospace, mining, construction, general engineering, and medical devices for new products, redesign, reverse engineering and failure analysis. PDA specializes in Modernization using Industry 4 relevant technologies such as Digital Transformation, AI/ML Data Analytics, Additive Manufacturing, Advance Process Simulation to improve productivity and efficiency.

R

Rochester Metal Products Corp.* **618**
616 Indiana Ave
Rochester, IN 46975
http://www.RochesterMetals.com
(574) 223-3164

S

St. Marys Foundry Ltd.* **720**
405 E. South St.
Saint Marys, OH 45885-2540
http://www.stmfoundry.com

T

Talumex **415**
Av. Privada Central No. 300
Villa de Reyes, SLP CP 79525
Mexico
https://www.facebook.com/talumex/?locale=pl_PL
+48 795 139 424

Castings Member of Thoni Alutec World Wide Presence We provide a wide range of services starting with casting development ,mould design, through tooling production, casting and machining, and ending with painting and assembly. We specialise in the production of aluminium castings. Our goal is to provide technical high integrity Aluminium Castings international industries. Through innovative product and process development we make full use of materials' mechanical properties.

Tooling & Equipment International (TEI)* **625**
12550 Tech Center Dr.
Livonia, MI 48150
http://www.teintl.com
(734) 522-1422
(734) 522-1780

TEI builds prototype and low volume production castings for a wide variety of industries. We have extensive experience in casting a range of aluminum alloys, including alloys for aerospace castings. Furthermore, we also are able to machine prototypes from billets when applicable. We specialize in the rapid manufacture of prototype castings; our state of the art foundry is highly equipped to make accurate castings in the least amount of time.

TPi Arcade Inc.* **708**
7888 Route 98
Arcade, NY 14009
http://www.tpicast.com
(585) 492-0122

TPI Arcade is the most advanced V-Process aluminum foundry in the US. We provide turnkey aluminum cast solutions including casting, machining, finishing and sub-assembly utilizing the innovative vacuum process. Compared to traditional sand casting, this process produces smoother surface finishes, tighter tolerances and thinner walls offering customers an improved product.

W

Waupaca Foundry* **723**
1955 Brunner Dr.
Waupaca, WI 54981
http://www.waupacafoundry.com
(715) 258-6611

2025 Casting Technology Showcase

Steel Grip Inc.

Steel Grip Inc. is a leading manufacturer of stocked personal protective equipment (PPE) designed for the molten metal industry. Our product range includes aluminized garments, high-heat gloves, secondary garments, and much more. We also offer custom solutions to meet your specific needs. Stop by our booth to explore our latest molten metal gloves and lightweight PPE, designed to enhance both comfort and protection for your employees.

Steel Grip Inc
800-397-8390
www.steelgripinc.com
Booth 2523

FORTE Tooling Technologies

FORTE TOOLING TECHNOLOGIES
PATTERNS - MOLDS - CORE BOXES
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- We create your entire tooling package: from gating design to machining fixtures, providing a tailored solution to meet your exact needs.

FORTE Tooling Technologies
204-475-1677
www.fortetd.com
Booth 1048

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Elektrim Motors

ELEKTRIM Severe Duty motors provide reliable, high-performance solutions for heavy industries with demanding equipment and extreme conditions. Built for durability, they excel in harsh environments like metal finishing, foundries, and blast cleaning. With over a century of expertise and ISO 9001-certified manufacturing, ELEKTRIM is the trusted choice for rugged, efficient motor solutions in tough industrial applications.

ELEKTRIM MOTORS
847-524-1074
www.elektrimmotors.com
Booth 1113

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At the core of great foundries. Laempe's CoreCenter is a core-shooter, sand mixer, and gas generator—all under a single controller. Use vertical and horizontal tooling, or a combination of up to 6 parts with no machine changes, or use your existing tooling with a simple conversion. Laempe Reich is unique in that we have a research, complete testing, and core production facility.

Laempe Reich
205-655-2121
www.LaempeReich.com
Booth 1337

REFCOTEC

REFCOTEC, a second-generation family-owned company has been a proud supplier to the North American metal casting industry for over 30 years. In our Ohio and Texas facilities, we manufacture the highest quality foundry products available on the market including refractory coatings, sand additives, resin systems, pastes, partings, and many more. We specialize in custom product formulation, outstanding technical service, and short lead-times. We have products for every metal alloy and all molding methods. Bring us your casting challenges!

REFCOTEC Inc.
330-683-2200
www.refcotec.com
Booth 1737

Carrier Vibrating Equipment

Carrier Vibrating Equipment offers a range of custom material handling machinery tailored to your specific needs and processes. Our team works closely with you to create designs that are specialized to your industry and optimized for your workflows. We also conduct performance testing to ensure your equipment meets all required specifications before installation.

Carrier Vibrating Equipment
502-969-3171
https://carriervibrating.com
Booth 1525

Hoosier Pattern

Known for quality of workmanship and commitment to "On Time Delivery," Hoosier Pattern has gained recognition as a premier pattern shop. With some of the latest tools in technology, including seven in-house 3D sand printers and over 25 machining centers, HPI is able to provide you with the best quality, pricing and timing. Our highly experienced staff works hand-in-hand with foundries to ensure that all jobs are done right the first time, every time.

Hoosier Pattern, Inc.
260-724-9430
www.hoosierpattern.com
Booth 1455

Foundrion Group

The Foundrion Group unites eleven leading foundries across the U.S. and Canada, specializing in sand casting. Using decades of expertise and innovation, we pour 100+ alloys for diverse industries, including aerospace, fire protection, and waterworks. With cutting-edge technology and industry-leading quality, we excel in complex, high-precision castings. Let's tackle your toughest projects. Visit booth 729 to discuss your casting needs.

Foundrion Group
+1 647-294-6151
www.foundriongroup.com
Booth 729

Ajax TOCCO Magnethermic

Ajax TOCCO continues to be the trusted leader in induction melting equipment and solutions. Our proven applications include a complete line of coreless and channel furnaces for ferrous and nonferrous melting and holding applications. From simple melt-and-pour systems to sophisticated computer-controlled, energy-efficient melt shops, our line of induction equipment, power supplies, and support provide the most reliable, accurate, and economical solutions for your business.

Ajax TOCCO Magnethermic
800-547-1527
www.ajaxtocco.com
Booth 1519

CAN-ENG Furnaces International Ltd.

Founded in 1964, CAN-ENG Furnaces International Ltd. is a global leader in the design and manufacture of industrial heating and processing furnaces. With a track record of supplying equipment to world-class manufacturers across 17+ countries, CAN-ENG specializes in innovative, high-volume batch and continuous systems, tailored for tomorrow's demanding foundry applications. Leveraging our expertise, CAN-ENG is committed to providing the solutions and support that drive your success.

CAN-ENG Furnaces International Ltd.
905-356-1327
www.can-eng.com
BOOTH 1154

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You rely on your LAEMPE CoreCenter. And you're skilled at keeping it running at peak performance. But when you need us, you need us now…and sometimes that can't wait until tomorrow. With one of the largest technical staff of experts in our market, standing-by to support you, you can now have us there virtually in a matter of minutes. Through technology, we can be with you, seeing what you see, supporting you in real-time. We can guide you in a way that has never been seen in our industry, without ever getting on a plane, regardless of where we are.

Laempe Reich
205-655-2121
www.LaempeAR.com
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PEOPLE. TECHNOLOGY. SUCCESS.

We are an international market and technology leader of induction systems for melting, pouring and holding of ferrous and nonferrous metals.

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732-932-6128
www.abpinduction.com
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Norican Group leads the foundry industry with unmatched expertise and innovation, offering "A Complete Foundry Solution" for the lifetime of your production. Our world-class brands—DISA molding, Wheelabrator shot blasting, StrikoWestofen melting, ItalPressGauss die casting, Simpson sand mixing, and Monitizer IIoT tools—empower foundries worldwide to achieve superior productivity, flexibility, and consistency, meeting rising industry demands with excellence and reliability.

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706-884-6884
https://www.noricangroup.com/
Booth 1936

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VIKING Wheel Blast Systems

Combining quality workmanship with unparalleled customer service, Viking is a leading manufacturer of industrial shot blasting machines customized to your parts-specific-needs. At Viking, we do not simply match your part to the closest machine size that will work— our engineering team matches our cleaning equipment to your part. We're so confident in our industrial shot blast equipment that we offer industry-leading warranties.

Viking Wheel Blast Systems
800-835-1096
www.vikingcorporation.com
Booth 1428

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Inductotherm offers customized solutions for your 21st century challenges. Specializing in advanced induction melting, heating, holding, and pouring systems for metal producers worldwide, their digital solutions and state-of-the-art equipment allow customers to take full advantage of big data and analytics. Since 1953, they've continued to provide customers with the competitive edge, consistent growth, and uninterrupted service.

Inductotherm Corp.
800-257-9527
www.inductotherm.com
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Sintex Minerals and Services Inc.
281-239-2799
sales@sintexminerals.com
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Flexovit USA, Inc.
800-689-3539
www.flexovitabrasives.com
Booth 2936

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www.TheCoreRoom.com
Booth 1337

AFS Institute
Foundry E-Learning
at

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During CastExpo, learn more about Foundry eLearning and its *110 modules (21 in Spanish)* covering all aspects of the foundry.

Visit the *NEW AFS Institute Booth #655* for a live demonstration and enter to win a free module of choice for 30 days. Ten winners will be announced and notified after the show.

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Cathy Potts
Senior Director of Human Resources & Administrative Services

2025 Gold Medals

Bruce Dienst

President of Norican Group North America, LaGrange, GA

The **Peter L. Simpson Gold Medal** ... for his dedication over four decades to advancing the metalcasting industry, demonstrating exceptional leadership, innovation, and a deep commitment to promoting its growth. His strategic insight and expertise have driven impactful advancements, earning global recognition and respect for the field. Known for his integrity and dedication, Bruce has also contributed to community service and education at AFS, FEF and CISA, using his platform to inspire and inform others about the industry's achievements. Bruce exemplifies the qualities celebrated by the AFS Peter L. Simpson Gold Medal, embodying the standards of excellence and dedication that the award honors.

Robert Scholz

Senior Project Manager at TRC Environmental Corporation, West Allis, WI

The **William H. McFadden Gold Medal** ... for his invaluable contributions to AFS and the metalcasting industry, particularly in education and knowledge sharing. His career has been dedicated to advancing industry safety and employee health through innovative solutions. Known for his unique approach to problem-solving, Bob continuously seeks new ways to address longstanding challenges in industrial ventilation and hygiene. His experience, ongoing education, and commitment to teaching—including his work on foundational industry guidance and volunteer ESL instruction—have left a lasting impact on the industry and all who have learned from him. One humble man, he unselfishly provides others with an intense learning adventure.

2025 Award of Scientific Merit

Paul David Paulsen

President, Furness – Newburge, Inc., Versailles, KY

The **AFS Award of Scientific Merit** ... for his successful career in the foundry industry, driven by his commitment to environmental sustainability and energy reduction. A respected expert on advanced oxidation processes and bond consumption, he has made significant contributions to environmental remediation and sustainable energy within metalcasting. As a dedicated member of the Green Sand Committee, he has consistently championed eco-friendly initiatives and educated future metalcasters, with many committee ideas inspired by his work. An active leader in the AFS Molding Division, his extensive papers and presentations showcase his invaluable knowledge and innovation in the field.

2025 Service Citations

Jay Morrison
VP Equipment Sales/Eastern Region Sales Manager, Carpenter Brothers, Inc., Mequon, WI

The **AFS Service Citation** ... for his service in the metalcasting industry for 25 years, earning widespread respect through his impactful work on both the supply and foundry sides. His service on the AFS Board of Directors coupled with leadership roles with the AFS Western Michigan Chapter and Central Indiana Chapter showcase his commitment to advancing industry standards. Additionally, Jay has bridged generational gaps by fostering collaboration between experienced and new professionals, and his work with educational programs fosters a strong future for the industry.

Colbey Solis
Plant Manager, Oil City Iron Works, Corsicana, TX

The **AFS Service Citation** ... for his service in AFS chapter leadership and encouraging area students. Colbey became Chair of the AFS Texas Chapter and worked with former Chairs and new volunteers to revive the Chapter, successfully hosting its first Regional event in six years, bringing renewed energy from local foundries. Colbey's efforts helped the Chapter grow, regain financial strength, and support educational goals, all while he managed a successful ferrous foundry. Further, his commitment to speaking with student chapter members encourages young people to select metalcasting for their career direction.

2025 Jozef Suchy Medal

Dennis Dotson
Retired, The Dotson Company, Mankato, MN

The **WFO Jozef Suchy Medal** ... for his excellent dedication and contributions to the industry through the WFO and the American Foundry Society, with a special mention to his Executive period in the WFO Board.

AFS Millionaires Safety Award

AFS congratulates the following AFS Corporate Member for achieving a million or more safe-hours worked without incurring a lost time injury or illness during the calendar year 2024:

Grede LLC- Reedsburg (Reedsburg, WI)
Million-hour increment of 1 million hours was achieved on 12/31/2024

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Matthews Additive Technologies	HA Group

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Engineering Manager
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Western Michigan University

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0-9

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A

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C

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E

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F

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FargoWear Inc.
Farrar Corp.
FATA Aluminum LLC
Federal Bronze Casting Ind. Inc.
Ferro Dokum San Ve Dis Tic A S
Ferroloy Inc.
Finite Solutions Inc.
FISA North America Inc.
Fisher Cast Steel Products Inc.
Flexovit USA Inc.
Flow Science Inc.
Flowserve Corp.
Flowserve Inc.
Flury Foundry Co.
Fonderie Laperle Inc.
Fonderies Bibby Ste-Croix Inc.
Ford Meter Box Co. Inc.
Forterra
Forte Tooling Technologies
Foundrion Group
Foundry Equipment Company
Foundry Products Inc.
Foundry Solutions & Design
Foundry Solutions Metallurgical Services Inc.
Franklin Iron Works Inc.
Fresno Valves & Castings Inc.
Friends Foundry Inc.
Fritz Winter North America LP
Fujifilm Dimatix Inc.
Fusium
Fusium - BSL Foundry
Fusium - TMA Foundry

G

G & W Electric Co./Manufacturer's Brass and Aluminum Foundry
Galt Steel Foundry
Gamma Foundries Inc.
Gartland Foundry Co.
Gemco Engineers B V
Gemini Inc.
General Chemical Corp.
General Foundry Service Corp.
General Kinematics Corp.
General Motors
General Motors de Mexico S A de C V
General Motors Fairfax
General Motors of Canada Ltd.
Goldens' Foundry & Machine Co.
Graham-White Mfg Co.
GrayMatter Robotics Greater Rockford Chamber of Commerce
Great Lakes Castings LLC
Grede Castings
Green Diamond Performance Materials
Green Packaging Inc.
GreenSand Controls Inc.
Griffin Canada Inc.
Griffin Industries Corp.
Ground Vehicle Systems Center
Guardian Bandsaw
Guardian Software Systems Inc.
Gudgeon Thermfire Intl. Inc.

H

H & H Castings Inc.
HA Group
HarbisonWalker International
Harmony Castings LLC
Harrison Steel Casting Co.
Harry H Reich Co.
Henry Perkins Co.
Henry Pratt Co.
Henschel Andromat Inc.
Heraeus Electro-Nite Canada Ltd.
Heraeus Electro-Nite Co.
Heraeus Incorporated
Hickman Williams & Co.
Hickman Williams Canada Inc.
Highland Foundry International
Highland Foundry Ltd.
Hiler Industries (Kingsbury Cstg. Div.)
Hitech Shapes & Designs
Hi-Vac Corporation
H Kramer & Co.
Hodge Foundry Inc.
Hodge International
Honsa Ergonomic Technologies
Hoosier Pattern Inc.
Howell Foundry LLC
Hsin Lien Machinery Parts Co. Ltd.
Humtown Products
Hunter Foundry Machinery Corp.
Huntington Ingalls Industries
Huttenes-Albertus GmbH
HWI a member of Calderys
Hycast Foundry LLC

I

I2r Power
ICD Melting Solutions
ID Castings LLC
IDEX Corp.
IMERYS
Imperial Casting Company Inc.
Impro Industries Mexico S de RL de CV
Impro Industries USA Inc.
Impro Industries USA Inc.
Indquip Co. LLC
Induction Iron Inc.
Induction Technology Corp.
Inductotherm Corp.
Inductotherm Group Canda Ltd.
Industrial Associates Inc.
Industrial Ceramic Products Inc.
Industrial Magnetics Inc.
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Industry 63
Integra Castings Inc.
InterTest Inc.
Iron Age Designs
Ironcast de Frontera
I Schumann & Co.
ItalPresseGauss
IVI Inc.
IVI South Inc.

J

JOEST Inc.
John Deere
John Deere Co.
John Deere Coffeyville Works Inc.
John Deere Des Moines Works
John Deere Des Moines Works
John Deere Dubuque Works
John Deere Foundry
John Deere Foundry East Moline
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K

Kautex Textron
Ken Chapman & Associates Inc.
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Keystone Foundry
Kimura Foundry America Inc.
King Tester Corp.
Kirsh Foundry Inc.
Klein Palmer Inc.
Kloster Foundry Products
Knoebel & Associates
Kodiak Group

Kohler Co.
Kolene Corp.
Kore Mart Ltd.
Kurtz Bros Inc.
Kuttner North America

L

LA Aluminum Casting Corp.
LAEMPE REICH
Lake Foundry 2020 Ltd.
Lakeshore Sand Co.
Larpen Metallurgical Service
Lawton Standard St Paul
Leading Marks LLC
LeClaire Manufacturing Co.
LECO Corporation
Lemfco Inc.
LeSueur Incorporated
Lethbridge Iron Works Co. Ltd.
Liberty Casting Co. LLC
Liberty Pattern Company
Liberty Technology Co. LLC
LightSpeed Concepts Inc.
Ligon Industries LLC
Lincoln Electric Automation Inc.
Lindberg/MPH
Lite Magnesium Products Inc.
Littlestown Foundry Inc.
Lodge Mfg. Co.
Louis Meskan Foundry Inc.
LPM North America Inc.

M

MacKenzie Castings LLC
Magaldi Technologies LLC
MAGMA Foundry Technologies Inc.
Magneco/Metrel Inc.
Magnus Metal
Mahoney Foundries Inc.
Mancuso Chemicals Ltd.
Manitowoc Grey Iron Foundry Inc.
Manley Bros of Indiana Inc.
Matthews Additive Technologies
Matthews Architectural Products
Matthews International Corp.
MCC International Inc.
McWane Ductile
McWane Inc.
ME Global Inc.
Melling Engineered Aluminum Castings
Mercury Castings
Mercury Marine
Meritor Inc.
Metalcasting Design LLC
Metal Recycling Services LLC
Metal Technologies Auburn Casting Center
Metal Technologies Corporate Center
Metal Technologies Ravenna Ductile Iron Plant
Metal Technologies SLP MX Foundry
Metal Technologies Three Rivers Gray Iron Plant
Metaltec Steel Abrasive Co.
MetalTek International
MetalX
MIA Manufacturing Inc.
Michigan Pneumatic Tool Inc.
Mid City Foundry Co.
Midland Manufacturing Co.
Midvale Industries Inc.
Midwest Aerospace Casting
Miller and Company
Minerals Technologies
Minerals Technologies Inc.
Miracle Steel-KOTAR
Mitchell Aerospace Inc.
Modern Equipment Co LLC
Molten Metal Equipment Innovations
Monett Metals Inc.
Moore M/R Specialty Co.
Morgan Advanced Materials
Morgan AM&T
Morris Bean & Co.
Motor Wheel LLC
MPM Infosoft Pvt. Ltd.
MPM Infosoft - Sandman
MPM Private Limited
MPS Mankato LLC
MT Systems Inc.
Mueller Canada
Mueller Co.
Mueller Water Products
Multi-Cast LLC
Multi-Vac a division of M & W Shops

N

National Peening Statesville
National Peening Wilmington
Naval Foundry & Propeller Center
Naval Foundry & Propeller Shop
NCDMM
NCDMM - America Makes
NCDMM - Blairsville HQ
Nederman MikroPul
Neenah Foundry Co.
Neptune Technology Group Inc.
New London Engineering
Nexthermal Corporation
Nimr & Chapman Manufacturing (Pvt.) Ltd.
Nohr LLC
Non-Ferrous Cast Alloys Inc.
Norican Group
Northfield Manufacturing Inc.
NorthStar Products
North Star Products
Norton | Saint-Gobain
Norwood Foundry Ltd.
NOV Inc.
NovaCast Solutions USA Inc.
NovaCast Systems AB
Novis Works LLC
NRB Metals LLC

O

Oil City Iron Works Inc.
Olson Aluminum Castings Inc.
Osco Industries Inc.
Otto Junker USA (Junker Inc.)

P

P&THE Manufacturing LLC
P&W Foundry Inc.
Pacific Alloy Casting Co. Inc.
Padnos
Palmer Engineered Products
Palmer Foundry Inc.
Palmer Mfg. & Supply Inc.
Pangborn Corp.
Patriot Foundry & Castings
Pattern Services LLC
Pearce Foundry Inc.
Penn-Mar Castings Inc.
Pentair
Pentair Delavan
Pentair Kansas City
Pentair Ltd.
Pentair Monterrey
Pentair New Brighton
Pentair North Aurora
Pentair Pump
Pentair Reynosa
Pentair Valves and Controls
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Perma-Cast Co.
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Pillar Induction
Pittsburgh Foundry & Machine
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Polytec USA Corp
Porter Warner Industries Inc.
Precision Gage LLC
Precision Rail and Mfg. Inc.
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Production Pattern & Foundry Co.
Productora De Hierro Maleable S A
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Progressive Foundry Inc.
Progress Rail, a Caterpillar Company
Proterial
Prototype Casting Inc.
PT Coupling Company
PushCorp Inc.
P W Gillibrand Co.

Q

Q&F Engineering
Quad City Safety Inc.
Quaker City Castings Inc.
Quality Castings Co.
Quality Electric Steel Castings LP
Quality Non-Ferrous Foundry
Quigley Crucible

R

RAMPF Group Inc.
Redford Carver
REFCOTEC Inc.
Refractory & Insulation Supply Inc.
Regen Aluminum
Reliability Concepts
Renaissance Manufacturing Group LLC
RENO Refractories Inc.
Resource Recovery Corp.
Rheocast Co.
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Richmond Foundry LLC
Rio Tinto Alcan
Rio Tinto Aluminum Group
Rio Tinto Iron & Titanium Inc.
River Metals Recycling LLC
Riverside Foundry Inc.
Roberts Sinto de Mexico
Rochester Metal Products Corp.
Rock Island Arsenal Joint Mfg. & Tech Cntr (RIA-JMTC)
Rolls Royce Marine North America
Rolls Royce North America Inc.
Roloff Manufacturing Corp.
Romac Industries Inc.
RoMan Manufacturing Inc.
Rosler Metal Finishing USA LLC
Ross Aluminum Castings LLC

S

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Scheuch
Schust
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SinterCast Ltd.
Sintex Minerals & Services Inc.
Sinto America
SIR Robotics Inc.
SIR Spa
Sloan Valve Co.
Smart Sand Inc.
Smith & Richardson Mfg. Inc.
Solar Turbines Inc.
Southeastern Foundry Products & Foundry Coatings Inc.
Southland Metals Inc.
Spectro Analytical Instruments
Speedie Recycling
SP Foundry
Spring City Electrical Mfg. Co.
Spuncast Inc.
SRC Pipeflow Technology Center
Stahl Specialty Co.
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Standard Alloys & Manufacturing
Standard Manufacturers Services Limited
Star Pipe Products
States Engineering Corp.
St Louis Precision Cast Products
St. Marys Foundry, Ltd.
St Paul Foundry
StrikoWestofen
Summit Foundry Systems Inc.
SunCoke Energy Inc.
Sun Metalon Inc.
Superior Aluminum Alloys
Superior Aluminum Castings Inc.
Supreme Cores Holdings LLC
Sure-Cast Alum Foundry Co.
Synchro ERP Ltd.
SYSCON Sensors

T

Talladega Foundry & Machine Co. Inc.
Taylor Foundry Co.
TB Wood's Inc.
TCI Aluminum
TDJ Group Inc.
Technetronix LLC
Technical Metal Finishing
Techni-Cast Corp.
TEMC Metal & Chemical Corp.
Temperform Corp.
Tennetek Inc.
Texan Minerals and Chemicals LLC
Textron Defense Systems
Textron Inc.
The Barnes Global Advisors
The CoreRoom
The David J Joseph Co.
The Federal Metal Co.
The Hill & Griffith Co.
The Lawton Standard Co.
The Nugent Sand Co. Inc.
The Raymond Corporation
Thermotec Industries
The Schaefer Group
The Schaefer Group Inc.
The Wasmer Company LLC
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Thomas Machine & Foundry Inc.
Tinker Omega Sinto
Titan Robotics Ltd.
Tonkawa Foundry Inc.
Tooling & Equip International
Torrance Casting Inc.
Toscelik Profil ve Sac Endustrisi AS
Townley Foundry & Machine Co. Inc.
TPI Arcade Inc.
Transvalor Americas Corp.
TRC
Trebi North America Inc.
Trebi Srl.
Tromley Industrial Holdings Inc.
Tyler Pipe Co.

U

United Brass Works Inc.
Universal Electric Foundry Inc.
Universal Welding & Engineering Inc.
Urick Ductile Solutions
Urschel Laboratories Inc.
US Aluminum Castings
U S Foundry & Mfg.Co.
USI Insurance Services
USMFG Inc.
US Pipe & Foundry Co.

V

Valmet Inc.
Van Hydraulics Inc.
Vermont Castings
Vermont Foundry Co.
Victaulic Co.
Victaulic Co. of America
Victaulic De Mexico S de RL de CV
Victaulic Lawrenceville
Viking Pump Inc.
Viking Technologies
Viking Wheel Blast Systems
Virginia Industries Inc.
VJ Technologies Inc
Voestalpine Railway Systems Nortrak
Voss Pattern Co.
Voxeljet AG
Voxeljet America Inc.
Voxeljet China Co. Ltd.
Vulcan Engineering Co. In.c
Vulcan Engineering Co. Inc.
Vulcan Metals Corp.
Vulcan Metals Corp. Ltd.

W

Wabash Castings Inc.
Wabi Iron & Steel Corp.
Wabtec
Ward Aluminum Company
Ward Heat Treating
Ward Manufacturing LLC
Washburn Iron Works Inc.
Washington Mills Hennepin Inc.
Waterous Company
Watry Industries LLC
Waupaca Foundry Inc.
WDC Acquisition LLC
Wear-Tek
Weatherly Casting & Machine Co.
Weaver Materiel Service Inc.
Webb Wheel Products Inc.
Weil McLain
Western Foundries Inc.
West Point Industries
West Salisbury Fdry. & Machine Co.
WGB Industries Inc.
WGS Global Services LLC
Wheelabrator Group
Whibco Inc.
Whiting Equipment Canada Inc.
William Goetz and Associates
Wirco Inc.
Wirco Inc.
Wirco - PIP
Wisconsin Aluminum Foundry Co.
Wisconsin Oven Corporation
Wisconsin Precision Casting
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2025 Casting of the Year

All Around Winner & Newcomer of the Year:

Monolithic Bypass

Mueller Co.
Chattanooga, TN

Material Used: Ductile Iron
Process: 3D Sand Printing
Weight: 24.2 lbs.
Dimensions: 10.5" x 10" x 7"
Application: Water works - reroutes flow around valve seal to relieve differential pressure.

Best Example of a Casting Conversion

Jeep Wrangler Exterior Door Handle

Cope & Drag Kustoms
Fort Atkinson, WI

Material Used: A356 Aluminum
Process: Green Sand
Weight: .5 oz
Dimensions: 8" x 2 " x 1.5"
Application: After market automotive - replaces standard plastic handles.

Achievement in a Small Foundry Business

Stationary Seal, Air and Oil-Bearing Casting

Silver Dollar Castings
Chicago, IL

Material Used: Aluminum 355 T71
Process: Airset, Cope/Drag, 3D Cores
Weight: 24 lbs.
Dimensions: 24" x 7.5"
Application: Renewable energy - critical component, jet turbine engine, backup power.

Best Innovation/Prototype

Cast Wheel for a 1911 Advance Steam Traction Engine

Dakota Foundry
Webster, SD

Material Used: Ductile Iron: 65-45-12
Process: Sand Casting
Weight: 1600 lbs.
Dimensions: 74" x 15"
Application: Preservation of history of American innovation and foundry practices - wheel for a tractor.

Outstanding Achievement

I3 Shadow Exhaust

BRP
Spruce Pine, NC

Material Used: Aluminum
Process: Lost Foam
Weight: 44 lbs.
Dimensions: 26" x 17" x 10"
Application: Marine - water cooled exhaust manifold with integrated 90-degree gear box.

Outstanding Achievement

Atlas Aft/Front/Main Housing

Aristo-Cast, Inc.
Almont, MI

Material Used: AZ91E Magnesium
Process: Investment Casting
Weight: 31g/9g/33g
Dimensions: 2.379 in x 1.800 in x 1.276 in/2.126 in x 0.615 in x 0.787 in/2.391 in x 1.915 in x 1.263 in
Application: Military/SWAT/National Guard - House electrical and optical components for laser aiming device.

Upcoming AFS Events and Courses

AFS Events

2025 Foundry Stormwater Compliance Seminar

May 13 – 14, 2025 | AFS Headquarters | Schaumburg, IL

Building on the fundamentals of the Clean Water Act, this seminar will address the rapidly changing world of stormwater compliance, including both the regulatory and technical issues involved in meeting the complex requirements. This seminar covers the many changes to the recently proposed 2026 EPA Multi-Sector General Permit (MSGP). Highlights include development of Stormwater Pollution Prevention Plans (SWPPPs), comparison of the currently effective 2021 and proposed 2026 EPA MSGPs with state specific permits, Best Management Practices (BMPs), tips/pitfalls, and the increasing regulatory scrutiny of PFAS and PFOA contamination.

2025 Government Affairs Fly-In

June 10 - 11, 2025 | The Hotel Washington Washington, D.C.

Issues on Capitol Hill have millions of dollars of implications for your company, including taxation, Buy America, trade enforcement, workforce policies, EPA rulemaking, and OSHA regulations. Each year, AFS members from across the entire supply chain gather to advocate for the metalcasting industry, grow the metalcasting economy, and get an inside look at policies that affect the industry.

2025 Chapter Officers Conference

July 22, 2025 | Live Online

AFS regional chapters are encouraged to register at least one representative for the AFS Chapter Officers Webinar as we start a new and exciting chapter meeting year. By collaborating and sharing, AFS chapters can continue to thrive and deliver tremendous value to our members. That starts with your chapter's participation on the Chapter Officers Webinar! We will discuss resources available through AFS and fundamental chapter operations. All participants will engage in a round table discussion to share best practices in event planning, communications, fundraising, and community engagement, so come prepared to "unmute" yourself.

Foundry Forward: HR Strategies for the Metalcasting Workforce Roundtable

August 12, 2025 | American Family Field | Milwaukee, WI

The AFS Talent Development Divisions offers a unique opportunity to learn directly from your industry peers across both large and small foundries in the metalcasting sector. Whether you're managing a small family-owned business or part of a large corporate operation, you'll gain valuable insights into how HR professionals in the metalcasting industry are using innovative technology, tackling talent acquisition challenges, and driving employee engagement. Beyond the valuable sessions, you'll have the chance to connect with fellow professionals during a fun and relaxed networking evening at the ballpark. Enjoy the Milwaukee Brewers versus Pittsburg Pirates and a delicious dinner buffet on the Johnsonville Party Deck with stadium seating with a view overlooking right-field plus parking passes all while sharing strategies and building relationships with those who understand the unique needs of the metalcasting workforce. Leave with actionable solutions and expanded connections that will help shape the future of HR in your organization.

2025 Sand Casting Conference

September 9 – 10, 2025 | Embassy Suites by Hilton Downtown Pittsburgh | Pittsburgh, PA

Join us at the 2025 Sand Conference – where innovators and industry leaders converge! Dive into compelling case studies and dynamic discussions on cutting-edge molding technologies, environmental compliance, and process evaluation. Network with peers through process-focused presentations that spotlight real-world applications, showcasing advancements in process improvement and technology transfer. Don't miss this opportunity to explore and adopt new methodologies and state-of-the-art equipment poised to meet the industry's future demands.

2025 Copper Alloys Workshop

September 17 – 18, 2025 | AFS Headquarters Schaumburg, IL

With several expert-led sessions, this 2-day workshop is tailored to new and experienced copper alloy metalcasters alike. Join us in expanding the shared knowledge of the copper alloy industry!

2025 Foundry Leadership Summit

September 22 – 24, 2025 | Nemacolin | Farmington, PA

Register now for the premier metalcasting industry Leadership Summit. Enjoy networking with a friendly group of nearly 150 leaders from across the metalcasting supply chain and hear from world-class speakers discussing leadership, economic, workforce, technical and political issues that go to the heart of leading your business.

37th Environmental, Health & Safety Conference

October 7 – 9, 2025 | Green Lake, WI

The AFS Environmental, Health and Safety (EHS) Conference returns for its 37th year as the premier event for foundry industry EHS professionals. Taking place October 7 – 9, 2025, in Green Lake, WI, the conference brings together leading experts and peers to discuss the latest developments, innovations, and best practices in foundry EHS. From foundry case studies to updates from Washington D.C. to networking with other professionals, this event has what you need to enhance your knowledge, EHS programs, and performance.

AFS Institute Courses

Copper Metalcasting 101

April 30 | Live Online

This course provides participants an introduction covering the characteristics and properties of copper, alloying elements and their general applications, and considerations for working with copper cast parts.

Gating and Riser Design 201

May 6 – 8 | Live Online

This course is a continuation of Gating & Riser Design 101 with an emphasis on application of sands, chill, sleeves, and other thermal control properties, fluid flow principles and filtration, and your facilities' process parameter ranges.

Casting Defect Analysis

May 13 – 15 | Live Online

Participants will become proficient in applying a ten-step procedure that will enable them to analyze and reduce metalcasting defects by correctly identifying defects, root causes, and determining corrective action.

Aluminum Melting 201

June 3 – 5 | Live Online

Aluminum Melting 201 introduces the principles and best practices of aluminum melting for metalcasting.

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Allied Mineral Products Inc.* 1649
AMAFOND 2829
AFS - The Hub* 320
AFS - Casting of the Year* 350
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AMV Soluciones S L 855
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Arcos-USA 914
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Blast Cleaning Technologies* **1207**
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Bronco Blast* 1104
Bruker 2451
C A Picard Inc. 2222
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CCMA LLC 2550
Champion Chisel Works 2749
Chesapeake Specialty Products* 841
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Compass Engineering Corp. 2818
Conveyor Dynamics* 1227
Corona Cadinhos E Refratarios 946
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Diamant Polymers Inc. 1811
Didion International Inc.* 1227
Digitize Designs LLC 936
DustMASTER Enviro Systems* 2028
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Electric Controls & Systems Inc. (EC&S)* 1913
Elektrim Motors 1113
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Elkem Silicon Products* 1713
ELM DOKUM MAKINELERI 1046
Empire Systems Inc. 2639
EMSCO Inc.* 1117
Engis Corporation* 1907
Epic Machine Inc.* 1948
Equipment Manufacturers International Inc. (EMI)* **2111**
Eriez 2741
Ervin Industries Inc. 2024
ESI Group Inc. 911
ETA Engineering Inc. 1929
Everett Industries LLC* 539
EZG Manufacturing* 1655
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Ferroglobe 2715
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Filtec Precision Ceramics 2255
Finite Solutions Inc.* 1228
Flexovit USA Inc.* 2936
FLOW-3D CAST 2637
Forte Tooling Technologies Nordstern Group* 1048
Fosoco-Vesuvius 937
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Foundry Solutions & Design* 1619
Foundry Solutions Metallurgical Services Inc.* 2736
FRC Global 815
Fremont Flask Company 1051
Gaylord Family Enterprises Inc. 2013
Gemco Cast Metal Technology 2830
General Kinematics Corp.* **1414**
GFS Gravity SRL 2829-1
Gibson Centri Tech Ltd. 1914
Goff Inc. 2837
Gradmatic Equipment Inc. 1906
Green Diamond Performance Materials* 851
Green Packaging Inc.* 821
Griffin Tool Inc. 2146
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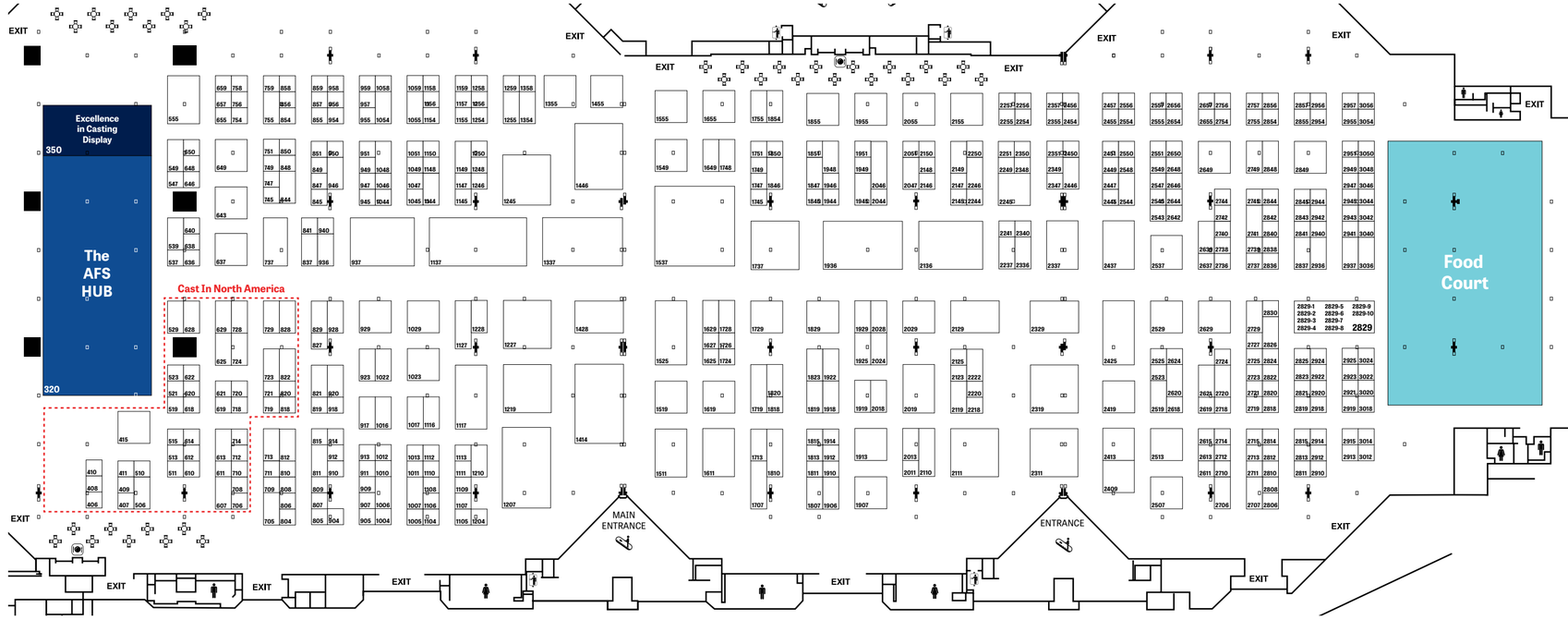

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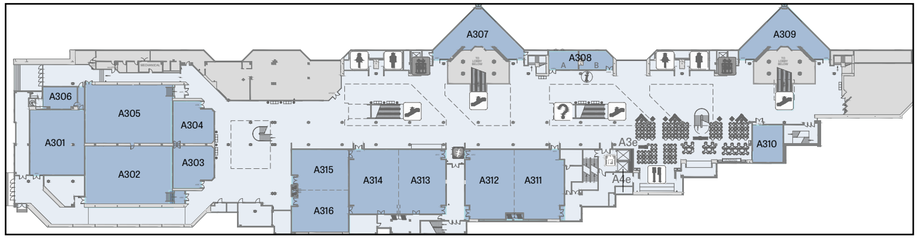

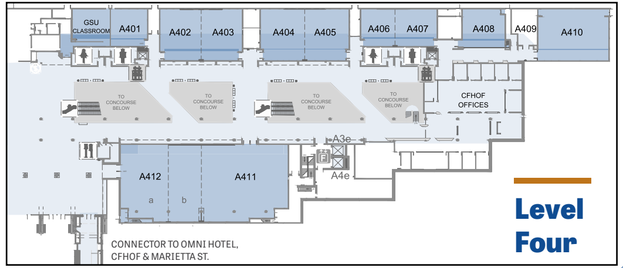

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