

THE FOUNDRY REPORTER™

*"To advance, through Research and Education,
the Arts and Sciences relating to
the Manufacture and Utilization of Metal Castings"*

Vol.2009-10

www.afscentralohio.org

October 2009

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**"Be a yardstick of quality.
Some people aren't used
to an environment where
excellence is expected."**

- Steve Jobs -

Upcoming Event:

- ✓ **November 19, 2009**
Top Management Night

>> See page 10 for complete Schedule

Meeting Location

(unless otherwise noted):
Holiday Inn - Worthington
7007 North High Street.
Worthington, OH 43085
(614) 436-0700

Times:

Board Meeting: 5:00 - 6:00 PM
Social Hour : 6:00 - 6:30 PM

Dinner Cost: \$25 per person
(Students free)

RSVP: Steve Pinkstock
614.879.8325

Email:

srpinkst@ColumbusCastings.com
By Monday before the meeting

Program Details

Our Next Meeting is Thursday, October 15, 2009

"New Concept for Low Volume Casting Finishing"



John Kuhn
Foundry Automation Specialist
RIMROCK CORPORATION
1700 Jetway Blvd.
Columbus, Ohio 43219
614.471.5926
jwkuhn@rimrockcorp.com

John graduated with a Bachelor of Science Degree in Mechanical Engineering from Purdue University in 1971 and a Masters of Business Administration from Indiana Wesleyan University in 1987. He worked in the foundry industry in various positions from 1971 to 2003.

His background and experience includes -

- Equipment Designer, Maintenance Supervisor & Project Engineer for International Harvester, 8 years;
- Plant Engineer, Project Manager, Plant Manager, Manager of Process Development at CMI International, 19 years;
- Project Engineer, Plant Manager and Corporate Engineer for ALCOA, 5 years, and
- currently Foundry Automation Specialist for Rimrock Corporation since 2003.

John holds eleven patents in metalcasting and is a lifetime member of the American Foundry Society and the Society of Manufacturing



Happenings!

Our first AFS meeting of the season was again well attended, no doubt because Jim Archibald of Ashland Casting Solutions is well known in the foundry industry and everyone wanted to hear what he was going to say.

But, as you may know, the action at these meetings already starts 60 minutes before the social hour with a meeting of the board of directors to review and discuss a variety of topics dealing with the chapter.

One of the actions of the board, this time, was to vote on, and after unanimous acceptance, welcome Michael J. Warner, Operations Manager, Keener Sand & Clay Co. of Columbus, as a new board member.

Michael brings a well rounded experience with foundries to the table since he is in constant contact with all kinds of foundries and that way gets to know what problems foundries might face and how the Central Ohio Chapter might be able to help.

At this point it is appropriate to mention Brad Dennis', the chapter's chairman, appeal to the general membership of the chapter for anyone interested in joining the board of directors to step forward. There is always room for one more and the variety of experience of the members only strengthens our abilities to serve all members better.

And while we are talking about experience – how about giving some thought to mentoring! The AFS-OSU students asked who they might contact in the chapter when they run into foundry related problems in their projects at OSU. Wouldn't it be fantastic if we could put together a list of volunteers willing and able to advise these students when they have questions about their lab projects? If you want to be counted in please contact John Harmeyer of Fisher Cast Steel Products who is heading up the Student's Advisory Committee. John can be reached at 614.879.8325 or send an email to johnharmeyer@fishercaststell.com



John Spencer, John Harmeyer and Jim Archibald discussing best practices and global markets



Ed Krohn and Art Boehme
Who do you think is the chapter's treasurer?



Brad Dennis, Ed Krohn, Art Boehme and Bill Train. If you want to win the \$50.00 jackpot at the meeting you have to plan in advance by first volunteering to sell tickets to the crowd, buy some yourself and then miraculously arrange for your ticket to be the winning draw. And guess what, some people can pull it off. Go and do likewise!

If there are certain topics or subjects you wish to raise or read about in future issues don't be bashful. Just send your comments to Editor@afscentralohio.org or let any of the board members know.

Enjoy this issue!

Chris Doerschlag
Editor

Eating raw chicken and Global Casting Markets



What does one have to do with the other.. you ask? Well, remember the saying, "when in Rome you do as the Romans do"? Except in this instance you have to replace Rome with India and China. According to Jim Archibald of Ashland Casting Solutions, who spent several years in these countries, learning to adapt to local customs made it a lot easier in getting to know the customers better, and believe it or not, he says, eating the raw meat of specially raised chicken sprinkled with those exotic spices actually tasted rather delicious.

Jim was the featured speaker at our last AFS meeting and he gave an interesting presentation about "Global Metal Casting Markets and New Technology Trends". Since he lately spent a lot of time in China and India he shared some interesting stories about his experiences. It's important for us to be aware of what goes on around the world in the foundry industry and to see how the industry develops. While many foundries in this country see slow-downs and face changing times other countries embrace new technologies to become more competitive and develop new markets.

John Kuhn, of Rimrock Corporation and a member and advertising sponsor of our local AFS chapter, is another foundryman with broad experience in a lot of areas and spent much time in studying and developing foundry methods and processes. His talk this month will be another treat for those who want to stay abreast of what can be done to improve foundry operations and procedures. It's being said that John has a photographic memory, which helps him to easily offer ideas for improvements and designs. Make sure to be at this upcoming meeting.

Aren't we fortunate to have all these experts in our chapter? And their presentations at our meetings are all about the latest details in the foundry industry, which can easily be put to good use. Regarding membership, did you know that our chapter is in the upper third of having the most members. According to the September 1, 2009 report from AFS HQ the Central Ohio Chapter has 171 active members and out of 50 chapters nationwide we rank No. 15. Similarly, the AFS-OSU student chapter with 10 active members ranks #14 out of 32 student chapters in the country which is better than 54 percent of the remaining student chapters.

Taken as a group, there is a lot of foundry experience concentrated in our chapter and it's there for everyone to take advantage of. Do you have a specific problem you like help with? Are you looking for material sources, wondering about OSHA or EPA compliance details? Why not come to the meetings with the intent of learning from others by networking, introduce yourself to others and start talking.

If you have any special requests for topics to be covered in our monthly meetings or ideas of how we can make something better let us hear from you. Our monthly meetings are designed to share ideas, learn new methods and find better ways to do our job and your input is always welcome.

See you on the third Thursday.

Brad Dennis

Brad Dennis
Chairman – AFS Central Ohio Chapter

PS: Don't hesitate, if you want to comment or contribute, let us hear from you. Your input is always welcome. Send any suggestion, question or comment to me directly at brad@fishercaststeel.com or to info@afscentralohio.org

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JERRY WADDLE - Kenton Iron Products, Inc.

Michael J. Warner - Keener Sand & Clay Co.

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Education:

Dr. Doru Stefanescu - The Ohio State University

Environmental:

Kim Myers - Griffin Wheel Co.

Golf Outing:

Joe Cuske - Griffin Wheel Co.

Steve Pinkstock - Columbus Steel Castings Co

Internship Program:

John Harmeyer, Brad Dennis - Fisher Cast Steel Products, Inc., Chris Doerschlag - Alb Klein Technology Group, Dr. Doru Stefanescu, Evan Standish - The Ohio State University, Bill Massey - Ashland Casting Solutions, Steve Pinkstock - Columbus Steel Castings Co.

Membership:

Bill Massey - Ashland Casting Solutions

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Steve Pinkstock - Columbus Steel Castings Co.

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Chris Doerschlag - Alb Klein Technology Group

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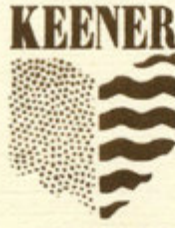
Welcoming:

Bill Massey - Ashland Casting Solutions

Winter Party:

Mark Steil - Burnham Foundry LLC

Joe Cuske - Griffin Wheel Co.



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Golf Tips from Professional Golfers

KEEP YOUR FEET TOGETHER!



Keeping your feet together practice hitting balls with the ball teed up. Your feet should be touching or within 2 or 3 inches of each other.

Swing slowly at first. Concentrate on making solid contact with the ball. Always think tempo and rhythm. Once you can hit consistently good shots work on hitting the ball off the grass.

You may be surprised how far you can hit the ball with your feet together as you groove your swing. This drill helps you in many ways. It's a good drill to do every practice session as a warm-up.

Purpose

1. To promote good balance and rhythm. This is one of the most popular practice drills, because it is an easy drill to do and yet it does so much for you. Use it as a warm-up or to stay loose on the course during those long waits on the tee.

2. To improve timing, reduce swaying, and promote good swing mechanics. This drill encourages you to swing within your capabilities. It reduces swaying because of the narrow balance point. If you sway or swing too hard you will almost fall over.

3. To provide a quick check of good swing mechanics. This drill can actually prevent many bad faults from creeping into your swing. On a bad day some players actually use this drill as an emergency fix during a round.

They actually move their feet closer together to prevent extraneous body movements that may be causing errant shots, resulting in loss of confidence and wasted strokes.

Do's and Don'ts

Do the "Feet Together Drill" whenever you start to lose confidence in your swing because of repeated missed shots, or ball flight problems.

by Joe Davidson



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Foundry Facts

The need for control of sand temperature in cold-setting processes

The curing-rates of all cold-setting chemical binders used for mold or core production respond to any variation in sand temperature: cold sand delays hardening; hot sand will accelerate hardening, but may shorten the bench-life of a mixture—resulting in the production of friable molds and cores. Close control of sand temperature brings the following benefits:

- Scope for reduced consumption of catalyst and resin.
- Consistent strip-times.
- Predictable curing-rates.
- Dependable production rates.
- Rapid turnaround of patterns and boxes.
- Minimum problems with sagging.
- Help in ensuring the production of rigid molds and dimensionally accurate, sound castings.

Methods of controlling sand temperature

For normal operations, sand temperatures of 20-30 °C are suitable for most processes; temperatures around 30 °C are employed where fast hardening is needed. Methods of ensuring that sand used with chemical binders is at the correct temperature include:

Conserving heat in the system—Agree that suppliers deliver warm sand, and check it on arrival. Consignments of cold sand can badly disrupt production schedules.

Site sand storage-silos and hoppers under cover, preferably inside heated buildings. Insulate silos to retain heat.

Installing a sand heater—This provides a fast method of raising sand temperature. Sand heaters are particularly useful if there is cold sand in the system, or in winter. A sand heater is also helpful in ensuring rapid resumption of mold or core production after a week-end or longer shutdown.

Installing a sand cooler—Hot sand, at temperatures of 35 °C or higher, can drastically shorten the bench-life of chemically bonded sands and cause production difficulties. This problem may occur in foundries using sand reclaimers, where hot sand is recycled rapidly.

Process benefits of sand-temperature control

Acid-catalysed resins

Reduced catalyst consumption—The practice of increasing the catalyst addition when cold sand is used is wasteful, expensive and sometimes ineffective. The use of excessive quantities of acid catalyst can harm mold strength without increasing output rates. Great economies in catalyst consumption and the cost of mixed sand are possible if warm sand is used.

..... continued on page 7

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... continued from page 6

Improved control—With consistent sand temperature, resin and catalyst additions can be kept constant in all climatic conditions, there is no need for the use of separate winter and summer grades of catalyst.

Better working conditions—Reductions in fume and gas emissions can be achieved, if control of sand temperature results in the use of less resin and catalyst. Hot sand will intensify fume problems.

Fast stripping—With close temperature control, reliable use can be made of fast-curing binder systems having strip times of only 2-3 minutes. For consistent production at all times of the year, sand heaters are essential for this type of operation.

Gas-hardened cold-box systems—In the amine-gas and urethane-resin system, the use of hot sand shortens the bench-life of a sand mixture and can reduce the cured-strength. Constant sand temperature is necessary for short cure-times on mechanized core-production units.

The resin system cured by sulphur dioxide gas is also temperature-sensitive; the use of warm sand at 25-30 °C helps to economize in the use of the peroxide catalyst employed with this process.

Silicate systems—With sand temperatures below 10 °C the rate of hardening in the CO₂-silicate process is very slow, and much gas is wasted in obtaining molds or cores which can be handled. At higher temperatures, hardening occurs much more rapidly; sand temperatures of 20-25 °C are suitable for most needs. Hot sand will shorten the bench-life of a mixture, and can result in 'overgassing' and production of friable molds. Cold sand also causes problems with the ester-silicate process. Sagging after stripping and delayed through-hardening are the main difficulties.

Adapted from BCIRA Broadsheet 197



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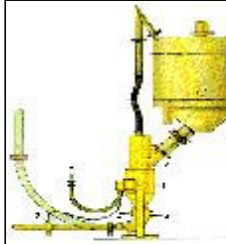
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Industry Events

September 2009:

- 23 - 25: NADCA Plant Management Conference;
NADCA HQ, Wheeling, IL
30 - Oct. 2: Ductile Iron Society and Iron Casting
Research Institute 2009 Fall Meeting;
Radisson Hotel Sharon, West Middlesex, PA

October 2009:

- 9 - 12: Non-ferrous Founders' Society Annual Meeting;
Henderson, NV
20 - 21: AFS Labor Relations & Human Resources Conf.
Indianapolis, IN
28 - 30: FUNDI EXPO;
Guadalajara, Mexico

November 2009:

- 11-12: CISA Annual Business Meeting
Rosemont, IL
12 - 13: AFS Art Casting Conference;
Tempe, AZ
19 - 20: FEF College Industry Conference;
Drake Hotel, Chicago, IL

December 2009:

- 9 - 12: Steel Founders' Society of America, National
T&O Conference;
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Are we being manipulated?

How much do you believe what you hear and see from the different media sources such as radio, TV, magazines, newspapers etc.? Maybe a better question would be how much can you believe?

Did you ever hear the name Edward Bernays? If you are not into advertising and psychology it probably means nothing at all. However, Bernays, who died in 1995 at the age of 103, was the nephew of Sigmund Freud, the famous psychotherapist.

Bernays, taking a keen interest in his uncle's theories worked, on exploiting the subconscious mind and wrote a most influential book on the subject where he argues that the manipulation of the masses is absolutely necessary for a democracy and its economy to work. He says "... the conscious and intelligent manipulation of the organized habits and opinions of the masses is an important element in democratic society. Those who manipulate this unseen mechanism of society constitute an invisible government, which is the true ruling power of our country. It is they who pull the strings that control the public mind."

Bernays was one of the first attempting manipulation of public opinion using the subconscious. He revolutionized the world of advertising, merchandising and public relations. He was widely acknowledged as the father of public relations and his clients included well-known names of Fortune 500 companies, politicians and publishers.

In 1929 Bernays organized the 50th anniversary of the invention of the lightbulb. Known as Light's Golden Jubilee. The celebration gave credit for the device to Thomas Edison, and it was so successful that it permanently branded Edison as the inventor of the light bulb when in fact, the credit should have gone to Joseph Swan.

Check out these facts:

In 1860, Joseph Swan, an English physicist and chemist, demonstrated a working device, and obtained a UK patent covering a partial vacuum, carbon filament incandescent lamp. However, the lack of good vacuum and an adequate electric source resulted in a short lifetime for the bulb and an inefficient light.

In 1882, Swan took Edison to court in Britain for patent infringement. Edison lost and as part of the settlement, Edison was forced to take Swan in as a partner in his British electric works

1850 - Joseph W. Swan began working on a light bulb using carbonized paper filaments

1860 - Swan obtained a UK patent covering a partial vacuum, carbon filament incandescent lamp

1878 - Swan receives a UK patent for an improved incandescent lamp in a vacuum tube.

1879 - Swan began installing light bulbs in homes and landmarks in England.

1881 - Joseph W. Swan founded the Swan Electric Light Company

1882 - Edison's UK operation merged with Swan to form the Edison & Swan United Co. or "Edi-swan"

Want to find out more about Edward Bernays activities in this country or get a glimpse of what is happening today? Just google his name or search the term "propaganda" and "public relations" on Google and YouTube!

□ FR

**2009/2010
Chapter Events Schedule**

September 17, 2009

"Global Metal Casting Markets & New Technology Trends",
Jim Archibald, Sr. Business Development Manager
ASHLAND CASTING SOLUTIONS

October 15, 2009

"New Concept for Low Volume Casting Finishing",
John Kuhn, Foundry Automation Specialist
RIMROCK CORPORATION

November 19, 2009

TOP MANAGEMENT NIGHT

Plant Tour, Ariel Corporation
Mt. Vernon, Ohio

December 2009 - No meeting

January 14, 2010

AFS-OSU Student Presentation
Jon Tinker, et. al., AFS OSU Student Chapter

February 13, 2010

Dinner Dance/Winter Party
Holiday Inn, Worthington, Ohio

March 18, 2010

TBD

April 15, 2010

"PAST CHAIRMENS NIGHT"

May 20, 2010

Plant Tour

June 12, 2010

Annual Golf Outing

Oakhaven Golf Club - Delaware, Ohio

June 19, 2010

Change-over Meeting

Eglesticks Golf Course - Zanesville, Ohio

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