

# CASTING CONNECTION

• Your Link to Investment Casting News from Ransom & Randolph •

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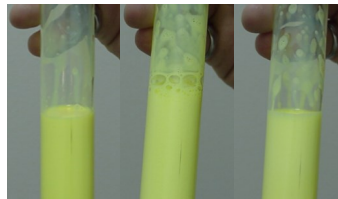
## Using Slurry Additives

Understanding what slurry additives do, when to use them and how to use them properly is imperative to appropriately maintain slurry life and performance.

### Antifoam

Antifoam is used in colloidal silica based slurries to reduce air entrapment and may need to be added on a regular basis. Slurries with foam can cause weak shells and poor surface finish. Various conditions, such as high binder solids, can degrade the antifoaming characteristics of a binder. Testing for the presence of adequate

antifoam should be conducted weekly.



Antifoam Test

### Wetting Agent

Wetting agents are surfactants used in colloidal silica based slurries that allow the slurry to coat the wax or previously applied shell coat. They should only be used to adjust/enhance the wetting capability when needed and do not need to be added to a new slurry. Adding too

much wetting agent can reduce slurry life and can cause thin layers leading to poor surface finish.

### Bactericide

Bactericide is used to kill bacteria, mold and fungus as the presence of these organisms is detrimental to both the performance and life of a water based slurry. Bactericide should only be utilized if bacteria growth is detected after a bacteria test using culture slides on a sample of binder separated from the slurry. Bacteria consumes organic particles in your slurry (typically the latex) and

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## Please Join Us!

R&R will be hosting an Investment Casting Seminar on Tuesday, May 19, 2015 at the DoubleTree by Hilton Los Angeles in Commerce, California from 9:00AM – 2:30PM.

Seminar topics include:

- Wax Room Best Practices (Wax Room 101)
- Binder Systems – Past, Present & New Developments
- Wax Pattern Making – From Art to Science (Wax Injection 101)
- Ceramic Core Fill Materials – Use & Application
- Burnout & Preheat Furnaces for Investment Casting
- Common Casting

Defects – Descriptions, Causes & Cures

This is an excellent opportunity to learn new troubleshooting skills, refresh process control skills and train new employees.

There is no cost to attend!

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Investing with Innovation™



Wendell Welsch  
Business  
Development  
Manager

## New Business Development Manager

R&R is pleased to announce the promotion of Wendell Welsch from Midwest Regional Manager to Business Development Manager.

In this new role, Wendell will focus his efforts in Asia, Mexico, South America and Africa by supporting existing ceramic shell and industrial mold applications, as well as non-traditional market opportunities.

Wendell joined the R&R team in June 2013 after having previously held sales, engineering management and technical service positions in the investment casting and steel industries.

Wendell's experience with wax, shell and metal applications in the investment casting industry and his past work developing new markets for metal alloys make him an ideal fit for this new position.

Wendell earned his BS in Metallurgical Engineering & Material Sciences from the University of Notre Dame and his MBA from Kent State University.

Wendell can be reached via phone at 330.301.4857 or email at [Wendell.Welsch@dentsply.com](mailto:Wendell.Welsch@dentsply.com).

Please join us in congratulating Wendell on his new position!

## Order Pallets & Save!

Interested in saving time and money? Tired of placing the same small order repeatedly?

Consider ordering your favorite R&R products on a pallet as opposed to ordering five or ten packages at a time.

Not only do you save time by reducing repetitive order input, but by increasing your order quantity, you increase the shipping weight; which can potentially reduce your freight charges!

By ordering full pallet quantities of the same material grade, you benefit from pallet pricing – a savings of approximately 15% vs. less than pallet (LTP).



Pallet quantities of standard refractories:

- Ranco-Sil™ fused silica 40 bags
- Alumino silicate 72 bags
- Zircon 80 bags

To update your minimum order quantity or to evaluate your potential savings, please contact the R&R customer service team at 800.253.4502 today!

## Welcome New R&R Team Member!

R&R is pleased to announce that Chris Matej has joined the team as Midwest Regional Manager for ceramic shell and industrial mold products.

Chris is an experienced materials and quality professional in the refractory and investment casting industry. He has held positions in the areas of sales, quality and laboratory management.

Chris has a BS in Geology with an emphasis in Mineralogy from Northeastern Illinois University in



**Chris Matej**  
Midwest Regional  
Manager

Chicago, IL. He also attended the University of Missouri-Rolla for graduate studies in Ceramic Engineering.

Chris resides in Elk Grove, IL and is married with three grown children. In his free time, he enjoys biking, swimming and reading.

Chris can be reached via phone at 224.254.8773 or email at Christopher.Matej@dentsply.com.

Please join us in welcoming Chris to the R&R team!

## Using Slurry Additives

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drops the pH of your slurry. Bactericide was not designed to be added on a regular basis; however, due to the potential for bacteria contamination, a regular program should be set up to test for any bacteria growth in your slurry. It is important to note that if you find bacteria in your slurry, you must also eradicate the contamination at the source.

### Drying Indicator

ReDip™ indicator takes the guesswork out of shell drying. For use with water based binders, the color indicator prevents loss due to spalling defects, reduces time spent over drying shells and allows the caster to produce stronger shells by ensuring that each coat is

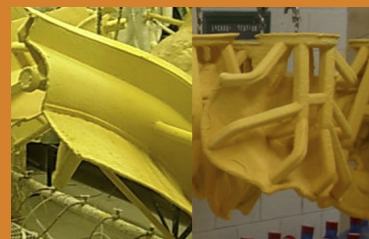
fully dried before applying an additional coat. It is important to note that drying indicator is not visible when used with alumino silicate based slurries.

### pH Adjustor

Colloidal silica binder is alkaline and becomes unstable as pH drops. Too low of a pH will lead to gelation of the binder/slurry. pH adjustor, such as ammonia or Triethanolamine (TEA) should be added to stabilize the pH level of a slurry. The binder pH should be checked at least weekly. pH adjustor should be added when binder pH drops under 9.2, but above 9.0. Once a slurry's pH level falls below 9.0, the damage is irreparable. pH adjustor should only be used sparingly until the slurry can be discarded and a new slurry can be built.

R&R does not recommend making any additions to a slurry other than the suggested materials noted herein.

To learn more about using slurry additives, please contact your R&R Regional Manager or the R&R technical team at 800.253.4502 today!



REDIP indicator  
green — wet | orange — dry



3535 Briarfield Boulevard  
 Maumee, OH 43537  
 US Toll Free 800.253.4502  
 Phone 419.865.9497  
 Fax 419.865.9777

*Investing with Innovation™*

Founded in 1872, Ransom & Randolph is dedicated to advancing the investment casting industry. R&R has provided foundries with innovative product technology, process knowledge and technical expertise since the 1800s. By coupling revolutionary product developments with experienced staff, manufacturing and warehousing facilities, R&R successfully helps customers become casting industry leaders. R&R is an operating division of DENTSPLY (NASDAQ: XRAY).

R&R's core businesses are composed of Ceramic Shell, Industrial Mold, Jewelry and Dental Investment Casting.

R&R takes great pride in providing customers with a pleasant procurement experience. R&R's Maumee, Ohio based Customer Service team services North America and US export customers. Our UK-based agent, HTM Tradeco, Ltd., provides service for the European Union. From initial order placement through delivery, R&R's Customer Service team takes responsibility for accurate and efficient processing of your material needs. As a result, R&R's Customer Service team is unmatched in the industry.



We're on the web!  
[www.ransom-randolph.com](http://www.ransom-randolph.com)



# R&R Seminar Registration

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Tues., May 19, 2015 | DoubleTree by Hilton Los Angeles | Commerce, CA | 9AM – 2:30PM | Breakfast/Lunch Provided

Attendee Name(s): \_\_\_\_\_  
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 \_\_\_\_\_

Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Email(s): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

**RESERVE YOUR SPACE!**

Reply no later than: **Friday, May 1, 2015**

Please return this form via fax or email to:

Alisa Rawski, Ransom & Randolph | Fax: 419.865.9997 | Email: [alisa.rawski@dentsply.com](mailto:alisa.rawski@dentsply.com)