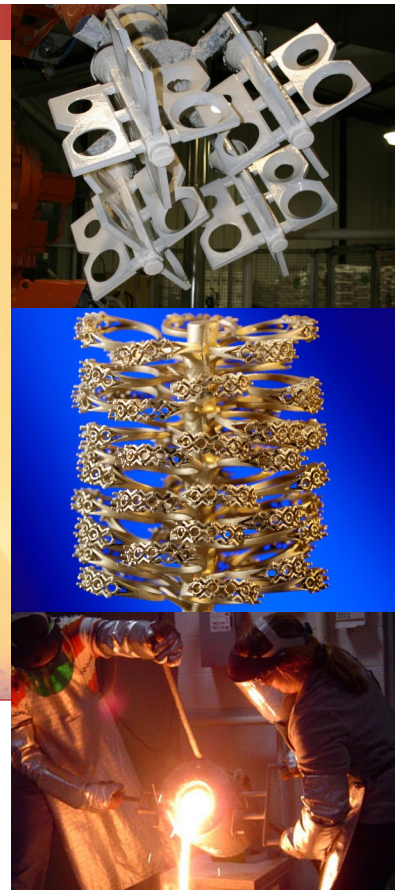




CASTING CONNECTION



Determining When a Shell is Dry

It is important to know when a shell is dry because dipping a wet shell can cause the shell to be weak; which can lead to cracking, leakers and various shell defects.



Wet Shell



Dry Shell

Infrared Thermometer

R&R recommends using an infrared thermometer to determine if your shell is dry.

When you first dip and stucco your shell, it will be at a much lower temperature than when it's dry.

Once your shell is at room temperature $\pm 1^\circ$, your shell is considered dry.

★ **PRO TIP** ★ When dipping parts with complex geometries, shell temperature should be checked where it would be most difficult to get airflow to.

ReDip™ indicator

You can also add ReDip™ indicator to your slurry, which takes the guesswork out of shell drying.

Shells are dry when the color changes from greenish-yellow to orange.



ReDip indicator



Color Change

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R&R 2019 Holiday Schedule

Please consider these closing dates when planning for your material needs. Contact R&R at 800.800.7496 if you have any questions regarding this schedule.

CLOSED for Thanksgiving

- Thursday, November 28 & Friday, November 29

CLOSED for Christmas

- Tuesday, December 24, Wednesday, December 25 & Friday, December 27

OPEN to take orders & ship materials

- Thursday, December 26 & Monday, December 30
Hours of operation:
 Customer Service & Shipping from Ohio: 10AM-3PM EST

CLOSED for New Year's

- Tuesday, December 31 & Wednesday, January 1

REOPEN for the 2020 New Year

- Thursday, January 2 at 8AM EST

Happy Holidays from your friends at Ransom & Randolph!

Place Your Order Today!

shop.ransom-randolph.com

Select bronze art/ceramic shell and dental casting/modeling products now available to order online!

2

Website & Webstore Changes

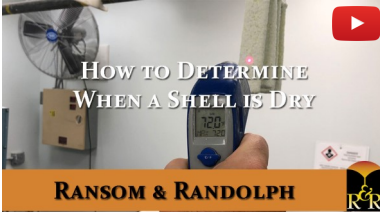
In an effort to streamline your online experience with Ransom & Randolph, we have merged our separate Glass-Cast and Art Casting Depot websites into our main R&R website.

With this migration, we have also changed our webstore name and URL from The Art Casting Depot (artcastingdepot.mybigcommerce.com) to Ransom & Randolph (shop.ransom-randolph.com).

We encourage you to bookmark the new URLs:

Old URL	New URL
artcastingdepot.mybigcommerce.com	shop.ransom-randolph.com
www.ransom-randolph.com	No change
www.glass-cast.com	www.ransom-randolph.com/glass
www.artcastingdepot.com	Bronze Art Casting <ul style="list-style-type: none"> • www.ransom-randolph.com/bronze-art Glass Casting <ul style="list-style-type: none"> • www.ransom-randolph.com/glass Jewelry Casting <ul style="list-style-type: none"> • www.ransom-randolph.com/jewelry

Watch the
Video on
YouTube!



R&R YouTube Channel:
www.youtube.com/c/RansomRandolph

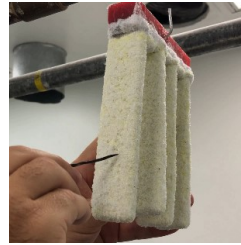
How to Determine When a Shell is Dry:
youtu.be/MZ4wpvGZHCc

Determining When a Shell is Dry

• Continued from page 1 •



Wet Shell



Dry Shell

Scratch Method

The scratch method is a more crude way to determine if your shell is dry.

To do this, simply take a piece of scrap wire or a metal hanger and gently scratch the surface of

the shell.

If it's wet, a visible scratch line will appear and a mixture of slurry and stucco will come off in clumps.

If your shell is dry, no visible scratch marks should appear and no clumps should come off. However, some minimal loose stucco may flake off.



Ceramic Shell Foundry



Jewelry Foundry



Solid Mold Foundry

Production Simulation Capabilities

In an effort to ensure that our products will perform as expected in customers' different environments, R&R's headquarters include a research foundry for product development and process simulations that is appropriately equipped to cast ceramic shell, solid mold and jewelry molds.

Ceramic Shell Foundry

Covers the entire process from wax pattern and shell building through burnout and finishing:

- Wax pattern set up
- Wax cleaning
- Propeller and rotating tanks up to 80 gallons (302.8 liter) in slurry capacity
- Rainfall sander with 24" (60.96 cm) diameter capabilities
- Fluidized beds with 19" (48.26 cm) diameter capabilities
- Steam autoclave dewax
- Electric burnout furnace
- Gas burnout furnace
- Inductotherm 35 KW melter
- Cutoff saw
- Sand blaster

Jewelry & Solid Mold Foundry

Covers the entire process from wax pattern and investing through burnout and finishing:

- Wax pattern set up
- Wax cleaning
- Vac-u-vest mixing equipment
- Steam dewax chamber
- Six burnout furnaces
- Embedded thermal couple data logger
- J-Z Autocast pressure over vacuum casting machine
- Centrifugal casting machine
- Vacuum table casting machine
- Glass bead blaster
- Water blaster
- Wax injector
- Inductotherm 35 KW melter
- Cutoff saw

Need help in your foundry?

Contact the R&R Technical team at: RR-Technical@dentsply.com today!

Managing Freezable Shipments

During winter months, freezable materials, like colloidal silica based binders, should be shipped as early as possible in the week to ensure that they are continuously moving to their destination.

While this does not guarantee product will not freeze, it reduces the risk associated with shipping over a weekend where product may sit at a freight facility unprotected from freezing temperatures.

To help you ensure that the product you receive has not been damaged, R&R applies a freeze check indicator, which features a check mark in a green circle. Temperature-sensitive liquid is encased in a clear bubble over the check mark. The fluid will turn opaque and the check mark is no longer visible once it has been exposed to subfreezing temperatures.

Note: This does NOT mean that the material in the package has been frozen; it only means the package has been exposed to freezing temperature.



If this occurs, immediately:

1. Make a notation on your carrier delivery receipt prior to the carrier leaving your facility:

“POSSIBLE CONCEALED DAMAGE – PRODUCT HAS BEEN EXPOSED TO FREEZING TEMPERATURES”

Always accept a damaged shipment unless the damage has made the goods worthless.

In cases of partial damage or loss, accept the entire shipment, document the loss/damage on the carrier receipt and follow the instructions on [How to Handle Lost or Damaged Shipments](#).

2. If able, test the specific gravity of the material as soon as possible. Material may be used if it falls within the limits noted to the right.

If you are unable to test specific gravity, contact R&R customer service to have a freeze test kit sent to you.

RRCustomerService@dentsply.com | 800-800-7496

Specific Gravity Acceptable Limits

	Specific Gravity Acceptable Limit
Core-Hardener 2000™ binder	1.390-1.410
Customcote® binder	1.145-1.155
EHT binder	1.322-1.328
Fascote® binder	1.146-1.152
Keycote® binder	1.197-1.214
Kwik-Core™ binder	1.108-1.112
Levasil® colloidal silica	1.200-1.230
Matrixsol® 30 colloidal silica	1.200-1.230
Plasticast® PT binder	1.385-1.407
Primcote® binder	1.177-1.183
Primcote® PLUS binder	1.173-1.179



Save the Date: T.Gold/Vicenzaoro

What:

- T.Gold: international show for machinery and the most innovative technologies applied to jewelry and precious metal processing
- Vicenzaoro January: international event for the gold and jewelry world to present and discover new collections in advance and be inspired by trends of the new year

When: January 17 - 22, 2020

Where: Vicenza, Italy

Stop in and see us: Pavilion: Pad/Pav 9 Stand No.: 130A

Learn more at: www.vicenzaoro.com/en/t-gold



**INTERNATIONAL
JEWELLERY TECHNOLOGY
SHOW**

17-22 JANUARY 2020 | VICENZA - ITALY

Organised by
**ITALIAN
EXHIBITION
GROUP**
Providing the future

Calling all jewelry casters...save the date!

Contact Us

3535 Briarfield Boulevard
PO Box 1570
Maumee, Ohio 43537 USA

US Toll Free: 800.253.4502
US Phone: 419.865.9497

US Fax: 419.865.9997

Email:
RR-Marketing@dentsply.com

Web:
www.ransom-randolph.com

Social:



Ransom & Randolph



At R&R, *Investing with Innovation™* is more than just a slogan, it's a way of life. Dedicated to advancing the investment casting industry, we take pride in providing foundries with extensive process knowledge, exceptional technical expertise and innovative product technology. By coupling our revolutionary product developments with our experienced staff, manufacturing and warehousing facilities, we successfully help you become a casting industry leader. R&R is a wholly owned subsidiary of Dentsply Sirona (NASDAQ: XRAY).

R&R's core businesses are comprised 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.

Investing with Innovation™