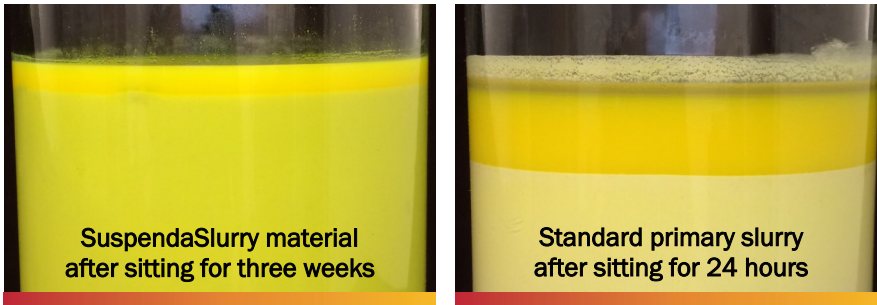


SUSPENDASLURRY® MATERIALS

Ready-to-Use Ceramic Shell Slurry

SuspendaSlurry materials were developed to eliminate costs associated with continuous mixing and to simplify the initial mixing process as the pre-mixed, chemically suspended ceramic shell slurry eliminates the need to weigh and mix binder and refractory components.



Simplify Slurry Makeup

SuspendaSlurry materials are pre-mixed when they leave the R&R manufacturing facility. The risk of operator error in adding the proper amounts of flour to a binder is eliminated, as are the labor time and costs associated with this step of the process. A standard slurry can take a day or more to wet-out before dipping can start. SuspendaSlurry materials can be remixed in minutes, often by hand, and used immediately upon opening.

- Reduce expense and equipment maintenance - no propeller mixers required to wet-out refractory.
- Reduce labor costs associated with weighing and mixing flour and binder components.
- Eliminate time wasted waiting for a slurry to wet-out.

Eliminate Continuous Slurry Mixing

Many foundries experience the costly loss of slurries when electric supply fails over a weekend. Others have experienced the loss of teardrop tanks and slurries when the propeller mixer moves off-center and cuts through the tank wall or when the propeller and shaft uncouple from the motor while the foundry is closed. SuspendaSlurry materials are formulated to maintain suspension for months without mixing; allowing the foundry to turn off mixers and tanks entirely - eliminating the risk of slurry loss due to uncontrollable, off-hour failures.

- Save electricity and lower costs by turning tanks off when not in use.
- Eliminate the risk of slurry loss and costly replacement due to electrical failure or a damaged tank.

Simplify Slurry Maintenance

Slurry maintenance is simplified for the operator. Slurry viscosity is the only test parameter required to control the slurry. If viscosity is too high, a simple water adjustment will bring the slurry back into control. Placing a tight sealing lid on the slurry tank after dipping helps preserve water in the slurry so additions are required less frequently.

- Reduce labor costs and time associated with intensive slurry testing.

Proven Casting Performance

SuspendaSlurry materials are based on R&R's leading primary binder technology. This allows casters added benefits over standard colloidal silica shells. The primary coats of SuspendaSlurry materials will result in stronger layers, reducing the potential for buckling, lifting or cracking defects. The slurry will flow, coat and drain in a fluid manner, eliminating any need for manual wax pattern application. SuspendaSlurry materials also contain a color indicator. When the shell changes from yellow to orange, the shell is ready for another dip.



RANSOM & RANDOLPH

3535 Briarfield Boulevard | Maumee, OH 43537 USA
800.800.7496 | 419.865.9497 | 419.865.9997 (FAX) | www.ransom-randolph.com



SUSPENDASLURRY® MATERIALS

Application Recommendations

1. Remix the SuspendaSlurry material prior to use to ensure a homogeneous blend of material. Remixing time will vary with the size of the slurry, but should take minutes. Small slurries may be remixed by hand, larger slurries may require a propeller mixer. Remix until the liquid at the top of the slurry is blended and the mixture is creamy in appearance.
2. Remove the propeller mixer from the tank after initial remixing.
3. Patterns must be clean and free from silicones or other contaminants before dipping.
4. It is not usually necessary to use a prewet between coats. If a prewet is needed, use deionized water only. Drain the pattern before dipping into the slurry.
5. **Once finished dipping shells, replace slurry tank lid to prevent evaporation.**
6. When using SuspendaSlurry material again, remix to a creamy consistency prior to dipping if there is a visual separation of liquid at the top of the tank. If there is no separation visible, dip without remixing.

Slurry Control Procedures

1. SuspendaSlurry material requires simple viscosity control. Target viscosity ranges for SuspendaSlurry material:

	#4 Signature Series Zahn Cup	#5 Signature Series Zahn Cup
Fused Silica (FS)	19-21 seconds	12-13 seconds

2. Control viscosity with water adjustments only. As the viscosity increases, add water to bring the slurry back into target viscosity range. Use distilled or deionized water as opposed to tap water; which can contain contaminants that can negatively affect slurry life.
3. Antifoam, wetting and bactericide agents are already formulated into SuspendaSlurry material and other additions may not be compatible. Contact R&R's technical team before making additions to the slurry.

Slurry Testing Frequency

R&R recommends running the following tests accordingly.

Slurry Test	Recommended Testing Frequency
Total Solids	Weekly
Slurry Viscosity	Start of each shift

Target Total Solids Range

SuspendaSlurry FS material: 70-72%

Refractory Loading

SuspendaSlurry FS material is provided at 60% fused silica. It is not recommended to use a different refractory load level.

Safety

OSHA-approved respiratory protection should always be worn to avoid inhalation of respirable silica dust, which can result in an irreversible lung disease, silicosis. Such exposure includes shell building, casting, knockout and cleanup. Refer to SDS for specific details.

Storage & Handling

Always keep SuspendaSlurry material sealed tightly when not in use to prevent evaporation.



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Dimensions of SuspendaSlurry packaging:

- SuspendaSlurry FS material is available in 27.25 kg or 19 L. and 182 kg or 114 L. available.

Keep from freezing.

SuspendaSlurry material must be maintained above 35°F (2°C) to prevent the material from precipitating irreversibly and making the product unsuitable for use. Shelf life is 1 year from date (MMDDYY) in batch lot number on label. Rotate stock to maximize shelf life.

Once per month, whether dipping parts or not, open the container of SuspendaSlurry material, gently remix and reseal container lid.

Settling will occur over time; if left for too long and unused, the settling process may be too difficult to reverse.

Technical Tips

For additional information and recommendations, refer to the Shell Building, Autoclaving and FlashFire Dewax Method Technical Tips available for download at www.ransom-randolph.com.

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