Application Instructions

MXC Excel Concentrate

Formulations

Due to the unique nature of the product, the formulation implemented will vary from foundry to foundry. This flexibility allows the foundry to obtain the maximum number of benefits from MXC Excel concentrate.

For specific slurry formulations, please call our Technical Department at 800.800.7496 to discuss your specific application and to obtain the proper formulation to fit your needs.

Application Recommendations

1. Remix the MXC Excel concentrate prior to use to ensure a homogeneous blend of material.
2. For best results, weigh all ingredients when making up a new slurry or making additions to an existing slurry.
3. When building the slurry, add the refractory last. If more than one refractory is used, add the lowest density refractory first: fused silicas (2.2 g/cc), alumino silicates (2.7 g/cc), zircon (4.5 g/cc). Add refractory slowly for best results.
4. New and makeup slurries must be prepared with a propeller mixer, not in a rotating tank. This ensures proper dispersion of the refractory particles. The propeller mixer must be of adequate HP and RPM. Excessive mixing action can introduce air into the slurry and cause erratic viscosity and/or bubbles in the slurry coat.
5. As with any slurry, the viscosity of the slurry must be stable before use. A stable viscosity is one that does not change by more than 1 second when checked at 1 hour intervals. Viscosity can be increased by adding more refractory and decreased by adding more binder.
6. It is required to replace water lost to evaporation. When water is needed (based on test results for viscosity and/or binder solids), use distilled or deionized water as opposed to tap water, which can contain contaminants that can negatively affect slurry life.
7. Antifoam, wetting and bactericide agents are already formulated into MXC Excel concentrate and other additions may not be compatible. Contact R&R's technical team before making these additions to the slurry.

Slurry Control Procedures

Slurry Control Worksheets are available for download at www.ransom-randolph.com under resources. Slurry Control Worksheets allow you to input data directly and help you calculate values.

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Issue Date: 021617 / Replaces: 051716

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Slurry Testing Frequency

R&R recommends running the following tests accordingly.

Slurry Test	Recommended Testing Frequency
Slurry Viscosity	Two Times Per Shift
Slurry Density	Weekly
Refractory Solids	Weekly
Binder Solids	Two Times Per Week
Binder pH	Weekly

Target Binder Solids Range

The target binder solids range for MXC Excel concentrate is 28.2%-30.2% by weight.

Specific Gravity	Binder Solids	Specific Gravity	Binder Solids	Specific Gravity	Binder Solids
1.133	26.0	**1.146**	**28.2**	1.159	30.3
1.134	26.2	**1.147**	**28.4**	1.160	30.5
1.135	26.4	**1.148**	**28.5**	1.161	30.7
1.136	26.5	**1.149**	**28.7**	1.162	30.8
1.137	26.7	**1.150**	**28.9**	1.163	31.0
1.138	26.9	**1.151**	**29.0**	1.164	31.2
1.139	27.0	**1.152**	**29.2**	1.165	31.3
1.140	27.2	**1.153**	**29.4**	1.166	31.5
1.141	27.4	**1.154**	**29.5**	1.167	31.7
1.142	27.5	**1.155**	**29.7**	1.168	31.8
1.143	27.7	**1.156**	**29.8**	1.169	32.0
1.144	27.9	**1.157**	**30.0**	1.170	32.2
1.145	28.0	**1.158**	**30.2**	1.171	32.3

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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 slurry makeup, casting, knockout and cleanup. Refer to SDS for specific details.

Storage & Handling

Keep from freezing. MXC Excel concentrate must be maintained above 35°F (2°C) to prevent the material from precipitating irreversibly and making the product unsuitable for use. Binder stored in transparent or translucent containers should be sheltered from direct sunlight. Shelf life is 1 year from date (MMDDYY) in batch lot number on label. Rotate stock to maximize shelf life.

Technical Tips

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

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