

ZIRCON (CHILCHES)

Zircon is a naturally occurring refractory mineral and is therefore subject to variability. It is chemically inert and is stable to very high temperatures. Zircon has a very high thermal conductivity and acts as a chill to eliminate metal mold reactions and burn-in, resulting in a smooth cast surface. Zircon is available in both granular and flour form.



Zircon is almost exclusively used in the primary slurry and as a primary stucco. Because of its high density, zircon provides excellent flow characteristics in a primary slurry. The round grains do not cause defects such as rough casting surfaces.

Typical Material Properties*

	Sand	Flours		
		200# IC	250# IC	325#
ZrO ₂ +HfO ₂	>65%	>65%	>65%	>65%
TiO ₂	<0.25%	<0.25%	<0.25%	<0.25%
Fe ₂ O ₃	<0.15%	<0.15%	<0.15%	<0.15%
Al ₂ O ₃	<1.50%	<1.50%	<1.50%	<1.50%
SiO ₂	<33.0%	<33.0%	<33.0%	<33.0%
Uranium + Thorium	<500 ppm	<500 ppm	<500 ppm	<500 ppm
Specific Gravity	4.6-4.8	4.6-4.8	4.6-4.8	4.6-4.8
Hardness (Mohs)	7.5	7.5	7.5	7.5
Melting Point	2,200 °C	2,200 °C	2,200 °C	2,200 °C
Loss on Ignition	<0.9%	<0.9%	<0.9%	<0.9%
Solubility in Water	Non-soluble	Non-soluble	Non-soluble	Non-soluble
Flammability	Non-flammable	Non-flammable	Non-flammable	Non-flammable
Appearance	Brown sand	White powder	White powder	White powder

*Chilches Materials, S.A. has determined test method and provided analysis as noted herein. The levels referenced herein are only for general guidance and do not constitute a firm specification.



RANSOM & RANDOLPH

3535 Briarfield Boulevard, PO Box 1570 | Maumee, OH 43537 USA
800.253.4502 | 419.865.9497 | 419.865.9997 (FAX) | www.ransom-randolph.com



Investing with Innovation™

ZIRCON (CHILCHES)

Particle Size Distribution**

	Sand	Flours		
		200# IC	250# IC	325#
d50 (microns)	135 ± 50	21.00 ± 3.00	16.00 ± 3.00	11.00 ± 2.00
d97 (microns)	250 ± 50			
d98 (microns)		82.00 ± 3.00	61.00 ± 3.00	43.00 ± 2.00

**Chilches Materials, S.A. has determined test method and provided analysis as noted herein. The levels referenced herein are only for general guidance and do not constitute a firm specification.

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user. All potential liability related to the sale and use of this product is limited to the cost of the particular goods sold in their respective transactions.



RANSOM & RANDOLPH

3535 Briarfield Boulevard, PO Box 1570 | Maumee, OH 43537 USA
800.253.4502 | 419.865.9497 | 419.865.9997 (FAX) | www.ransom-randolph.com



Issue Date: July 9, 2019

Investing with Innovation™