

# Foundry and Refractory Mineral Sands

Zircon ▪ Alumina Silicates ▪ Staurolite ▪ Titanium

## Introducing AlZiPure™

### AlZiPure™ Qualities

- Rounded
- Non-metallic
- Reduced burn-in
- Typically 4% zircon
- Ultra low free silica
- Superior surface finish
- Low thermal expansion



### AlZiPure™ Cost Savings

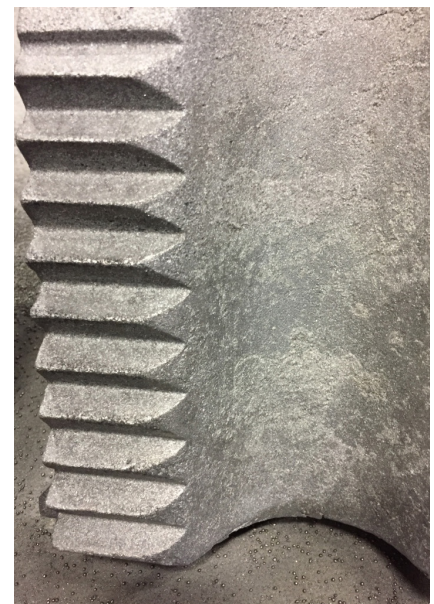
- Less rework
- Reclaimable
- Competitive price
- Reduced binder ratios
- Less blasting/grinding

### AlZiPure™ Applications

- Refractory
- Facing Sand
- Bedding Sand
- Metal Castings
- Molds and Cores
- Specialty Sands
- Detailed Casting
- Green Sand Molding



Silica Sand Casting



AlZiPure™ Casting

**AlZiPure™ Alumina Silicate Foundry and Refractory Mineral Sand**

Chemistry		Particle Size		Properties	
	Typical %	U.S. Sieve	% Retained on Sieve		Typical %
Al <sub>2</sub> O <sub>3</sub>	59.5	50	6	Deformation Temperature	>3279 °F
ZrO <sub>2</sub>	2.8	70	38	Pyrometric Cone Equivalent	>36 PCE
Fe <sub>2</sub> O <sub>3</sub>	0.5	100	50	Bulk Density (Uncompacted)	135 lb/ft <sup>3</sup>
TiO <sub>2</sub>	0.7	140	6	Specific Gravity	3.53 g/cc
Quartz	<1	200	<1	Loss on Ignition (at 1000 °C, 24 hr, air)	0.21 wt%
		270	Trace	pH	6.0–8.5 pH
		PAN	Trace	Coefficient of Linear Expansion	4.60x10 <sup>-6</sup> in/in °F
		AFS GFN	61	Specific heat (at 800 °F in atmosphere)	0.253 Btu/lb
				Heat Transfer Coefficient	2,460 W/(m <sup>2</sup> °C)



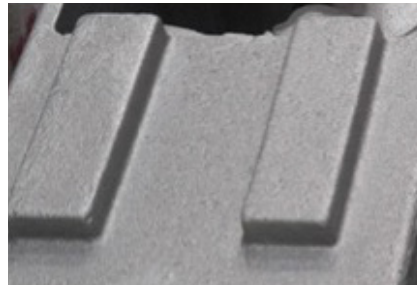
Silica Sand — no zircon wash



AlZiPure™ — no zircon wash



Gray Iron Silica Sand Casting showing burn-in



Gray Iron AlZiPure™ Casting shows no burn-in



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Photos courtesy of Southern Cast Products

For more information, visit [Chemoursabrasives.com](http://Chemoursabrasives.com)