

# KALCOR® Cast Zirconium Corundum

**Maximum Protection Against Extreme Wear  
and High Temperature**



KALCOR® is a combination of alumina, zirconia and silica that is melted at 3,600°F and then cast in tiles of various types, cylinders, and custom designed shapes. The pre-engineered, cast linings withstand extreme abrasion and moderate impact and have a low thermal conductivity.

- Complex shapes to cover curved or flat surfaces of any configuration.
- Can be cast with an eccentric ID for a thicker wall where needed.
- True-arc shapes for fewer joints, smoother wear surface.
- Applications up to 1000°C/1850°F .
- Protects components where extreme abrasion is a problem.
- Multiple attachment methods, such as welding and adhesives.
- Tiles have a minimum 1 inch (25 mm) thickness; pipes a minimum 3/4 inch (20 mm).
- Specify for existing systems or original equipment.
- Custom engineered for specific applications.

**KALCOR®**  
Cast zirconium corundum

# KALCOR® Cast Zirconium Corundum

**Increase the Service Life of Equipment  
and Lower Maintenance Costs**

Abresist Corporation offers pre-engineered linings matched to each application.

**Our services include:**

- On-site engineering
- Complete steel fabrications
- Variety of attachment methods
- Installation assistance or supervision



KALCOR Properties				
Property	US		Metric	
Density	243 lbs/ft <sup>3</sup>		3.9 g/cm <sup>3</sup>	
Temperature Limit	1,832°F		1,000°C	
Thermal Conductivity	29.1 (Btu-in)/(ft <sup>2</sup> ·h·°F) @ 1,800°F		4.2 W/(m·K) @ 1,000°C	
Thermal Expansion	3.6 x 10 <sup>-6</sup> in/in/°F @ 70°F - 1,800°F		6.5 x 10 <sup>-6</sup> K <sup>-1</sup> @ 20°C - 1,000°C	
Thermal Shock Resistance	270°F/hr		150°C/hr	
Compressive Strength	58,000 lbf/in <sup>2</sup> @ 70°F		400 MPa @ 20°C	
Bending Strength	not available			
Porosity / Water Absorption	0%			
Hardness, Moh's Scale	9 (Where Diamond = 10)			
Chemical Composition	Al <sub>2</sub> O <sub>3</sub>	51%	SiO <sub>2</sub>	13%
	ZrO <sub>2</sub>	33%		

Technical Data is the result of tests performed on selected samples, and some variations are to be expected. Abresist Corporation does not represent, warrant or guarantee the accuracy, completeness or reliability of same. Due to the production process, variations in the product may be expected. These include, but are not limited to dimensional tolerances, surface finish, voids, porosity and hairline fractures.

**Experience with:**

- Bottom and fly ash
- Ore
- Coal
- Sinter
- Cement
- Clinker
- Limestone
- Sand
- Glass/cullet



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