

KALCOR-S Sintered Material

High Temperature Wear Resistant Material for System Components

KALCOR-S
Sintered Material



The demands on wear protection materials continue to evolve as they are adapted to specific application conditions. KALCOR-S has been engineered for good abrasion resistance and high temperature resistance up to 1,250°C / 2,282°F. It is produced by cold forming aluminum oxide and zirconium oxide raw materials into tiles, shaped elements and cylinders and then sintering. This allows the production of elements tailored to a variety of system component geometries.

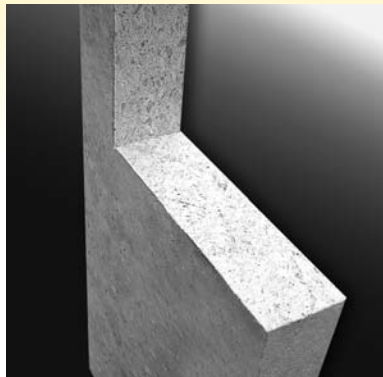
- Sintered material made of aluminum oxide and zirconium oxide for components that are subject to both severe wear and high temperatures.
- Installation: cylinders and special shapes are laid in cement mortar or special adhesives. Mechanical attachment is feasible in other cases.
- Application temperature: up to approximately 1,250°C / 2,282°F – depending on the specific service conditions and geometry.
- Advantages: highly wear resistant, temperature resistant, good thermal shock resistance.

KALCOR-S Sintered Material

Can be Easily Adapted to Components that Need Protection from Wear and Heat



KALCOR-S can be made into cylinders with relatively thin walls. The cylinder shown above has a diameter of 14" (350 mm), a wall thickness of 1/2" (12 mm) and a maximum length of 20" (500 mm).



The cut surface indicates the dense, homogenous structure of KALCOR-S. The surfaces are practically free of voids.

KALCOR-S Properties		
Property	US	Metric
Density	195 lbs/ft ³	3.1 g/cm ³
Temperature Limit	2,282°F	1,250°C
Thermal Conductivity	29 (Btu-in)/(ft ² ·h·°F) @ 68°F	4.2 W/(m·K) @ 20°C - 1,250°C
Thermal Expansion	3.6 x 10 ⁻⁶ in/in/°F @ 68°F - 2,282°F	6.5 x 10 ⁻⁶ K ⁻¹ @ 20°C - 1,250°C
Thermal Shock Resistance	540°F/hr	300°C/hr
Compressive Strength	11,600 lbf/in ² @ 68°F	80 MPa @ 20°C
Porosity / Water Absorption	0%	
Hardness, Moh's Scale	>8	
Chemical Composition	Al ₂ O ₃ - 58%, ZrO ₂ - 27%, SiO ₂ - 13%	
<small>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.</small>		

Advantages of KALCOR-S:

- Very hard and abrasion resistant
- Zirconium-corundum material
- Practically free of voids
- Wide range of geometries
- Pipe diameters between 2" and 20"
- Thin wall cylinders @ 1/2"
- Maximum application temperature 1,250°C / 2,282°F
- Good thermal shock resistance



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