



PROPERTIES OF EUCOR – (FUSION CAST AZS)

AZS fusion cast ceramic (Eucor) is molten alumina, zirconia and silica cast at 2000°C into static molds similar to those used in foundries and steel mills. Upon solidification, the interlocking crystalline structure gives AZS its superior physical properties. AZS fusion cast ceramic has exceptional resistance to sliding abrasive wear, heavy impact, severe thermal variation, chemical attack or combination of these. AZS differs from other ceramic bonded products which are essentially compressed powders.

<u>Chemical</u>	<u>Composition</u>	<u>Hardness</u>
Al ₂ O ₃	50%	Mohs: 9
ZrO ₂	32%	Vickers: 2000
S ₁ O ₂	16%	<u>Hot Load Deformation</u>
Na ₂ O	1%	Shape deformation under (.2 Mpa) 29 psi~1700°C
Fe ₂ O ₃	.1%	<u>Cold Tensile Strength</u>
T ₁ O ₂	.05%	(50 Mpa) 7253 psi
Cr ₂ O ₃	.01%	<u>Cold Crushing Strength (Compressive Strength)</u>
Mn ₃ O ₄	.01%	(300 Mpa) 43,500 psi

Density

True Specific Gravity	(3840 kg/m ³)	240 lb./cu.ft.
Bulk Specific Gravity	(3410 kg/m ³)	213 lb./cu.ft.

<u>Thermal Shock Resistance</u> (950/20°C – DIN 51068) (22 cycles)	<u>Thermal Expansion</u> .25% @ 400°C .75% @ 1000°C
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Thermal Conductivity

400°C: 4.0 Kccal/m.h.°C
800°C: 3.3
1200°C: 4.4