

AC 45

ISOSTATICALLY PRESSED SUPER ZIRCONIA CRUCIBLES

Typical Chemical Analysis	%
SiO ₂	2.20
TiO ₂	0.14
Fe ₂ O ₃	0.15
Al ₂ O ₃	1.52
CaO	0.20
MgO	3.60
ZrO ₂ + HfO ₂	92.13

Physical Properties

Apparent Porosity (%)	18
Bulk Density (kg/m ³)	4750

Thermal Properties

Specific heat (J/kgK)	550 - 810	(20°C - 2000°C)
Thermal conductivity (W/mK)	0.8 - 1.8	(20°C - 2000°C)
Coefficient of thermal expansion (K ⁻¹)	(6.2 - 9.6) x 10 ⁻⁶	(20°C - 1600°C)

General Properties

Maximum Service Temperature (°C)	2000	
Specific Resistance (ohm cm)	12.8 – 1.0	(1250°C - 2000°C)

The material utilises partially stabilized zirconias to enhance the thermal shock resistance under repeated temperature cycling. Magnesia stabilized zirconia can be used to high temperatures and is the preferred grade when possible reactions with CaO are not tolerable. The figures are typical and do not constitute or imply a specification.

All zirconia fired refractories are manufactured to specifically designed formulae of grain sizes and bonds depending on the application for which they are used.

Forming is carried out in an isostatic press, ensuring that pressure is applied evenly in all directions, so that the density of the product is consistent throughout.