

# DURAMUL

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## DESCRIPTION

DURAMUL is a fused, high purity mullite produced by the electric furnace fusion of Bayer process alumina and high purity silica. There is an excess of aluminum oxide above the normal mullite ratio ( $3 \text{ Al}_2\text{O}_3 : 2 \text{ SiO}_2$ ) to ensure that all of the  $\text{SiO}_2$  is contained within the mullite phase and is not present in the glass phase. DURAMUL receives high intensity magnetic treatment to remove virtually all of the magnetic iron present.

## APPLICATIONS

DURAMUL is utilized in the manufacture of refractory products where hot strength, resistance to spalling, and low thermal conductivity are important factors.

### TYPICAL CHEMICAL ANALYSIS

$\text{Al}_2\text{O}_3$ (by difference)	75.00%
$\text{SiO}_2$	24.70%
$\text{Na}_2\text{O}$	0.30%

### TYPICAL PHYSICAL PROPERTIES

Crystallography	Fragments of columnar joining crystals in the Orthorhombic system with trace quantities of hexagonal aluminum oxide crystals.
Color	White
Specific Gravity	3.15
Melting Point	1830° C

### TYPICAL THERMAL PROPERTIES

Useful Temperature Ranges	1800°C in Air; 1500° - 1700°C in Vacuum
Thermal Conductivity (0% porosity) (cal / sec · cm · °C)	0.0145 at 100°C ; 0.013 at 200°C 0.011 at 400°C ; 0.010 at 600°C 0.0095 at 800°C ; 0.009 at 1000°C 0.008 at 1200°C ; 0.009 at 1400°C
Coefficient of Linear Expansion	$4.63 \times 10^{-6}$ per °C: 25-500°C $5.13 \times 10^{-6}$ per °C: 25-1000°C $5.62 \times 10^{-6}$ per °C: 25-1500°C

## SIZES AVAILABLE

4/8, 8/10, 10/36, 16/35, 35/70, 6/F, 20/F, 40/F, 80/F, 100/F, 200/F, 325/F, DCF

*Other Sizes Available Upon Request*

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