DURAFRAX® 2000

Technical Datasheet

Material Properties

Durafrax® 2000, Saint-Gobain's ultra-fine-grain, high grade 90% alumina, is made from exceptionally pure, uniformly controlled alpha aluminum oxide and is engineered to be one of the best wear materials available for fine particle abrasion. Durafrax® 2000 is our most economical and frequently specified wear resistant material. Durafrax® 2000 offers excellent mechanical properties, superior wear resistance, and good corrosion performance. Pre-engineering and advanced processing techniques enable Saint-Gobain to manufacture Durafrax® 2000 in a variety of geometries from simple to complex shapes. Combined with the appropriate attachment method, Durafrax® 2000 can overcome temperature limitations, impact, and abrasion problems in many different industrial environments.

To learn more about Durafrax® 2000 wear systems and products, please contact your Saint-Gobain representative.

Properties- A90		SI Units	English Units
Chemical Analysis Alumina Oxide (Al_2O_3) Silicon Oxide (SiO_2) Others		 90% 6% 4%	 90% 6% 4%
Grain Size		3-4 µm	118—158 µin
Bulk Density		3.52 g/cm^3	219.7 lbs./ft.^{3}
Young's Modulus (MoE)	20 °C	270 Gpa	39 × 10^6 psi
Vickers Hardness	20 °C	9 GPa	1.31 × 10^6 psi
Shear Modulus	20 °C	110 GPa	16 × 10^6 psi
Modulus of Rupture	RT	275 MPa	39.9 × 10^3 psi
Compressive Strength	20 °C	1.77 GPa	256 × 10^3 psi
Fracture Toughness	20 °C	3.75 MPa·m^{½}	
Thermal Conductivity	20 °C	18.0 W/m·K	124 (BTU·in)/(hr·ft^2·°F)
Thermal Expansion	30 °C—1500 °C	8.3 × 10^{-6}/°C	4.6 × 10^{-6}/ºF
Thermal Shock Resistance	ΔTc	250 °C	482 °F
Maximum Use Temperature		1,250 °C	2,282 °F
Apparent Porosity		0%	0%
Moh's Hardness		9	9

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Saint-Gobain Ceramics
4702 Route 982, Latrobe, PA 15650 • USA
P: +1 (724) 539-6000 • F: +1 (724) 539-6070 • ceramics.refractories@saint-gobain.com

www.ceramicsrefractories.saint-gobain.com