

Data Sheet

GBC – 99.5% Alumina (723U)

Description

High purity alumina ceramic with excellent mechanical, electrical, thermal, and chemical properties.

Prime Features:

- Excellent abrasion and temperature resistance
- High mechanical strength
- Exceptional purity
- Chemical and corrosion resistance
- Excellent dielectric properties
- Dense, non porous and vacuum tight

Specifications

- ISO 9001 Registered
- SPC Technology to assure quality levels are achieved on a consistent basis

Physical Properties

Colour	White
Density	3.85 g/cm ³
Porosity (apparent)	0% (fully dense) % nominal
Tensile Strength	32,000 psi
Compressive Strength	330,000 psi
Flexural Strength	60,000 psi
Coefficient of Thermal Expansion	6.9 (10 ⁻⁶ /°C) 25-300°C
Hardness (Mohs Scale)	9
Thermal Conductivity	23 W/m.K @RT
Dielectric Strength	250 (dc V/mil) @ RT
Volume Resistivity	> 10 ¹³ (Ohm-cm) @ RT
Dielectric Constant	9.7 (1 MHz @ RT)
Dissipation Factor	0.0001 (1MHz @ RT)

Please note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in anyway whatsoever and should only be treated as indicative and for guidance only.

Typical Applications:

- Bearings
- Wear nozzles
- Medical implants
- Pump seals
- Electronic insulators
- Bushings
- Semiconductor
- Wear resistance components
- General industrial duties requiring superior mechanical, electrical, and thermal properties

Production Capabilities:

- High volume production
- Tight tolerance pressed alumina parts
- Multi-cavity tooling
- Complex geometries and multi-level configurations
- Sub-miniature designs
- Precise material and batch control
- Design consultation

Morgan Advanced Materials is a global materials engineering company which designs and manufactures a wide range of high specification products with extraordinary properties, across multiple sectors and geographies. From an extensive range of advanced materials we produce components, assemblies and systems that deliver significantly enhanced performance for our customers' products and processes. Our engineered solutions are produced to high tolerances and many are designed for use in extreme environments.

We design and manufacture products for demanding applications in a variety of markets using a comprehensive range of advanced ceramic, glass, precious metal, piezoelectric and dielectric materials. We utilise core competences of applications engineering and superior materials technology, together with state of the art fully integrated manufacturing processes to offer precision ceramic components, ceramic-to-metal assemblies and special coatings for use in a variety of applications.