Chemical™ Concepts
Our expertise is your solution.

Category : Ceramic , Glass , Oxide , Silicon Oxide , Other Engineering Material , Additive/Filler for Polymer

Chem-Set™ GB10 Glass Beads are fine solid glass spheres that can be used as spacer shims when using structural adhesive systems or as an additive for thermoplastic and thermosetting resin systems. Glass Beads are a simple and convenient solution to "over-clamping" when using structural adhesives. Use as a salt shaker to apply glass beads over wet adhesive before mating your parts to ensure a consistent and strong bond line for your finished assemblies.

Spacer Shim Benefits:

- .010" Glass beads ensure optimal bondline thickness
- Reduce human error and risk in your processes
- Ensure adequate adhesive coverage
- Increase performance and reliability
- Simple and easy-to-use

Additive Benefits:

- Low Uniform Shrinkage
- Low Warpage
- High Flexural Modulus
- High Abrasion Resistance
- High Compressive Strength
- Increased Surface Hardness
- Better Stress Distribution

These and other characteristics enable the spheres to be used in a wide range of applications in the automotive, chemical, electronic, industrial, engineering, and photographic industries

Physical Properties	Metric	English	Comments
Specific Gravity	2.50 g/cc	2.50 g/cc	
Bulk Density	1.46 g/cc	0.0527 lb/in³	Untapped; ASTM D 3101-78
	1.57 g/cc	0.0567 lb/in³	Tapped; ASTM D 3101-78
Oil Absorption	18 %	18 %	ASTM D1483
Particle Size	150 - 250 µm	150 - 250 µm	Range
Particle Mesh Size	60 - 100 Mesh	60 - 100 Mesh	

Mechanical Properties	Metric	English	Comments
Hardness, Mohs	6.0	6.0	
Modulus of Elasticity	68.9 GPa	10000 ksi	
Poissons Ratio	0.16	0.16	Calculated
Shear Modulus	29.6 GPa	4300 ksi	
Coefficient of Friction	0.90 - 1.0	0.90 - 1.0	

Thermal Properties	Metric	English	Comments
CTE, linear	9.00 µm/m-°C @Temperature 20.0 °C	5.00 µin/in-°F @Temperature 68.0 °F	
Thermal Conductivity	1.51 W/m-K @Temperature 500 °C	10.4 BTU-in/hr-ft²-°F @Temperature 932 °F	
Softening Point	704 °C	1300 °F	

Component Elements Properties	Metric	English	Comments
Al2O3	0.40 %	0.40 %	
CaO	9.8 %	9.8 %	
Fe2O3	0.20 %	0.20 %	
Free Iron	<= 0.10 %	<= 0.10 %	
K2O	0.10 %	0.10 %	
MgO	3.3 %	3.3 %	
Na2O	13.7 %	13.7 %	
SiO2	72.5 %	72.5 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	6.50e+12 ohm-cm	6.50e+12 ohm-cm	
Dielectric Constant	6.9 @Frequency 1e+6 Hz	6.9 @Frequency 1e+6 Hz	
Dissipation Factor	0.0085 @Frequency 1e+6 Hz	0.0085 @Frequency 1e+6 Hz	

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