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## G-2000 Glass Bubble Microspheres

### Typical Properties of G-2000 Microspheres

CenoStar **G-2000** grade microspheres are engineered hollow glass spheres used to reduce density for oil and gas drilling fluids and drilling cements. Ultra-light inorganic, non-metallic, extremely low-density functional filler that enhance final product properties. These hydrophobic spheres have a wide range of formulations.

CenoStar **G-2000** Microspheres present the following advantages: lower viscosity and improved flow, Reduce the possibility of formation break-down, Reduce the possibility of lost circulation, Increase efficiency of mud removal by allowing pipe rotation or reciprocation, Increase yield per sack of cement, Eliminate need for remedial squeeze

Applications include:

- Oil gas Industry
- Paints and Coatings,
- Syntactic Foam
- Cosmetics
- Resin Systems
- Buoyancy
- Explosives
- Automotive

Appearance, color	White
Particle Size Range, microns by volume	2 - 120 $\mu\text{m}$
d50	~ 56 $\mu\text{m}$
Floating ratio	~92%
True Density (g/cm <sup>3</sup> )	~0.32
Bulk Density (g/cm <sup>3</sup> )	0.20
Compressive Strength	90% survival @ 2000psi / 14 Mpa
Softening Point	625 $^{\circ}\text{c}$
Oil absorption (g/cm <sup>3</sup> )	0.2-0.65
pH value	8-9.5
Silica Content Silica SiO <sub>2</sub> (%)	68-75
Aluminum Oxide Al <sub>2</sub> O <sub>3</sub> (%)	2-3
Thermal Conductivity (W/m "k"@18 $^{\circ}\text{C}$ )	

#### Packaging:

CenoStar **G-2000** Microspheres are supplied in plastic bags placed in cardboard boxes

#### Safety Information:

In dusty areas, the use of a NIOSH approved respirator is recommended. Material Safety Data Sheets (MSDS) are available upon request

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