

## 22 Glass Microspheres



**Overview:** These hollow glass spheres make a lightweight sandable filler when blended with resin. Use to fill fabric weave, shallow blisters, and surfaces of core materials. The average bubble is less than 70 microns, about a quarter of a grain of salt. It is this small particle size which makes the paste so easy to spread evenly.

Container sizes are as follows:  
 4 oz. (1/2 Gallon)  
 3 lbs. (Carton)

**Features & Benefits:**

- **An alternative to conventional fillers and additives such as silicas, calcium carbonate, talc, clay, etc.**
- **Low density particles help reduce part weight, lower costs and enhance product properties.**
- **Spherical shape provides higher filler loading, lower viscosity/improved flow and reduces shrinkage and warpage.**
- **Blends readily making them adaptable to a variety of production processes such as spraying, casting and molding.**
- **Excellent water resistance creates more stable emulsions.**
- **Non-combustible**
- **Non-porous, will not absorb resin.**
- **Compatible with all Fibre Glast Developments Resins.**
- **Stable viscosity**
- **Long shelf life**

**Typical Product Properties:**

**General Characteristics**

Oil Absorption	Volatile Content	Alkalinity	Dielectric Constant	Appearance
0.2-0.6 g oil/cc of glass microspheres per ASTM D281-84	Maximum of 0.5 % by weight	Maximum of 0.5 milliequivalents per gram	1.2-1.7 @ 100 MHz, base on theoretical calculations	White to the unaided eye

\*Not for specification purposes

**Nitrogen Isostatic Crush Strength**

Test Pressure (psi)	Target Fractional Survival	Minimum Fractional Survival
300	90%	80%

\*Not for specification purposes

**True Density**

Typical	True Density(g/cc) Minimum	True Density(g/cc) Maximum
.15	.13	.17

\*Not for specification purposes

**Thermal Conductivity**

<b>Calculated Thermal Conductivity (W-m-1-K-1) at 70° F (21° C)</b>
0.055

\*Not for specification purposes

**Flotation****Floater (% by bulk volume)**

Typical	Minimum
96%	90%

\*Not for specification purposes

**PH:**

Because #22 Glass Microspheres are a dry powder, pH is not defined. When the glass microspheres are mixed with deionized water at 5 volume percent loading, the resulting pH of the slurry is typically 9.1 to 9.9 as measured by a pH meter.

**Flow:**

#22 Glass Microspheres remain free flowing for at least one year from the date of shipment if stored in the original, unopened container in the minimum storage conditions of an unheated warehouse.

**Mixing Directions:**

#22 is white, hollow, glass microspheres which are used for making lightweight putties for various filleting applications and manageable putties with densities as low as 20 lbs. per cubic foot are possible. These inert spheres are compatible with Polyester, Vinyl Ester, and Epoxy Resin Systems. The addition of about 3% part #23 Thixotropic Silica may be necessary to prevent sagging on vertical surfaces. For a thick putty, add 3 parts by volume spheres to 1 part resin.

**Storage:**

When storing #22 Glass Microspheres carefully re-tie open bags after each use. During humid summer months, store in the driest, coolest space available. Exposure to high humidity may cause condensation to form. Extended exposure to these conditions may result in "caking".

**Safety & Handling:**

# 22 Glass Microspheres contain ingredients which could be harmful if mishandled. Contact with skin and eyes should be avoided and necessary protective equipment and clothing should be worn. Individuals should wash with soap and water before eating, drinking, or using toilet facilities. Individuals should observe conditions of good industrial hygiene and safe working practice. For more detailed instructions on handling please see the MSDS sheet.