



Zeeospheres G-400 Ceramic Microspheres 5 Micron Median Particle Size Ceramic Microspheres for Coatings

Description

Zeeospheres G-400 Ceramic Microspheres are premium quality, thick-walled hollow microspheres with an inert, ceramic composition that can improve the performance properties and reduce the costs of paints and high performance coatings formulations. Zeeospheres G-400 Ceramic Microspheres offer both an increased level of physical durability and a spherical shape that interact synergistically to improve the hardness, scrub, mar, and abrasion resistance properties of a wide range of coatings. Zeeospheres G-400 Ceramic Microspheres also offer low oil absorption properties which can reduce the viscosities of highly filled systems and minimize viscosity variations found in 100% solids and high viscosity systems. Zeeospheres G-400 Microspheres are also environmentally friendly and produced in the USA from non-imported materials.

Performance Advantages in Coatings Formulations

- Improves coating hardness, scratch, mar, burnish, and Taber abrasion performance due to high Mohs Hardness properties and the deflective advantages of a smooth, spherical shape
- Promotes reduced formulation viscosities and VOC levels due to low oil absorption properties and the lubricity advantages of spherically shaped particles over irregularly shaped fillers/extenders
- Enables increases in volume solids levels for many formulations, with minimal increase to product viscosities
- Enhances the opacity of formulations through spacing pigment particles to reduce agglomerations
- Increases the processing efficiency and manufacturability of certain coating formulations through ease of incorporation and high degree of dispersibility in the pigment grind phase
- Provides cost neutral economics when compared to traditional extender/filler pigment options

Physical Properties

Property	Typical Values
Color ("L" Value)	64 – 69 units
Crush Strength (psi)	> 60,000
Hardness (Mohs Scale)	7
pH	7.0 – 10.0
True Density (g/cc)	2.4
Surface Area (m ² /cc)	5
Physical Appearance	Light gray powder
Particle Size, 95 th percentile (microns)	16
Particle Size, 90 th percentile (microns)	13
Particle Size, 50 th percentile (microns)	5

Recommended Applications

Due to their ceramic composition, high level of physical durability, narrow particle size distribution, and ease of processing and dispersion, Zeeospheres G-400 Ceramic Microspheres are an excellent fit for the following coatings applications:

- Architectural paints and coatings
- Automotive coatings and primers
- Coil coatings
- Chemical containment coatings
- Industrial OEM and transportation coatings
- Infrastructure, flooring, and maintenance coatings
- Intumescent and heat resistant coatings
- Military (Mil-spec) coatings
- Powder coatings
- Protective and marine coatings
- Wood coatings

With their median particle diameter of 5 microns and a defined narrow particle size distribution, Zeeospheres G-400 Ceramic Microspheres are the preferred choice for use in thin film coatings applications (0.8 mils - 2.0+ mils dry film thicknesses).

Recommended Usage Levels

Architectural coatings (waterborne): **3-7% by weight on total formulation weight**

Industrial, automotive, and wood coatings: **4-10% by weight on total formulation weight**

Safety and Handling Information

Safety and handling information is contained in the Zeeospheres G-400 Safety Data Sheet which is available online at www.zeeospheres.com or upon request from Zeeospheres Ceramics, LLC.

Storage Information

It is recommended that Zeeospheres G-400 Ceramic Microspheres be stored at room temperature in an area that is dry and protected from moisture or significant temperature variations. Previously opened bags must be well sealed to avoid contamination with moisture or other undesirable substances, which could affect the product's performance in its end use.

Additional Products

Zeeospheres Ceramic Microspheres are available in a range of mean particle sizes ranging from 4 to 50 microns and are recommended for use in coatings, adhesives, sealants, grouts, plastics, composites, cementitious materials, and ultra high-performance concrete (UHPC) applications. For additional information, please contact Zeeospheres Ceramics, LLC.

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