



Cenospheres

General Product Information & Specifications

Cenospheres: General Product Information

CenoStar Cenospheres are inert, hollow ceramic spheres. They are used to reduce weight in concrete, resins, plastics, ceramics, paints, coatings and many other building products. Other benefits include increased filler loading, reduced shrinkage, lower viscosity, fireproofing, lubricity, and transport savings. High Alumina cenospheres have been developed for higher temperature applications such as refractory, foundries and high temperature coatings and flame-retardants.

The low particle density of cenospheres enables slower stages of separation in paints and adhesives unlike using heavy metallic and inorganic fillers.

EconoStar Series:

CenoStar's standard grade **ES series** has many uses since it is the most versatile and lowest cost cenosphere. The products range in size from <500 microns, <300 microns, and <106 microns with specific gravity ranging from 0.65g/cc to 0.9g/cc depending on customer requirements.

High Alumina Series:

The High Alumina (HAL) spheres are specifically a high alumina cenosphere. Unique sources of raw materials enable CenoStar to produce spheres with high alumina content (35-43%). It is especially suited to high temperature applications including refractory, foundry, coatings and flame-retardants.

KZ Series:

Our KZ cenospheres derive from Kazakhstan. It is a near-white product and can be used in applications where color is important.

WhiteStar Series:

The **WS Series** spheres are a flagship product for CenoStar. The **WS** group is lower in density at 0.70 – 0.72 g/cc and has near white color, (Hunter scale 70-73). **WS** spheres are available in 3 size ranges: <500 microns, <300 microns and <106 microns. Useful as a lightening agent when combined with cements that improve the mechanical properties, including compressive strength, tensile strength, flexural strength and fracture toughness.

Custom Engineered Spheres:

CenoStar prides itself in the ability and willingness to custom design product to meet your specific needs. Based on specific gravity, size distribution, color, chemistry, or a combination of these criteria, we can develop a product to meet your increasingly demanding applications.

Color

Gray to near white with the unaided eye. See individual data sheets for Hunter Whiteness index.

Oil Absorption

16-18 g oil / 100cc Hollow Microspheres

Thermal Conductivity

0.1- 0.2 W/mK

Packing Factor

Ratio of bulk density to true density is: 43-58%

Packaging

Available in double walled paper bags which can be lined upon request, 20kg bags (Fig.1) 500kg Bulk Bags (Fig. 2), or palletized corrugated shipping container.



(Fig.1) 20 kg bags, Palletized



(Fig.2) 500 kg Big Bags, Palletized



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Specifications

Values reported here are typical properties and not to be used for specifications. For product specifications please refer to the Product Data Sheets.

Handling

When using CenoStar Ceramic Microspheres in any product, the handling instructions for each material should be closely followed.

Health

Refer to SDS for safety information.

Storage

Minimum storage conditions should be unopened packaging in a dry, unheated warehouse. Under high humidity conditions with the ambient temperature fluctuating over a wide range, moisture can be drawn into the bag as the temperature drops. Caking may occur. If caking should occur, work the microspheres through a coarse screen

Handling

Dusting problems that may occur while handling and processing can be minimized:

An air hood above or adjacent to the area of handling will reduce dust levels.

Wear a NIOSH respirator and eye goggles when pouring and mixing CenoStar microspheres.

Pneumatic conveyor systems have been used to transport CenoStar Microspheres without dusting. For more information refer to the SDS.

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