



# Z-Light Spheres™

## Ceramic Microspheres

### Gray Grades

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#### **Introduction**

3M Gray Z-Light Spheres™ ceramic microspheres are low-density, fine particle size, hollow microspheres. These products are typically used to reduce the density of materials, reduce VOC levels and to increase filler loadings of a variety of formulations.

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#### **Typical Physical Properties**

(Not for specification purposes)

Shape	Hollow spheres with thin walls	
Composition	Silica-Alumina Ceramic	
Color, Unaided Eye	Gray	
True Density	0.7 gm/cc	
Crush Strength	140 kg/cm <sup>2</sup> (2,000 psi)	
Chemical pH	7	ASTM E 70
Hardness	5–6	Mohs Scale
Softening Point	1,040°C (1,900°F)	
Dielectric Constant	1.8–1.9	
Thermal Conductivity	0.2 W/mK	
Surface Area (m <sup>2</sup> /cc)	0.2	

#### **Gray Z-Light Spheres Ceramic Microspheres**

	<b>G-3125</b>	<b>G-3150</b>	<b>G-3500</b>
<b>Particle Size*</b>			
<b>95<sup>th</sup> Percentile</b>	125	145	225
<b>90<sup>th</sup> Percentile</b>	120	135	200
<b>50<sup>th</sup> Percentile</b>	95	105	130
<b>10<sup>th</sup> Percentile</b>	50	55	65
<b>Mean</b>	90	100	135

\*microns

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**Formulating Information**

3M Z-Light Spheres™ ceramic microspheres are best dispersed by using low shear mixing equipment and adding during the “let-down” stage of mixing. Use of a dispersant will aid in the wet-out and dispersion of these products.

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**Product Safety and Handling**

Please refer to the Material Safety Data Sheet and product label before using this product. Material Safety Data Sheets for this product are available from 3M Customer Service at 800-367-8905 or from your local 3M sales representative.

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**Important Notice to Purchaser:** The information in this publication is based on tests that we believe are reliable. Your results may vary due to differences in test types and conditions. You must evaluate and determine whether the product is suitable for your intended application. Since conditions of product use are outside of our control and vary widely, the following is made in lieu of all express or implied warranties (including the warranties of merchantability or fitness for a particular purpose): 3M's only obligation and your only remedy is replacement of product that is shown to be defective when you receive it. In no case will 3M be liable for any special, incidental, or consequential damages based on breach of warranty or contract, negligence, strict tort, or any other theory.



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