



## N Series

Zeeospheres Ceramic Microspheres N Series are unique dark gray-colored, fine particle size, high-strength microspheres. They are opaque to visible light, but transparent to UV light. These products are typically used to reduce VOC levels, increase filler loadings, improve hardness, and add burnish, scrub and abrasion resistance to a variety of coating formulations. Due to their low resin demand, high hardness and inert chemistry, these products have found utility in high solids, water reducible radiation - curable and high durability coatings, powder coatings, and a wide range of premium performance coatings. The N Series is typically used when color is not important in the application.

### Typical Physical Properties ( Not for specification purposes)

PRODUCT	Zeeospheres Ceramic Microspheres, "N" Grades							
Grayness ("L" Value)	20 minimum							
Crush Strength	> 4,200 kg/cm2(>60,000 psi)							
pH	3.0 - 9.0 ASTM E 70							
Hardness	7 Mohs Scale							
Softening Point	1,020 * C ( 1,870* F)							
Dielectric Constant	3.7 - 4.6							
Thermal Conductivity	2W/mK							
	Grade							
	N -200	N-200PC	N-400	N - 600	N - 800	N-1000	N-1200	
True Density	2.5	2.5	2.4	2.3	2.2	2.1-2.7	2.3-2.6	
Particle Size	100th%						325	325
(Microns)	95th%	14	12	23	35	150	150	
	90th%	12	10	18	25	105	42 - 50	20 - 35
	50th%	5	4	8	10	30	42 - 50	20 - 35
Surface Area ( m2/cc)	6	6	5	4	3			

Oil Absorption *	26	26	26	23	18
------------------	----	----	----	----	----

\*gm of oil per 100 gm of microspheres

### **MATERIAL DESCRIPTION**

Shape: Hollow spheres with thick walls

Composition: Silica - Alumina Ceramic

### **FORMULATING INFORMATION**

Zeeospheres Ceramic Microspheres are best dispersed by using sand, ball and roller mills. For optimal dispersion, the Zeeospheres should be added to the grind stage, along with pigments and other filler materials. Use of a dispersant can aid in the wet-out and dispersion.