



ZeeMail



Zeeospheres® Ceramics, LLC

129 Valentine Drive, Lockport, Louisiana 70374

August 6th, 2015

Mineral Comparison Chart

The following chart compares many different physical properties of commonly used minerals in the paints and coatings industry. We have included the physical shape, pH, MOHs hardness, specific gravity, oil absorption, Hegman grind, Lbs./Gal, and performance highlights. At the bottom of the chart, you will find the properties of Zeeospheres Ceramic Microspheres. It is important to note that we have several attributes that make our products unique. Our combination of shape, low oil absorption, high strength, and inertness make our products useful in many different types of applications.

PHONE
504-613-7377

EMAIL
jeff@zeeospheres.com

WEB
www.zeeospheres.com

Zeeospheres Ceramics, LLC

Mineral	Particle Description	pH	MOHs Hardness	Specific Gravity	Oil Absorption	Hegman Grind	Lbs./GAL.	Performance Comments/Highlights
Wollastonite	Needle Shaped	9 - 11	4.5	2.9	20 - 60	3 - 7	24.2	•Unique Needle-like particle shape •Reinforcement and anti-sag •scrub and burnish resistance •shape useful for flatting, especially in powder coatings
Barytes	Nodular	9 - 10	3.0 - 3.5	4.4	10 - 14	3 - 6	36.6	•High specific gravity - very inert •low oil absorption - typically used in primers and powder coatings •good for high loadings
Calcium Carbonate (Ground)	Nodular	9 - 10	3.0	2.71	8 - 18	3 - 7	22.5	•Most widely used filler in coatings •used for cost reduction •some grades useful as TiO2 extender
Clay (aluminum silicate)								
Hydrated (regular)	Platy	4.5 - 7.5	2	2.63	35 - 45	4 - 6	21.9	•Primary use is as a TiO2 extender in waterborne architectural coatings •calcined clays are great for dry hide, scrub resistance, durability •can help with gloss control •delaminated grades may be better for exterior paints •some grades useful for rheology performance
Calcined	Platy	5 - 10	6 - 8	2.63	55 - 90	4 - 6	21.9	
Air Float	Platy	4.5 - 5.5	2	2.82	40 - 42	4 - 6	21.9	
Delaminated	Amorphous	7	2	2.62	38 - 43	4 - 6	21.9	
Mica (Muscovite)	Lamellar	6.9 - 8.2	2 - 3	2.7 - 3.0	40 - 65	2 - 5	23.3	•Platy shape useful for film reinforcement •works to reduce cracking and shrinkage •increases film flexibility •can control moisture permeability •used in barrier coatings, primers, roof coatings and sealers
Silica								
Ground Natural	Nodular	6.5 - 7.5	7	2.65	18 - 40	3 - 7	22.1	•Microcrystalline forms now strictly regulated for health concerns •abrasion resistant •low binder demand in ground forms •typically used in architectural coatings, primers, and specialty coatings
Amorphous	Irregular	7	5 - 6	2.0 - 2.3	28	1 - 6	17.5	
Diatomaceous	Irregular	7.5 - 8.5	4.5 - 6	2.0 - 2.1	100 - 250	1 - 5	19.2	
Precipitated	Irregular	6.5 - 7	7	2.1	150 - 200	-	17.5	
Talc (Magnesium Silicate)	Lamellar Foliated or Fibrous	8 - 9.5	1.0 - 1.5	2.6 - 2.8	30 - 55	3 - 7	22.6	•Very versatile for wide variety of coating types •platy shape useful for industrial barrier coatings •helps with reinforcement, anti-sag and flattening •hydrophobic
Zeeospheres	Spherical	7 - 9	7	2.1 - 2.6	18 - 26	3 - 7	17.0 - 20.8	•Exceptionally high crush strength (60,000 psi) •higher filler loading to reduce costs •low oil absorption •inert •smoother finishes •improved chemical and corrosion resistance •lower viscosity and improved flow •added hardness and abrasion resistance •gloss control •Typically used in primers, powder coatings, adhesives, grouts, industrial coatings, protective coatings, coil coatings, floor coatings, drilling fluids, and cementitious applications

Zeeospheres Ceramics, LLC

985-532-2541 x10

www.zeeospheres.com

PHONE
504-613-7377

EMAIL
jeff@zeeospheres.com

WEB
www.zeeospheres.com