Vitro Minerals

www.vitrominerals.com

WhiteLite™ Lightweight Mineral Powders Technical Data

Description

WhiteLite™ Lightweight Mineral Powders are high brightness, synthetic aluminosilicate products for high performance filler and extender applications. With a specific gravity of 2.46, WhiteLite™ engineered powders are 10-17% lighter in weight than traditional naturally mined mineral fillers, which allows greater volumetric extension when used in coatings and plastics. XRD and SEM analyses confirm that the WhiteLite™ aluminosilicate powders are fully amorphous and contain no crystalline silica. Whitelite™ has an index of refraction that offers excellent clarity in clear polymer systems, and contributes to surface toughness in compounded polymers. The chemistry results in relative chemical inertness, making WhiteLite™ resistant to blooming, blistering, or chemical degradation in harsh environments. WhiteLite™ powders enhance a wide range of paints, coatings, plastics, and adhesives. High consistent brightness, tint retention and stain/scrub resistance can be achieved in most paint and coating systems. WhiteLite™ powders have low oil absorption and can be easily dispersed in water- or solvent-based systems.

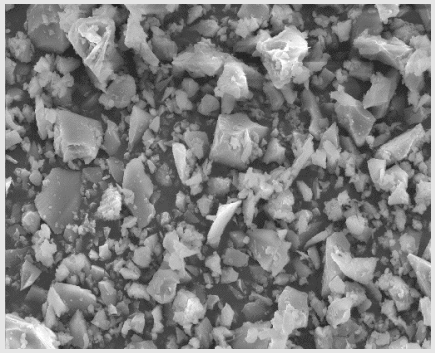
Vitro Minerals' unique processing system and true particle size classification provides consistent product quality for 2 grades (**WL-32**, **WL-42**) with finenesses covering a range of potential applications. Under a microscope, WhiteLite™ particles are transparent, angular-shaped particles with similar dimensions in the x, y and z axis.

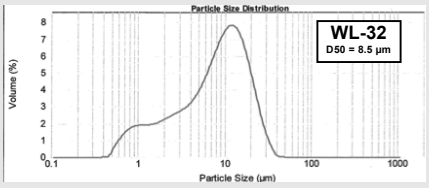
Typical Chemical Analysis

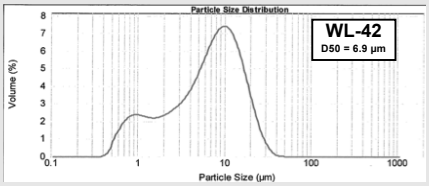
NOT FOR SPECIFICATION PURPOSES

Chemical Composition: SiO_2 60-65%; Al_2O_3 16-20%; Fe_2O_3 <0.5%; CaO <0.5%; B_2O_3 0-5%; Na_2O+K_2O 10-15%; MgO 0-5%; TiO_2 <0.5%; LOI <0.5%.

WhiteLite™ Powders have oxides that are combined in an amorphous state in an aluminosilicate glass.







Scanning electron microscope (SEM) image of WL-32 *(above)*; and Mastersizer laser particle size analysis curves for WL-32 and WL-42 *(right)*.

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1505 General Arts Rd, Conyers, GA 30012 Phone: 678-729-9333 Fax: 678-750-0105

WhiteLite™ Lightweight Mineral Powders Technical Data

Typical Physical Properties

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	Grade WL-32	Grade WL-42	Test Procedure
Specific Gravity	2.46	2.46	ASTM D-153
Bulk Density, lb/ft^3	50	40	ASTM C-110
% passing 325 mesh	99	99.9	ASTM C-25
d_{98} top size, µm	60	40	Laser interferometer
d_{50} median size, µm	10-12	6-7	Laser interferometer
Hegman value	2	4	ASTM D-1210-79
Surface area, m^2/g	1.2	2.5	Nitrogen BET
Oil absorption	22	25	ASTM D-281
pH	7±1	7±1	AFS 113-87-S
Hardness	5.5	5.5	Moh's Scale
Refractive Index	1.5	1.5	ASTM D-801
Free moisture, %	<0.5	<0.5	ASTM C-566
Brightness, Photovolt Y value	90-91	90-91	PhotoVolt 577PC
Specific Resistance, ohm-cm	3500	3500	ASTM D-2448

Product Information/Customer Service

Phone: 678-729-9333 Fax: 678-750-0105
Email: technicalsales@vitrominerals.com

Standard Package: 50-lb. bags, 2,800 lbs./pallet, 40 x 48 pallet, shrinkwrapped. Product also available in supersacks in weight ranges 2,000 – 3,000 lbs.

FOB plant in Tennessee

Health Hazard Warning: Prolonged inhalation of dust associated with the materials described in this data sheet can cause delayed lung injury. Avoid creating dust when handling, using or storing. Follow OSHA Safety and Health Standards for fugitive dust. Current Material Safety Data Sheet containing safety information is available and should be consulted before usage.

Revised: 140131