



FUSED SILICA 20 & 40

INTRODUCTION

Christy Minerals offers high purity ceramic powders used as resin fillers. Christy Minerals fused silica products are available in both standard and custom particle sizes and distributions. In addition, we can provide traceability data throughout our process, from the arrival of the high purity sand at our facility to each bag of finished fused silica in your inventory.

Christy Minerals fused silica is available in 55 lbs. (25 kg) paper bags or 2,200 lbs. (1,000 kg) tote sacks.

FEATURES AND BENEFITS

- Exceptionally low coefficient of thermal expansion
- High temperature resistance
- High hardness (5.5-6.5 Moh's scale)
- High chemical purity
- Extensive optical transmission from UV to IR
- Excellent electrical insulation properties
- Low density
- Low thermal conductivity

FUSED SILICA AS A FILLER

We supply high purity fused silica flour blends for a variety of filler applications. Our revolutionary furnace design and process helps prevent the fused silica product from becoming contaminated with non-silica and crystalline-silica phase materials. This results in an amorphous silica finished product that is 99.6% chemical purity.

While this revolutionary process dramatically improved purity, it also increased productivity over conventional furnaces. Christy Minerals Fused Silica Flours and Grains are optimized for consistency from batch to batch. These products also provide excellent heat and dimensional stability, as well as a low surface area versus other silica flour products. Christy Minerals Fused Silicas have a low density and an extremely low coefficient of thermal expansion. They offer excellent resistance to heat and have excellent electrical resistivity and dielectric properties.

PRODUCT STORAGE AND SAFETY

Storage: Store in a dry location and protect from the elements. Store away from oxidizing agents. See the product Safety Data Sheet (SDS) for additional information.

Safety: See product SDS for additional information.

Particle Size Distribution (% Retained)

US Mesh	Microns	20	40
100	150	0.00	<0.10
140	106	<0.05	<0.50
200	75	<1.00	<10.00
325	45	<3.00	15-30

Typical Physical Properties (Not for specification purposes)

Property	20	40
Coulter d50 (µm)	9-16	19-27
BET Surface Area	<3 m ² /g	<2 m ² /g
Magnetics (ppm)	<20	
Electrical Conductivity	<5 µmhos	
App. Specific Gravity	2.18 – 2.20 g/cc	
LTE Coefficient (20-700 °C)	0.5 – 0.6 x 10 ⁻⁶ /°C	

Typical Chemical Analysis (Not for specification purposes)

Property	20	40
SiO ₂	>99.6%	
Al ₂ O ₃	<3000 ppm	
Fe ₂ O ₃	<350 ppm	
TiO ₂	<400 ppm	
K ₂ O	<250 ppm	
CaO	<100 ppm	
MgO	<100 ppm	
Na ₂ O	<100 ppm	
LOI @ 1000°C	<0.5%	

The above data are based on controlled testing. Individual test results may vary. These data are for informational purposes only, may not be used for specification purposes, and do not form the basis of any warranty. NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE MADE REGARDING THE DATA OR PRODUCTS SHOWN ABOVE, AND ALL SUCH WARRANTIES ARE HEREBY DISCLAIMED.

