



FUSED SILICA GRAINS

INTRODUCTION

Christy Minerals offers high-purity ceramic sands (stuccos) used in the investment casting shelling process, refractory, and other specialty applications. Christy Minerals Fused Silica Grains are available in a variety of standard particle sizes and can also be customized to your specifications. Christy Minerals fused silica grains are available in 55 lbs. (25 kg) paper bags or 2,200 lbs. (1,000 kg) tote sacks.

FEATURES AND BENEFITS

- Very 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 FOR INVESTMENT CASTING SHELLS

We supply high purity fused silica for the slurries and stuccos used to make investment casting shells. Our revolutionary furnace design helps prevent the raw silica sand from becoming contaminated during processing – resulting in a finished product that is 99.6% pure, while increasing productivity tenfold over conventional furnaces. Christy Minerals Fused Silica Flours and Grains are optimized for consistency from batch to batch, to help you produce components with a high degree of dimensional accuracy. Christy Minerals fused silica products are available in both standard and custom particle sizes and distributions, and our experts will work with you to optimize your application. 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.

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	4/10	10/20	30/50	50/100
4	4750	<15	-	-	-
8	2360	-	<2	-	-
12	1700	-	6-25	-	-
16	1180	-	33-50	-	-
20	850	>80	23-45	<1	-
30	600	-	<13	15-30	-
40	425	-	-	38-50	<1
50	300	-	<4	20-35	<13
70	212	-	-	-	30-60
80	180	-	-	<10	-
100	150	-	-	-	28-51
140	106	-	-	-	4-16
Pan		<5	<3	<1	<3
Magnetics (ppm)		<50	<50	<50	<50

Typical Physical Properties (Not for specification purposes)

Property	4/10	10/20	30/50	50/100
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	4/10	10/20	30/50	50/100
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.

