



PREMIUM GRADE VIRGINIA MULLITE

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Bars = 1mm

Premium Grade Virginia Mullite[™]

Premium Grade Virginia Mullite[™] is a low iron mullite with an iron oxide content of <0.19% (0.5% typical). This reduced iron increases hightemperature properties, such as

resistance to creep, and increases maximum usage temperature.

High Aspect Ratio Particles

Premium Grade Virginia Mullite[™] is made by calcining Virginia Kyanite[™]. The crystal structure of kyanite is triclinic, forming a blade-like shape. This shape is maintained when the kyanite is converted to Premium Grade Virginia Mullite[™], creating both a stucco and flour with high aspect ratio particles.

Investment Casting Mold Material

Premium Grade Virginia Mullite[™] is an excellent investment casting mold material as stucco and flour. Premium Grade Virginia Mullite™ is lower in impurities than other mullite products; this reduces glass formation during sintering and provides cleaner mold release. The needle-like particle shape acts as a fiber in the stucco layer which helps mitigate cracking during dewaxing. Premium Grade Virginia Mullite[™] flour works well in direct contact with molten metal temperatures up to about 1,600°C. It can be used as a partial or full substitute for zircon flour in those applications where the temperature is equal to or less than 1,600°C. It is lower in density and has a low thermal expansion. The enhanced creep resistance of Premium Grade Virginia Mullite[™] makes it the premium choice for backup slurries and stuccos when dimensional stability is crucial to the success of the castings.



Typical Chemical	l Analysis (?	%)
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Al ₂ O ₃	57.0 *(55.0 min)		
SiO ₂	40.2		
TiO ₂	0.65		
Fe ₂ 0 ₃	0.17 (0.19 max)		
CaO	<0.04		
MgO	<0.03		
Na ₂ O	<0.04		
K ₂ O	<0.07		
P ₂ O ₅	<0.15		
Mineralogy (%)	Typical		
Mullite	75–85		
Amorphous	8–12		
Quartz	4–6		
Cristobalite	<1		
Specific Gravity	3.00 g/cm ³		

20m (800 μm) 30m (600 μm) 40m (420 μm) 50m (300 μm) 70m (245 μm) 100m (150 μm) 140m (106 μm) Pan 20x50 1 max +20m 93 min 93 min 6 max -50m 1 max -140m 6 max -100m	Typical Screen Specification of Premium Grade Virginia Mullite Grains								
20x50 1 max +20m 93 min 6 max -50m 1 max -140m 50 min 6 max -100m	文字	20m (800 μm)	30m (600 μm)	40m (420 μm)	50m (300 μm)	70m (245 μm)	100m (150 μm)	140m (106 μm)	Pan
6 max -100m	20x50	1 max +20m	93 min			6 max -50m 1 max -140m			
50x100 5 max +50m 89 min 1 max -140m	50x100	5 max +50m			89 min		6 max -100m 1 max -140m		

Typical Screen Specification of Premiur	n Grade Virginia Mullite Flour
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Premium Grade Virginia Mullite Flour

Typical d50=21 μm