



252X-ULF Powder (K2500 Ultra-Low-Fire X7R Dielectric)

Features:

1. BaTiO₃ based ultra-low-fire X7R dielectric
2. Dielectric Constant of 2300-2700
3. Excellent insulation resistance
4. Resistant to physical defects
5. No Cd, Pb, Bi containing compounds

Typical Physical Properties:

1. Particle Size (D50) 0.8-1.2um
2. Surface Area 2.0-4.0 m²/g
3. Specific Gravity 5.3-5.7g/cc
4. +325 mesh <0.5%

Typical Fired Electrical Properties:

1. Dielectric Constant 2300-2700
2. Dissipation Factor(1MHz,1.0Vrms) 1.700%
3. TCC 15% (-55-125°C)
4. IR at 25°C >20,000 Ohm-F
125°C >2,000 Ohm-F
5. Dielectric Withstanding Voltage >600V/mil

Sample size available

Processing Guidelines:

(Detailed instructions available)

1. 252X-ULF is a fine particle size, deagglomerated powder. No further particle size reduction is required.
2. ZrO₂ media is recommended for mixing/milling operations. Contaminants such as aluminum oxides will result in degradation of electrical properties.
3. 60wt% ceramic /40% binder ratio is recommended as a starting point for casting using PVB or B7 acrylic binder systems.
4. Firing on stainless steel or superalloy boat (which reduces the recurring cost of setters) is recommended.
5. Firing temperature is in the 850-900°C range with a 2 hours soaking at peak temperature.

Compatible Materials systems

1. 252X-ULF is compatible with solvent base binder system.
2. 252X-ULF is compatible with commercially available 95%Ag/5%Pd or 100%Ag electrode system.