

Technical Data Sheet

4494

Dielectric Composition
Material # 1148572

Developmental Material



Product Description

4494 Dielectric Composition is a dielectric paste for HTCC applications. The 4494 forms high porosity layers after co-firing with Yttria-stabilized zirconia tapes and can be used to control the rate of gas diffusion.

4494 is formulated to be Lead free, Cadmium free and Phthalate* free. The term "free" means that Lead, Cadmium and Phthalate* have not been intentionally added to the product. However, trace amounts may be present.

*Phthalates listed in Annex XIV of REACH

An ESL-Electro Science Laboratory Legacy Product

The 4494 is an experimental material, typical properties reported are based on a limited data set and are subject to change.

Intended Applications:

The intended applications for the 4494 dielectric are sensor applications and all other applications that require the properties that are present.

Typical Properties

Rheology: Pseudoplastic, screen/stencil printable paste

Viscosity: 115±35 Pa*s at 25.5°C±0.5°C when measured using a Brookfield RVT viscometer and an ABZ spindle at 10 RPM.

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Storage and Shelf Life: This product should be stored in tightly sealed containers at 20°C to 25°C, in a dry place away from direct sunlight. The shelf life of a factory sealed container is a minimum 6 months from date of shipment when properly stored.

Typical Processing Recommendations

Printing: 325-200 mesh stainless steel screen or stencil

Leveling Time: 5 to 10 minutes

Drying at 70°C to 80°C: 5 to 15 minutes

Firing: Optimum results are obtained by firing at a peak temperature of 1350°C for 1 to 2 hours. Actual firing profile depends on the design of the green tape laminate.

Porosity After Firing: 25% to 30%

Thinner: 480 (Material # 1148622)

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