

# Technical Data Sheet

4431

Dielectric Composition  
Material # 1420988

**Developmental Material**



## Product Description

4431 Dielectric Composition paste for HTCC application. 4431 can be used as a bonding layer between Ytria-stabilized Zirconia tapes to promote tape layer lamination.

4431 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

**The 4431 is an experimental material, typical properties reported are based on a limited data set and are subject to change.**

## Intended Applications:

The 4431 is intended to be used as a dielectric bonding layer between tapes as an adhesion enhancer.

## Typical Properties

**Rheology:** Pseudoplastic, screen/stencil printable paste

**Viscosity:** 175±75 Pa\*s at 25.5°C±0.5°C when measured using a Brookfield RVT viscometer and an ABZ spindle at 10 RPM.

**Color:** White

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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:** 325mesh to 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 to 1500°C for 1 to 2 hours. Actual firing profile depends on the design of the green tape laminate.

**Thinner:** 480 (Material # 1148622)

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