Gelest Seramic™ SI-A

High Density Silicon Dioxide Films

Features: Provides thermally resistant dielectric coatings by dip or spin-on application.

Applications:

Electronics - provides dielectric layers for capacitors and other critical insulation applications.

Optics - provides overcoats for glass and quartz for index matching applications and as diffusion barriers.

Capsular Description:	Thickness	Cure	Hardness	Type
	thin	thermal	high	solvent-borne 1-part

Seramic™ SI-A Silicon Dioxide Precursor

Description

Seramic™ SI-A is a β-acetoxyethylsilsesquioxane solution in methoxypropanol.

Film Properties

color	clear
dielectric constant	3.2-3.6
refractive index	
uncured films:	1.40-1.45
cured films:	2.1-2.2

Solution Properties

form	solution
solids	18-20%
density:	0.97g/cc
viscosity:	3-5 cSt.
flashpoint	35°C

Reference

K. Ezbiansky et al, MRS. Symposium Proc., 606, 251, 2000

Shelf life: 6 months when stored below 5°C in sealed containers. Containers should be warmed to 15°C before opening to reduce condensation of water.

Standard Packaging

PP1-SESIA Seramic™ SI-A

100g/ $84.00
750g/$480.00

Cautions

Use in a well ventilated area.
Flammable. Avoid contact with skin and eyes.

Application Methods

Thermal- Gelest Seramic™ SI-A is applied as a coating by dipping or spin-on. After solvent evaporation, the system cures in 30-60 minutes at 350°C. The conversion temperature can be reduced to below <250°C by incorporation of 2% tetrabutylammonium fluoride. Films cured by catalysis have no absorption >190nm. As supplied typical film deposition is 1500-2000 Å by spin-on application. Thinner films may be prepared by diluting with methoxypropanol or diglyme. The cure process liberates small amounts of ethylene and acetic acid.

UV- Gelest Seramic™ SI-A is converted to silicon dioxide on exposure to deep UV (<240nm). Exposed areas are insoluble, while unexposed areas may be removed by a solvent wash.