SL-432, SL-680

Silicon Oxycarbide Refractory Filled Slurry

STARFIRE SYSTEMS

POLYMER-TO-CERAMIC™ TECHNOLOGY

Technical Data Sheet

SL-432 and SL-680 slurries are polysiloxane resins filled with refractory particulates. Both slurries cure to form a thermoset at temperatures between 180°C and 325°C and form a dense ceramic at temperatures between 850°C and 1,100°C. Polyramic® SL-432 and SL-680 function as molding slurries, high temperature surface coatings, substitutes for polymer infiltration, or wear barriers. SL-432 and SL-680 are ideal for prepregging and can be staged to create various degrees of tack depending on need and desire.

Product Highlights

- Ideal for prepregging of fabric or chopped fiber.
- Varying degrees of tack possible when thermally advancing polymer.
- Medium viscosity ideal for coating and infiltrating surfaces, and can be applied as a wipe coating.
- Optimally distributed refractory to improve packing of filler and resin.
- Stable pyrolysis cycles in inert environments (nitrogen, argon) at 2°C/min to 850°C - 1,100°C.
- Stable curing cycles in air environments up to 325°C.
- Simplifies coating of fibers, fabrics, and preforms.
- Virtually odorless without solvents.
- Easy clean up with standard solvents.
- Reduces densification and infiltration cycles.
- High mass yield through ceramic pyrolysis.
- Pyrolysis produces black and glassy appearance.

Properties of Slurries		
	SL-432	**SL-680**
Density	1.30 – 1.47 g/cm^3	1.65 – 1.75 g/cm^3
Appearance	Gray, liquid	
Viscosity	2,500 – 4,500 cP	3,500 – 6,500 cP
Compatible Solvents	Hexane, Tetrahydrofuran, Toluene	
Flash Point	62°C	
Filler Type	Refractory; Proprietary Distribution	
Filler Loading	10 – 20 vol%	20 – 35 vol%
Polymer Type	Polyramic® SPR-688 based	
Catalyst	None Required, CAT-776 suggested to improve yield	
DOT / IATA Regulations	Non Hazardous	
Storage	Refrigerate*	

*** Periodic venting required.**

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