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Zypcoat® SN

## Silicon Nitride Coating

Zypcoat SN is a water-based  $\alpha$ -Silicon Nitride ( $\alpha$ -Si<sub>3</sub>N<sub>4</sub>) coating that is non-reactive with many materials. Zypcoat SN coating has good adherence to ceramic substrates, and is usable to 1000 C in air or higher in inert/vacuum.

### Key Attributes

- Non-reactive with many materials, including molten Aluminum, Tin, Zinc, Lead, some molten salts, glasses
- Electrically insulating
- Low thermal expansion; reported high thermal conductivity
- Excellent adherence to ceramics at high temperatures
- Usable to 1000 C in air and higher temperatures in non-oxidizing atmospheres
- Water-based, easy to use and cleanup

### Ideal Use

- Molten nonferrous metal processing
- Barrier coating to reduce diffusion/reactions/interactions

### Use Notes

1. Re-suspend if needed.
2. Use full strength, or dilute as desired with water.
3. Clean surfaces to be painted of any oils, dirt, scale, etc.
4. Apply 1-3 layers by brush, dip, or spray like ordinary house paint, drying after each layer.
5. Allow to dry thoroughly before use. If the coated article is not exposed to high temperatures shortly after drying, it is recommended to heat the coating in air to 250-300 C to ensure good handleability.

### Safety Information

- Consult SDS before use.
- Avoid breathing of spray/vapors.
- For Industrial Use only.



### Specifications

Active Ingredient	Silicon Nitride ( $\alpha$ -Si <sub>3</sub> N <sub>4</sub> )
Max Use Temperature	Air - 1000 C (1832 F) Inert - 1850 C (3362 F) Vacuum - 1100 C (2012 F)
Use Atmosphere	All
Fired Composition	Major $\alpha$ -Si <sub>3</sub> N <sub>4</sub> , Minor YAG
Liquid Carrier	Water
Binder Phase	YAG (3Y <sub>2</sub> O <sub>3</sub> *5Al <sub>2</sub> O <sub>3</sub> )
Brookfield Viscosity (cps)	3000-4000 cps @ 4/60
Specific Gravity	1.36
Color	Tan
Shelf Life (months)	>12
Coverage (ft <sup>2</sup> /gal)	100 to 400
Coating pH	3-4
H F R Ratings	1-0-0
Substrate Use	Ceramics preferred

### Sizes and colors

Zypcoat SN is a tan colored paint.

Standard sizes: Pint, Quart, Gallon wide-mouth Nalgene

### CAUTION: DO NOT CONTACT WET COATINGS WITH MOLTEN METAL.

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