Cerazan® Products CA-COLOR™ Interior & Exterior coatings for Architecture **CF-COLOR**™ High durable Flooring coatings for Concrete Colored coatings for Glass CG-COLOR™ **CM-COLOR™** Anti-oxidant & anti-corrosion coatings for Metals Preservation & Stain coatings for Wood **CS-COLOR**[™] Water repellant coatings for Exterior SOLKEEP™ CONSLIP™ Concrete Formwork release agent ZEROSLIP™ Non-slip coatings for Flooring NOSTICK™ Anti-stick coatings



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Ceraran

Cerazan®

Cerazan speciallized polymers are condensed forms of organic-inorganic complex nano materials and products are typically provided low viscosity liquids. Two basic classes of Cerazans are vailable.

The 1st Silicon Ladder Polymers which can be activated to form a crosslinked network through the additional of heat. And it contains over 95% non flammable materials which has good surface hardness, superior chemical resistance and heat resistance. Cerazan® polymers have exceptional high temperature stability, anti scratch property and, once cured, can be exposed to harsh thermal and chemicals environments in accordance with hybrid technology

Innovation in techniques of Organic-inorganic Complex Coating

Silicon Ladder Polymer

- Competitive price through localization
- Curable at Low Temp / RT under 150
- Good adhesion for variety substrates
- Good pigment dispersbility
- Easy to control the $\ensuremath{\mathsf{NV}}$

Polyhedral Oligomeric Silsesquioxane

3 dimension hybrid process with organic polymer through FLOWTECH's independent new technology.

Cerazan® Manufacturing Process & Main Ingredients

- 1. Water-soluble Polysiloxane Polymer
- 2. Fine Ceramic Material (SiO₂)
- 3. Low temperature polymerism

Cerazan® 1st Silicon Ladder Polymer

FLOWTECH

Green campaign

4. Water-soluble Acrylic & Urethane

5. Low temperature polymerism

Cerazan® 2nd POSS
(Polyhedral Oligomeric Silsesquioxane) Resin

Characteristic of Cerazan®

Characteristic of 1st Silicon Ladder Polymer

- Heat Stability: 500 ~ 1,100°C
- Cold Resistance : -60°C
- Chemical resistance : Organic solvents insoluble, no change HCL 20%
- Surface Hardness: Mishibishi pensil 5~7H
- Electrical Characteristics: Moisture absorption ratio below 0.3%
- Water repellant : Permanent
- Gas Permeability
- Light transmittance: 94%

Characteristic of 1st Resin

- Contains over 95% non flammable materials.
- Offers good hardness film and good heat resistance.
- Suitable for thin-layer coatings.
- Suitable for substrates without finishing process.

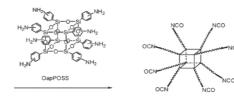
Characteristic of 2nd POSS (Polyhedral Oligomeric Silsesquioxane) Resin

- Heat Stability: Below 250°C
- Cold Resistance : -30°C
- Chemical resistance $\,$: M.E.K solvents rubbing 100 pass , no change HCL 20%
- Surface Hardness : Mishibishi pensil 2~5H
- Electrical Characteristics : Moisture absorption ratio below 0.3%
- Water repellant : Permanent
- Gas permeation prevention
- Light transmittance: 91%

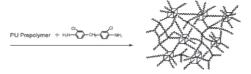
Characteristic of 2nd Resin

In accordance with organic and inorganic hybrid process, it can be applied for almost all industrial applications. It offers high durable film, good flexibility, no crack with thick film and good adhesion.

Structural formula



Octaarmed Star-like PU Prepolymer with Silsesquioxane Core



Application of Cerazan®

Concrete coatings

- Concrete floor coating
- Semi-permanent roof water repellant coatings
- Anti efflorescene
- Clean water repellant for architecture
- Non slip coatings
- Concrete surface enhancer
- Anti dust agent

Architecture coatings

- Interior & Exterior coatings for
- Architecture
- Anti mildew coatings
- Anti pollution coatings
- Flame retardant coatings

Wood coatings

- Flame retardant coatings
- Stain coating for Dampproof, and protection against insects
- Clean coating for furniture

Plant coatings

- Anti corrosion coatings for plant
- Oil pipeline corrosion resistance coatings
- Salt damage resistance
- Heat stable coatings refined oil plants

Marine and heavy duty coatings

- Anti fouling coatings
- Corrosion resistance coatings. For heavy duty
- Friction control coatings
- Salt damage resistance for sea structure
- Flame retardant coatings for ship interior
- No slip coatings for deck

Metal anti-oxidant coatings

- Corrosion resistance for PCM
- Anti finger print and anti dirt
- Plating, Metal anti oxidant coatings
- Color coating for exterior panel

Plastic coatings

- Scratch resistance
- Enhance heat resistance
- Solvent resistance.
- Anti Static electricity

Optical films

- Anti finger print property
- Scratch resistance
- Hard coatings for IMD film
- Anti glare coatings

Electrical & Electronic coatings

- Heat resistance coatings for Lithium-ion
- battery membrane
- Insulation coatings
- Insulation and heat resistance for PCB
- Insulation coatings for CCL

Glass coatings

- Defense Ultraviolet ray
- Defense infrared ray
- Colored glass coatings
- Blackboard coatings



