

What are coating agents?

4 components and application examples of coating agents are as follows:

Components of coating agents

The coating agents are made from 4 types of components: Resins, Additives, Pigments & Fillers & Solvents.

- Resins
- Additives
- Pigments & Fillers
- Solvents

Coating agents

Coatings applications

There are a wide array of coating applications.



How silicones are used in coating agents?

Our silicones are used in 4 different ways with the Resins, Additives, and Pigments & Fillers from which coating agents are made.

Components of coating agents

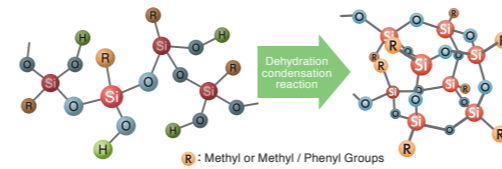
- Resins: Used as the resin itself
- Additives: Used to improve other resins and impart them with the properties of silicones
- Pigments & Fillers: Used as additives to improve the surface conditions of coatings
- Pigments & Fillers: Used to modify the surface of fillers to improve coating performance

Use of silicone

- 1 Silicone based Resins**
- 2 Resin Hybridization Agents**
- 3 Surface Modifiers for Coating**
- 4 Surface Modifiers for Pigments & Fillers**

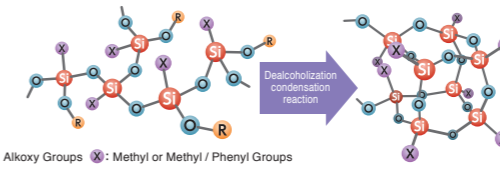
Use 1 | Silicone based Resins | Used as the resin itself

Silicone Resins



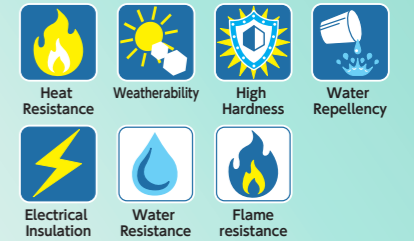
Structure: Resin having a high molecular weight and three-dimensional siloxane network structure.
Features: With excellent film-forming abilities, coatings can range from very hard to flexible.

Silicone Oligomers (Type A)



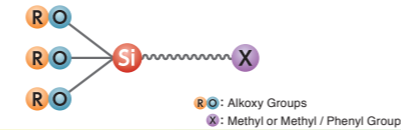
Structure: Resin having a relatively low molecular weight and three-dimensional siloxane network structure. Molecules contain alkoxy groups and non-reactive functional groups.
Features: Can be used on their own, or to modify organic resins. Can also be used as reactive diluents.

Features



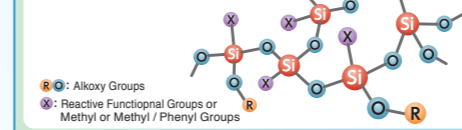
Use 2 | Resin Hybridization Agents | Used to improve other resins and impart them with the properties of silicones

Silane Coupling Agents



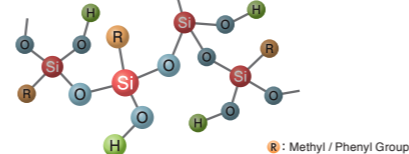
Structure: Monomer whose molecules contain alkoxy groups and reactive functional groups.
Features: While alkoxy groups improve adhesion to inorganic materials, reactive functional groups improve adhesion to organic materials.

Silicone Oligomers



Structure: Oligomer having three-dimensional siloxane network structure. Molecules contain alkoxy groups and reactive functional groups.
Features: Can also be used for modification of organic resins, or even as a reactive diluent.

Silicone Resins



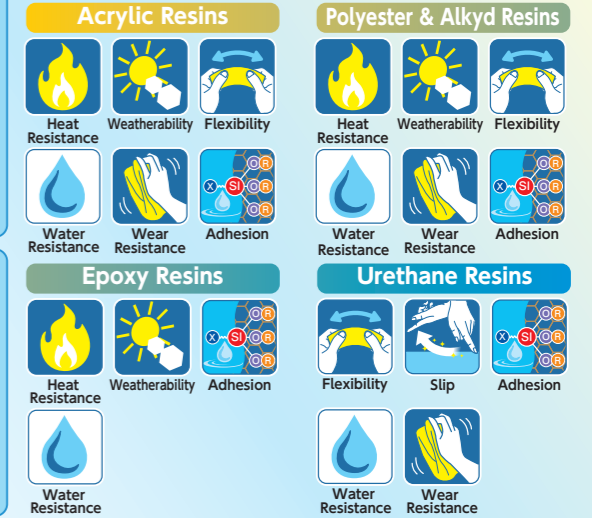
Structure: Resin having a high molecular weight and three-dimensional siloxane network structure.
Features: With excellent film-forming abilities, coatings can range from very hard to flexible.

Modified Silicone Fluids



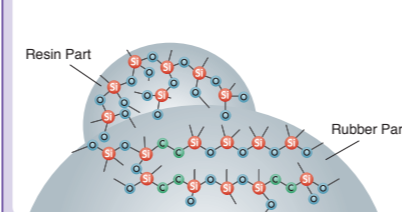
Structure: Two-dimensional siloxane main chain with reactive or non-reactive functional groups in the side chains and ends.
Features: Silicone fluids having reactive functional groups can be used for modification of organic resins.

Resulting Properties



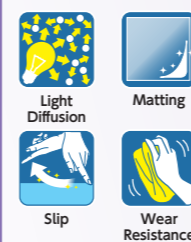
Use 3 | Surface Modifiers for Coating | Used as additives to improve the surface conditions of coatings

Silicone Powders

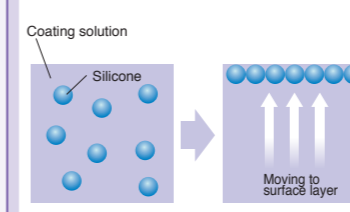


Structure (3 types): Resin, rubber & resin coated rubber
Features: Available in a variety of particle sizes and shapes, to meet a range of requirements.

Resulting Properties



KP Series



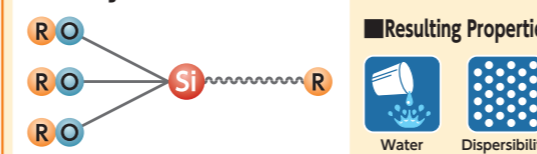
Features: Coating Surface Modifiers designed for use as leveling agents, defoamers, slicking agents, and in coatings.

Resulting Properties



Use 4 | Surface Modifiers for Pigments & Fillers | Used to modify the surface of fillers to improve coating performance

Alkoxy Silanes



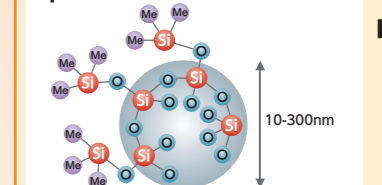
Structure: Monomer whose molecules contain alkoxy groups.
Features: Alkoxy groups act to improve adhesion to inorganic materials.

Silane Coupling Agents



Structure: Monomer whose molecules contain alkoxy groups and reactive functional groups.
Features: While alkoxy groups improve adhesion to inorganic materials, reactive functional groups improve adhesion to organic materials.

Spherical Silica Fine Particles



Structure: Very small particle size with narrow particle size distribution. Particle surfaces treated to give them extra water repellency.
Features: Monodisperse, less aggregation. Fine adhesion to various powders, and it improves the flowability.