

CoatOSil™ DRI Waterborne Silicone Resin

Description

CoatOSil DRI waterborne silicone resin can help reduce water uptake and improve UV resistance in organic waterborne coating compositions. Its chemical structure enables CoatOSil DRI waterborne silicone resin to overcome the difficulties of combining silicone materials with organic waterborne resins.

CoatOSil DRI waterborne silicone resin has been shown to improve hydrophobicity and elongation properties when used as a co-binder with acrylic latexes, resulting in more flexible coatings and sealants. CoatOSil DRI waterborne silicone resin can also be considered as a sole binder when maximum thermal and UV stability is a priority. When applied alone, CoatOSil DRI waterborne silicone resin cures at room temperature to form an elastomeric film.

Performance Properties (Key Features/Typical Benefits)

- Enhanced water, UV, and mar resistance.
- Formation of a more flexible coating as a co-binder with acrylic latex, without detrimental effect to adhesion, re-coatability, and dirt pick up.
- Compatibility with a variety of waterborne polymer systems, including many:
 - Acrylics
 - PUDs
 - Styrene Acrylics
 - Alkyds
 - Epoxies

Typical Physical Properties

CoatOSil DRI waterborne silicone resin is a low viscosity emulsion with the following typical characteristics:

| Property | Value |
|--|----------------------|
| Appearance | White, opaque liquid |
| Actives Content, %wt | ~ 45% |
| Density (gm/cm ³) at 25 °C | 1.1 |
| Viscosity at 25 °C | ~ 20 cps |
| pH | ~ 11 |
| Particle Size (nm) | ~ 120 |

Typical properties are average data and are not to be used as or to develop specifications.

Recommended Applications/Basic Uses

- Architectural Coatings
- Wood Coatings
- Concrete Coatings
- Roof Coatings

General Considerations for Use

Typical dosages of CoatOSil DRI waterborne silicone resin are between 5% and 30% when used as a co-binder in latex systems to improve water and UV resistance. To aid in evaluating the silicone for use as a sole binder, the typical physical properties of the neat product applied via drawdown and cured at room temperature are shown below:

| Typical Properties of Cured Film | Value |
|----------------------------------|---------|
| Tensile (psi) | ~ 500 |
| Elongation (%) | ~ 450 |
| Hardness (Shore A) | ~ 30 |
| Elastic Recovery (%) | > 90% |
| T _g (measured by DSC) | - 41 °C |

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Patent Status

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Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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