

SILRES® IC 900

Solvent-Free Alkoxy-Functionalized Methyl-Phenyl Silicone Resin Binder for High Heat-Resistant Thick-Film and High-Solids Coatings

Silicone resins are well established as binders for metal coatings. Pigmented coatings can withstand temperatures of up to 600 degree Celsius and protect against corrosion in highly demanding environments, for example in the petrochemical industry. With our new SILRES® IC 900 we provide a silicone resin binder that allows for high-temperature applications with a dry-film thickness (DFT) of over 100 micrometers.



Introducing a Novel Silicone Resin Binder for High-Temperature Thick Film Coatings

SILRES® IC 900 was designed as a binder for solvent-based paints and coatings that need to withstand high temperatures. The alkoxy-functionalized methyl-phenyl silicone is characterized by a molecular structure that produces a close-mesh network upon curing while still retaining a certain flexibility. This flexibility prevents cracks from forming in the cured coating layer, even under thermal stress. For proper curing and crosslinking, use SILRES® IC 900 with a curing catalyst (e.g. GENIOSIL® DAPDM).

Suitable for Low-VOC High-Solids Coatings

SILRES® IC 900 is delivered as a pure, undiluted active ingredient. Due to its low viscosity, it can be used to develop high solids coatings with over 80 percent solids content – the solvent content is correspondingly low. This makes it possible to reduce the VOC-content in high performing coatings.

High-build coatings formulated with SILRES® IC 900 can be applied in thicker layers without the risk of cracking. This brings advantages when coating difficult geometries, doing maintenance work in hard-to-access areas or with less-skilled workers.

Benefits of SILRES® IC 900 in 1- and 2-Component Coatings

Coatings based on SILRES® IC 900 can be formulated as either 1- or 2-component products. Upon curing, these coatings are highly resistant to chemicals, and their color remains stable. SILRES® IC 900 provides reliable protection against corrosion, particularly in chemical plants and piping systems subject to exceptional thermal stress.

Coatings based on this novel binder offer various advantages:




- Heat resistance up to 600 °C (when pigmented)
- Very good balance of hardness and flexibility
- Excellent hydrophobicity and corrosion protection
- Excellent adhesion to metal substrates
- No cracking or blistering, even at thickness >100µm
- Ideal for high solids formulations
- Blending with organic resins possible

General Characteristics of SILRES® IC 900

Active content	95% – 100%
Viscosity	~ 200 mPa·s
Molecular weight	~ 1,800 g/mol
Density	~ 1.2 g/mL
Flash point	~ 79 °C
Autoignition temperature	~ 389 °C

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