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PRESS RELEASE

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European Coatings Show 2023
WACKER to Present New Silicone Resin Binders for Heat-Resistant Coatings at ECS

Munich, February 2, 2023 – WACKER, the Munich-based chemical company, will be presenting two new silicone resin binders at the next European Coatings Show (ECS): SILRES® M 51 E and SILRES® IC 900. Both products are suitable for manufacturing industrial coatings that can withstand high temperatures. While SILRES® M 51 E has been designed for formulating water-based coatings, SILRES® IC 900 is a methyl phenyl silicone resin for thick-film and high-solids coatings that remain stable at high temperatures. Both binders can be processed to make coatings that, after baking, adhere well to metallic materials such as steel or aluminum and can withstand temperatures of up to 600 degrees Celsius given suitable pigmentation. ECS 2023 will be held in Nuremberg, Germany, March 28 – 30.

SILRES® M 51 E is a functional methyl silicone resin finely dispersed as tiny droplets in an aqueous medium. Using this kind of formulation for application on metal substrates is novel. The properties of water-based paints in which SILRES® M 51 E is the sole binder are similar in quality to those of heat-resistant coatings containing solvent-based silicone resin binders. Aqueous paint formulations dry quickly and, after baking, possess exceptional chemical and mechanical strength. Following thermal stress, coatings show excellent color and gloss resistance.

Components coated with the resulting water-based paint can be processed quickly – the surface is tack-free just fifteen minutes after application, making the coating process highly efficient. In addition, coatings based on SILRES® M 51 E produce significantly less smoke when first heated than is the case with comparable heat-resistant water-based paints. This allows paints and coatings manufacturers to formulate products that release far lower quantities of volatile organic compounds (VOCs) than their solvent-based counterparts. Typical applications include vehicle exhaust systems, ovens and stoves, range hoods, fireplaces, pots and pans, as well as pipes and plant components in the petrochemicals industry.

SILRES® IC 900 for Heat-Resistant Thick-Film and High-Solids Coatings

SILRES® IC 900 was designed as a binder for solvent-based paints and coatings that need to withstand high temperatures. The product, which consists of an alkoxy-functionalized methyl phenyl silicone resin, is delivered as a pure, undiluted active ingredient. Its low viscosity also enables the development of high-solids coatings. Because the solids content of these systems is over 80 percent, their solvent content is correspondingly low.

The methyl phenyl silicone resin is characterized by a molecular structure which, when crosslinked, results in a close-meshed network that still exhibits a certain flexibility. That flexibility prevents cracks from forming in the cured coating layer, especially under conditions of thermal stress. It follows that SILRES® IC 900 makes it possible to produce coatings that can be applied in thick layers.

SILRES® IC 900 is a silicone resin binder for high-temperature applications that permits dry-film thicknesses of over 100 micrometers. Thick-film coatings like these do an especially effective job of protecting the metallic substrate. They are also easier to use than conventional coatings, which have to be applied in relatively thin layers of consistently uniform thickness. Thick-film coatings make maintenance work easier to perform, especially in difficult-to-access areas.

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

Visit WACKER at the European Coatings Show 2023 in Hall 1, Booth 1-206.

Celebrates its premiere at ECS 2023: SILRES® IC 900. This silicone resin was developed as a binder for solvent-based paints and coatings that have to withstand high temperatures. The product can even be used for formulating high-solids coatings. (Photo: WACKER)

At ECS 2023, WACKER will be presenting a novel silicone resin for heat-resistant, water-based coating formulations. Cross-cut tests show that the adhesive properties of SILRES® M 51 E are similar to those of high-temperature paints and coatings formulated with solvent-based silicone resin binders. (Photo: WACKER)

Note:

These photos are available for download at:
http://www.wacker.com/pressreleases

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The Company in Brief:
WACKER is a global chemical company
with some 14,400 employees and annual sales of
around € 6.21 billion (2021).
WACKER has a global network of 27 production sites, 23 technical competence centers and 52 sales offices.

WACKER SILICONES
Silicone fluids, emulsions, rubber grades and resins; silanes; pyrogenic silicas; thermoplastic silicone elastomers

WACKER POLYMERS
Polyvinyl acetates and vinyl acetate copolymers and terpolymers in the form of dispersible polymer powders, dispersions, solid resins and solutions

WACKER BIOSOLUTIONS
Biotech products such as cyclodextrins, cysteine and biologics, as well as fine chemicals and PVAc solid resins

WACKER POLYSILICON
Polysilicon for the semiconductor and photovoltaic industries