Wacker Chemie AG
Hanns-Seidel-Platz 4
81737 München, Germany
www.wacker.com

PRESS RELEASE

Number 29

European Coatings Show 2017
WACKER Presents Sustainable Silicone Resins for New Weathering- and Heat-Resistant Coatings and a New Dispersion for Fireproof Coatings

Munich/Nuremberg, April 4, 2017 – At the European Coatings Show (ECS) 2017 from April 4 to 6 in Nuremberg, the Munich-based chemical Group WACKER will present the new binder SILRES® REN70-M, which is used in high-temperature coatings to ensure extreme heat resistance up to 600°C. The new product is almost entirely free of aromatic solvents (<0.1 %) and is particularly suitable for formulating coatings for industrial equipment, engine parts or stoves. For weathering-resistant coatings, WACKER offers the new silicone intermediate SILRES® IC 235, which contains no aromatic compounds at all. It is used in coatings for bridges, stators of wind turbines or industrial plants. WACKER's tradeshow offering for industrial coatings is rounded out with the polymer dispersion VINNAPAS® EZ 3067 for special fire-resistant coatings.

SILRES® REN70-M is virtually free of aromatic solvents, thus providing an alternative to conventional binders for extremely heat- and weather-resistant industrial coatings. These kind of silicone resin binders are typically supplied as a solution in aromatic solvents such as xylene. Instead, SILRES® REN70-M uses 1-methoxy-2-propyl acetate as a solvent, which is biodegradable.

SILRES® REN70-M offers the ideal combination of hardness and flexibility. As a binder in heat-resistant coatings it effectively protects metal surfaces

from corrosion even at high operating temperatures or rapid temperature fluctuations.

The binder dries tack-free even at room temperature. SILRES® REN70-M can also be fully chemically cured, which takes place via reactive silanol groups. With the aid of a catalyst, complete chemical cure can be achieved in just 20 minutes at 180 °C, which means the silicone resin cures faster than comparable products. The cured binder easily passes solvent rub tests. This makes SILRES® REN70-M ideally suited to use as a binder in coatings for industrial plants, pipework or engine parts. SILRES® REN70-M also provides the resistance needed for coatings on barbecues, chimneys, wood-burning stoves or gas-fired incinerators.

SILRES® IC 235 – An Aromatic-Free Intermediate

WACKER presents a new polysiloxane-based intermediate for optimizing the chemical and physical properties of organic binders in industrial coatings. SILRES® IC 235 consists of a methoxy-functional phenyl methyl polysiloxane with a low molecular weight distribution. The intermediate SILRES® IC 235 does not require any aromatics.

The new silicone resin has been designed so that an addition of only 15 percent is sufficient to improve the UV and weathering resistance of the organic binder in a coating system – without detracting from its mechanical properties. Weathering and lab tests have shown that SILRES® IC 235 provides for substantially improved gloss retention, greater protection against weathering and an extended useful life. Additionally, a higher percentage of silicone in the binder improves the heat resistance of the coating system up to 300 °C. SILRES® IC 235 is used, for example, in coatings for static metal structures such as bridges or railings and in industrial plants.

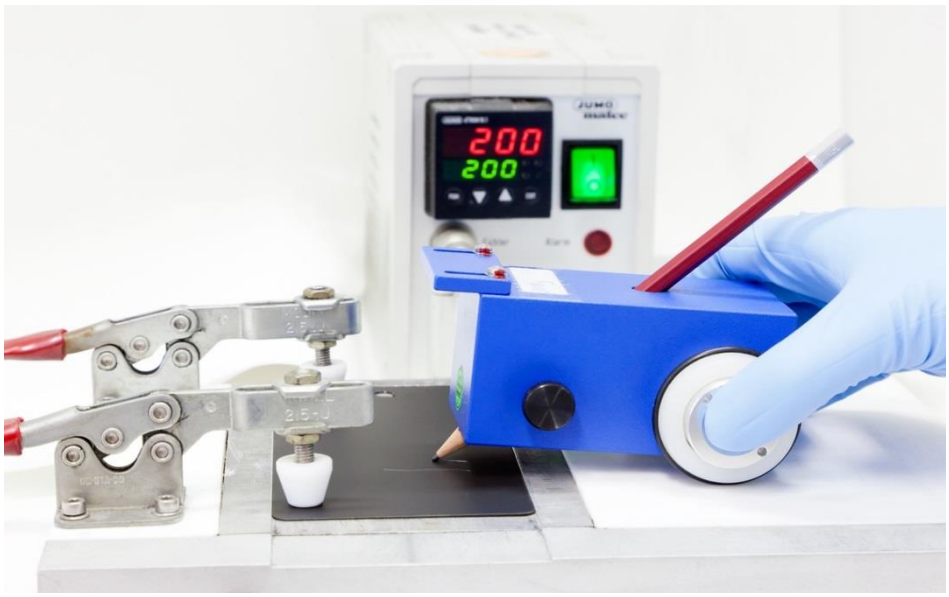
VINNAPAS® EZ 3067 for Intumescent Coatings

Intumescent Coatings are special fire protection coatings that swell on steel girders to form a jacket that slows the rate at which load-bearing structural parts of a building melt or buckle in the event of fire. Applied in a thickness of just one to four millimeters, the coating expands on exposure to heat, forming a layer of foam that is roughly ten to 100 times the original coating thickness. As the foam has an extremely low thermal conductivity, the temperature inside the coating rises more slowly. The steel girder is protected from the heat for a set length of time and so remains structurally stable for longer.

The new VINNAPAS® EZ 3067 polymer dispersion shows particularly vigorous foam development and expansion, and long-term foam stability. It also enhances the adhesion and strength of the coatings, ensuring that the protective layer adheres firmly to the substrate and acts as a heat barrier for a set time. Without the binder, the foam layer would be too brittle and would have inadequate adhesion to the steel substrate. The dispersion is water-based and free of organic solvents or additives such as plasticizers. If suitably formulated, such a highly fire-resistant coating can attain fire resistance classes as high as F120 (heat protection for up to 120 minutes).

Visit WACKER at ECS 2017, Hall 1, Booth 1-510.

The thermal resistance of the new binder SILRES® REN70-M is tested in the WACKER lab by coating steel disks with a paint containing the binder and heating them up to 650°C (photo: Wacker Chemie AG).



To ensure that coatings with SILRES® IC235 as binder also have sufficient surface hardness, pencil hardness tests are performed in the WACKER lab (photo: Wacker Chemie AG).

Note:

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

For further information, please contact:
Wacker Chemie AG
Media Relations & Information
Nadine Baumgartl
Tel. +49 89 6279 -1604
nadine.baumgartl@wacker.com
www.wacker.com
follow us on:

The company in brief:
WACKER is a globally active chemical company with some 17,200 employees and annual sales of around €5.40 billion (2016).
WACKER has a global network of 26 production sites, 22 technical competence centers and 51 sales offices.

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

WACKER POLYMERS
Polyvinyl acetate and vinyl acetate co 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 photovoltaics industries

Siltronic
Hyperpure silicon wafers and monocrystals for semiconductor components