Coatings & Adhesives: It takes smart compounds to create optimum bonds between different substrates in the coatings and adhesives industries. WACKER has the sustainable raw materials, silicone sealants and adhesives you need – all individually packaged in efficient processes, practical solutions and comprehensive service.
Paints

Paint is much more than simply decorative. It can be transformed by WACKER products into a multifunctional coating and can even be given a scent. SILRES® BS products, for example, are born networkers. They build a stable silicone resin network on mineral surfaces and in coatings that is both water-repellent and water-vapor permeable, providing an effective defense against the elements. VINNAPAS® low-VOC dispersions and GENIOSIL® silanes yield paints boasting an optimized performance and green credentials, and open up a wide range of applications for matt and glossy, solvent-free and plasticizer-free paints for interior and exterior use. GENIOSIL® silanes, incorporated as comonomers directly into the polymer during resin production, and VINNAPAS® dispersions, incorporated into paints, enable the formulation of environmentally-sound coatings with excellent abrasion resistance and wet adhesion. Finally, the CAVAMAX® range rounds out the great diversity of modern paint concepts by enabling them to be scented.

Applications

Dispersion paints
Emulsion paints
Silicate emulsion paints
Silicone resin emulsion paints

Products

GENIOSIL®, SILRES® BS, VINNAPAS®

From Economy to Ecology: WACKER products are important building blocks that bestow lasting protection on masonry and allow surprising diversity of design. More info, tips & trends on construction can be found in our Construction brochure.
Plasters

WACKER wrings more out of plasters, too: for example, skillfully transforming them into low-emissions systems that afford protection, level surfaces, and serve as optical styling tools. In silicone resin and organo-silicate plasters, for example, SILRES® BS silicone resin binders build up a three-dimensional network with diverse properties: water forms beads and rolls off, but the pores remain open to diffusion. In dispersion plasters, low-VOC VINNAPAS® dispersions act as polymeric binder, optimizing the end product so that it lasts longer.

Applications

Dispersion plasters
Silicate plasters
Silicone resin plasters

Products

SILRES® BS, VINNAPAS®

See also: www.wacker.com Products & Markets Coatings & Adhesives Architectural Coatings
Quality Guarantee for Wood, Plastic and Metal

Wood Coatings
VINNOL® surface-coating resins effectively protect wood coatings against chemicals and moisture, while simultaneously making them durable and flexible. Natural wood thus retains its beauty of form and color stability. HDK® pyrogenic silica controls the coating’s flow, prevents settling of pigments and fillers, and improves the polishing process by regulating the penetration properties of stains and glazes. There are special HDK® grades available for optimizing the scratch and wear resistance of parquet flooring and furniture coatings.

Plastic Coatings
Thanks to their outstanding property profile, VINNOL® products are preferred additives for all kinds of plastics applications, such as the coating of shoe soles, synthetic leather or hard plastic, where they yield durable, high-performance primer and coating formulations. Settling of pigments and fillers is prevented with HDK® pyrogenic silica.
Metal Coatings

From A for aluminum to Z for zinc – there are as many types of substrate as there are applications for metal-coating products in the SILRES®, ELASTOSIL®, HDK®, GENIOSIL® and VINNOL® series. The inorganic and organic backbone of SILRES® and ELASTOSIL® lays the foundations for exceptional properties, such as coolness in the face of extreme heat or rapid temperature changes, and tremendous durability and functionality combined with decorative design possibilities. For an impressive interplay of stable adhesion and abrasion resistance combined with high flexibility, VINNOL® is the product range to use. HDK® pyrogenic silica serves as a rheological additive and prevents settling in paints and coatings, while GENIOSIL® silanes and silylated binders are perfect building blocks for creating high-performance solvent-free coatings that possess high chemical and scratch resistance.

Applications

- Anti-corrosion coatings
- Automotive finishes
- Baking sheet coatings
- Coil coatings
- Heat-resistant coatings
- Plastics coatings
- Pots, pans & small kitchen appliances
- Shoe-sole coatings
- Strippable coatings
- Synthetic-leather coatings
- Marine & protective coatings
- Metal coatings
- Wood coatings

Products

ELASTOSIL®, GENIOSIL®, HDK®, SILRES®, VINNOL®, WACKER® Silicate
Hard Plastics

HDK® pyrogenic silica serves to regulate the flow of coating materials for plastics and prevents pigments and fillers from settling. As co-binder in acrylic-based plastics coatings, VINNOL® guarantees optimal adhesion to topcoats, resistance to chemicals, water and abrasion, and ensures that cell phones continue to work reliably.

Heat-Sealable Coatings

In heat-sealable coatings, VINNOL® creates the bond between the packaging types, e.g. aluminum foil and plastic film. It regulates the strength of the seal and protects the foil from corrosion or aggressive ingredients in the filling.

Metal

Master chefs and hobby cooks alike appreciate barbecue coatings that are highly non-stick, are easy to clean and do not easily scratch or wear off. SILRES® silicone resins meet these specific requirements on metal coatings, whose appearance and durability are enhanced as a result. The coating’s flow properties are regulated with HDK® pyrogenic silica, which prevents settling of pigments and fillers.

Industrial Coatings: modern industrial coatings must offer definite visual, functional and economic benefits.
Wood
Wood requires special coatings to retain its natural look and functionality. Adding VINNOL® to coating systems not only imparts protection, impact resistance, flexibility and color stability, but also ensures that the natural wood grain is preserved. HDK® regulates the flow and improves anti-sedimentation properties – in solvent-borne, water-dilutable and wholly solvent-free coating materials.

Synthetic Leather
VINNOL® imparts invaluable protection and shine to synthetic leathers and prevents embrittlement. HDK® will regulate the desired flow during application and prevent pigments and fillers from settling in materials for coating synthetic leather. Perfection and success go together hand in glove, especially when teeing off.

Coil Coating
In organic binders for heat- and weather-resistant coil coatings, SILRES® intermediates are a shining example of durability, color stability and gloss. SILRES® ensures that the end product retains its value for longer. HDK® pyrogenic silica regulates the flow properties of the coil coatings and makes for uniform coating thickness.
Good Connections with Environmentally Sound Adhesives

Electronics, Energy & Electrical Engineering

Efficiency, energy savings and CO₂ reduction are drivers of innovation in photovoltaics, solar heating, wind energy and lighting equipment as well as in resistors, capacitors and mica- and glass-fabric laminates. Using the right potting compounds, adhesives and sealants in the areas of renewable energy, electrical insulating materials, lighting systems and power and automotive electronics goes a long way toward raising quality and creating a pleasant indoor ambience.

Applications

- Electrical insulation industry
- Energy-saving lamps
- Heating elements
- Incandescent lamps
- Lighting
- Mica- & glass-fabric laminates
- Photovoltaics
- Renewable energies
- Resistors & capacitors
- Solar thermal energy
- Wind power

Products

ELASTOSIL®, HDK®, WACKER SiGel®
See also: www.wacker.com | Products & Markets | Coatings & Adhesives | Adhesives
Construction Adhesives

Durability and optimal adhesion are the main requirements imposed on adhesives for parquet and PVC flooring. Innovative WACKER products are ideal for this and can also do much more. VINNAPAS® dispersions can be used to make very low-emission dispersion adhesives and guarantee reliable bonding and a proper “grip” on parquet flooring, PVC, rubber, linoleum, polyolefin, cork and textile coverings. In the field of hybrid technology, GENIOSIL® STP-E yields solvent-free and tin-free formulations, while VINNAPAS® solid resins are ideal for solvent-borne parquet adhesives. Chemically curing dowels employ 2-part adhesives whose rheology is controlled with HDK®.

For permanent joining of PVC pipes, use the VINNOL® product line. Used in environmentally-sound solvent systems, they fulfill important safety and environmental aspects. For joint-sealing systems, WACKER offers both precursors and a broad portfolio of advanced ready-to-use compounds:

- GENIOSIL® STP-E products with their innovative α-technology are an ideal platform on which to formulate novel hybrid systems, while ELASTOSIL® silicone sealants satisfy all market requirements relating to indoor and outdoor applications in window seals, weather seals and interior refurbishment. They thus constitute intelligent solutions for supporting the trend towards energy-efficient architecture.

Applications

- Flooring adhesives
- Parquet adhesives
- PVC adhesives

Products

- GENIOSIL® STP-E, ELASTOSIL®, HDK®, VINNAPAS®, VINNOL®
Consumer Adhesives
The name says it all: consumers want adhesives which can be used in the home and office, offer precision bonding and are user-friendly as well. Look no further, then, than the VINNAPAS® and GENIOSIL® series of products. Our revolutionary STP-E technology yields not only general-purpose adhesives, but all-purpose adhesives that are strong and flexible, free of isocyanates and have no known harmful effects. Hydrophobic HDK® grades also imbue all-purpose adhesives with a long shelf life and make them thicken immediately after application.

Applications
General-purpose adhesives

Products
GENIOSIL® STP-E, HDK®, VINNAPAS®

Industrial Adhesives
Adhesive bonds are an efficient and economical alternative to rivets, nails and screws. Assembly adhesives based on GENIOSIL® STP-E, used e.g. in automotive and container construction, yield bonds that are both strong and flexible, and contain no tin or solvents. Their rapid curing and primerless application accelerate work processes and minimize manufacturing costs. In acrylic-based structural adhesives, VINNAPAS® solid resins reduce shrinkage, boost processing and bond reliably. The rheological properties in industrial and automotive adhesives are controlled by HDK® pyrogenic silica, an active filler that prevents sedimentation during storage and transport, and confers high thixotropy.

Applications
Assembly adhesives
Structural adhesives

Products
GENIOSIL® STP-E, HDK®, VINNAPAS®
Automotive Adhesives
In automotive construction, HDK® is added to PVC plastisols for underbody protection and seam-sealing, where it controls the rheology and prevents the plastisols from dripping and running. HDK® is also an important component for adjusting the flow properties of the adhesives used to install windows in vehicles.

Applications
Automotive adhesives

Products
HDK®

Appliance & Machinery
ELASTOSIL® and HDK® excel in countless household-appliances and machine-construction applications: from irons and cooking hobs via dishwashers and washing machines through to ventilation, heating and air conditioning – adhesives, coatings and adhesive seals provide excellent adhesion, resistance to heat and steam and infinitely adjustable rheology and reactivity.

Applications
All-round potting compounds
Cooktops
Dishwashers
Filter elements
Heating and air conditioning systems
Irons
Machinery
Microwave ovens
Oven doors
Small appliances
Ventilation, heating and air conditioning
White goods

Products
ELASTOSIL®, HDK®
See also: www.wacker.com ➤ Products & Markets ➤ Coatings & Adhesives ➤ Adhesives
Paper & Packaging Adhesives

Environmentally-sound VAE polymer dispersions from the VINNAPAS® series are unbeatable for high-quality paper and packaging adhesives because of their superior cost-benefit ratio. Whether paper or difficult substrates need to be reliably bonded – VINNAPAS® dispersions score highly for their fast adhesion, convenience of use on machines, perfectly coordinated adhesion and cohesion profile, as well as a broad formulation scope.

Applications
- All-purpose adhesives
- Laminating adhesives
- Paper and packaging adhesives

Products
- VINNAPAS®
Wood & Furniture Adhesives
A good wood glue must be stronger than the wood itself. VINNAPAS® dispersions yield intelligent and reliable bonded joints and meet all requirements imposed on modern wood adhesives. Whether veneer bonding, wood laminating or laminating film on wood – VINNAPAS® has the optimum property spectrum for the modern wood and furniture industry. VINNAPAS® wood glue dispersions meet current quality demands for WATT 91 heat resistance and EN 204 Class D2 to D4 water resistance. They make suitable adhesives for membrane presses and vacuum forming as well as the lamination of PVC and other films.

Applications

Profile sheathing
Standard glue for large format bonding
Veneer bonds
Window and door bonds

Products

VINNAPAS®
Print-Ready Results

Screen Printing
Screen printing is the technique of choice for high print strength combined with extraordinary brilliance. Here, high-molecular VINNOL® surface-coating resins meet to ensure long-lasting results. HDK® pyrogenic silica prevents sedimentation of pigments and fillers and regulates the viscosity.

Products
HDK®, VINNOL®

Offset Printing
Offset printing is the most widely employed flat-screen printing process for books, newspapers and packaging. Hydrophobic HDK® pyrogenic silica regulates the printing inks’ water content, reducing scumming and emulsification. Moreover, HDK® optimizes the smooth transfer of the ink to the print medium and thus leads to sharp images of high color intensity.

Products
HDK®, VINNOL®

Gravure Printing
In gravure printing, low-molecular VINNOL® products are known for their toughness, permanent flexibility, excellent pigment wetting and solubility. The binders are highly resistant to abrasion, water and chemicals, and are thus ideal for tackling challenging reproductions. HDK® pyrogenic silica is used for viscosity regulation and prevents settling of pigments and fillers.

Products
HDK®, VINNOL®

Printing Inks: printing inks need binders and solvents in addition to pigments and colorants. Additives from WACKER facilitate print-ready productions in every type of printing process.
Inkjet Printing
In inkjet printing, VINNOL® improves the adhesion of the UV ink to difficult substrates, provides excellent pigment wetting and optimizes both color strength and gloss of the printout. The surface-coating resins adjust the ink perfectly and boast excellent properties, especially for large format printing. Thanks to their pronounced water resistance, they even yield printing results for outdoor applications that will not wash out.

Products
VINNOL®

Flexographic Printing
In flexographic printing, HDK® pyrogenic silica serves to regulate the flow properties and thus prevents settling of pigments and fillers.

Products
HDK®

Transfer Printing
In transfer printing, VINNOL® grades are preferred on account of their thermoplasticity and special properties. They display impressive pigment wetting, brilliant color strength and gloss of the printout. Hydrophobic HDK® pyrogenic silica controls the water content in printing inks, minimizing scumming and emulsification. Moreover, HDK® optimizes the smooth transfer of the ink to the print medium and thus leads to sharp images of high color intensity.

Products
HDK®, VINNOL®
Packaging Artists with Customized Requirements Profile

Metal or plastic: whether thermoactivatable or for direct food contact – good packaging coatings can be adjusted to the application at hand. Invaluable support comes in the form of environmentally-sound WACKER binders, which unfold their properties in all kinds of packaging materials.

Flexible Packaging
VINNOL® surface-coating resins are dazzling formaldehyde-free, low-VOC dispersions for climate-friendly packaging coatings. Secure adhesion to different substrates, such as metal or plastic, high resistance to chemicals, excellent flexibility, lasting shine, suitability for direct food contact and sealability are all basic requirements that packaging coatings must meet. The VINNOL® series contains special binders that are ideally suited for industrial sub-segments and meet all the demands imposed on them.
- Sealability
- Chemical resistance
- Pigment wetting
- Suitability for food packaging
- Gloss and color strength
- Barrier properties
- Adhesion
- Flexibility

See also: www.wacker.com ▶ Products & Markets ▶ Coatings & Adhesives ▶ Packaging Coatings
Impressive Quality – Not Only on Paper

**Inkjet Paper**
Inkjet printing needs high-quality coated inkjet papers. In the proven and ever-evolving POLYVIOL®, VINNACOAT® and HDK® brands, you will find high-quality, environmentally-sound binders and dispersions which in combination with inkjet printers produce sparkling results on paper. They are also ideal for printing digital images, transforming them into dazzling photographic print quality.

**Products**
- HDK®
- POLYVIOL®
- VINNACOAT®

**Paper & Board Coating**
WACKER laboratories have developed a wide range of high-performance, environmentally-sound binders in the POLYVIOL® and VINNACOAT® series for paper finishing, and paper and card coating. For custom services, try out our paper technology department, which boasts a superbly equipped laboratory and pilot plant for coating paper and cardboard.

**Products**
- POLYVIOL®
- VINNACOAT®

WACKER offers customized binders, technical support and services. For functional paper and film coating at an attractive price-performance ratio.
Non-Impact-Printing
Offering high performance at a favorable price, photocopiers and laser printers make a good alternative to conventional printing methods when it comes to printing small runs and printing-on-demand jobs. For this application, WACKER offers sophisticated products dedicated to the toner market: HDK® for both conventional toners and chemical toner formulations, and silicones for optimizing toner fixing in connection with printer rolls and photocopier rolls.

Products
ELASTOSIL®, HDK®

Release Coatings
No longer than necessary but as stable as possible – these are the demands on DEHESIVE® release coatings. Capable of being used in almost all areas of industry, release liners coated with DEHESIVE® silicones are tailored to each specific application, where they offer unbeatable cost-benefit performance. Whether baby diapers or hygiene articles, self-adhesive envelopes or labels, electrical insulation or packaging tape, baking paper or large-format advertising labels, adhesive plasters or bonding web, roof cover or pipe and heat insulation – DEHESIVE® silicones are in a class of their own as regards multifunctionality, environmental compatibility and economy.

Products
CRA®, DEHESIVE®
WACKER is one of the world’s leading and most research-intensive chemical companies. In 2008, its sales totaled € 4.3 billion. Products range from silicones, binders and polymer additives for diverse industrial sectors to bio-engineered pharmaceutical actives and hyperpure silicon for semiconductor and solar applications. As a technology leader focusing on sustainability, WACKER promotes products and ideas that offer a high value-added potential to ensure that current and future generations enjoy a better quality of life based on energy efficiency and protection of the climate and environment.

Spanning the globe via five business divisions, 27 production sites and over 100 subsidiaries and sales offices, we have established a presence in all key economic regions and growth markets. With a 15,900-strong workforce, WACKER sees itself as a reliable innovation partner that develops trailblazing solutions for, and in collaboration with, its customers. WACKER also helps them boost their own success. Our technical centers employ local specialists, who assist customers worldwide in the development of products tailored to regional demands, supporting them during every stage of their complex production processes, if required.

WACKER e-solutions are online services provided via our customer portal and as integrated process solutions. Our customers and business partners thus benefit from comprehensive information and reliable service to enable projects and orders to be handled fast, reliably and highly efficiently. Visit us anywhere, anytime around the world at: www.wacker.com

All figures are for 2008.
WACKER Technical Centers: our worldwide state-of-the-art competence centers focus on finding the best possible solution for your needs. WACKER has 17 technical centers – in Adrian, Akeno, Allentown, Beijing, Burghausen, Dubai, Hikari, Hsinchu, Jandira, Kolkata, Melbourne, Moscow, Nünchritz, Portland, Shanghai, Singapore and Suwon.