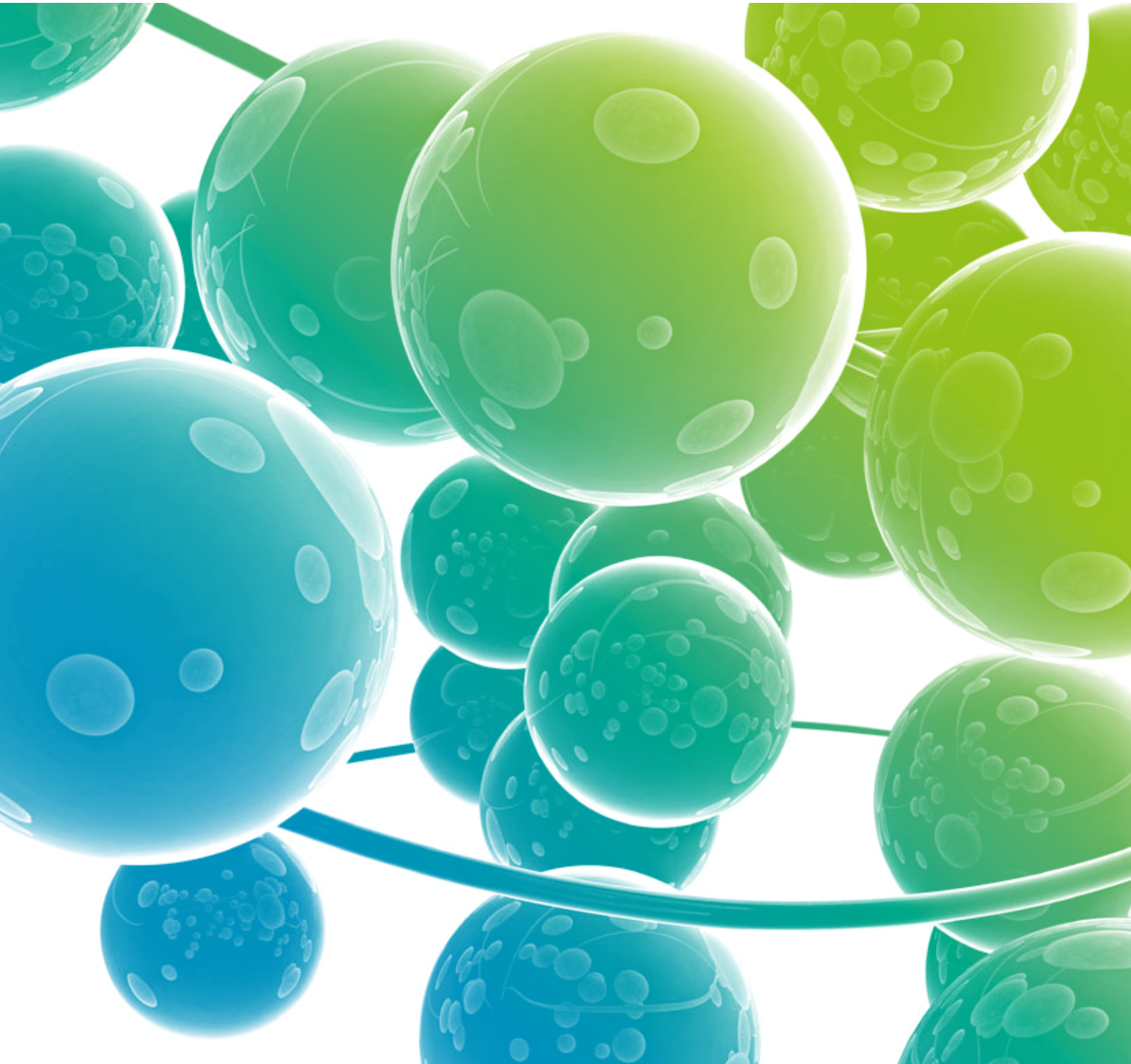
Bindzil CC in the coating industry

Silane modified colloidal silica dispersions – functions and applications

AkzoNobel
Tomorrow's Answers Today



Small particles add big advantages

Performance enhancing silane, modified colloidal silica for polymers, waterborne coatings and cleaners. Bindzil CC works as a co-binder, crosslinker, wetting agent and surface modifier.

High and consistent quality
Our range of Bindzil and Levasil products are produced in our global net-work of manufacturing units with consistent quality. Our quality assurance program meets our customers' expressed expectations and the conditions upon which we have mutually agreed. Eka Chemicals, Industrial Specialties Group, is certified according to the ISO 9000 and ISO 14000 standards.

The Product Bindzil CC

Facts about Bindzil CC silane modified silica

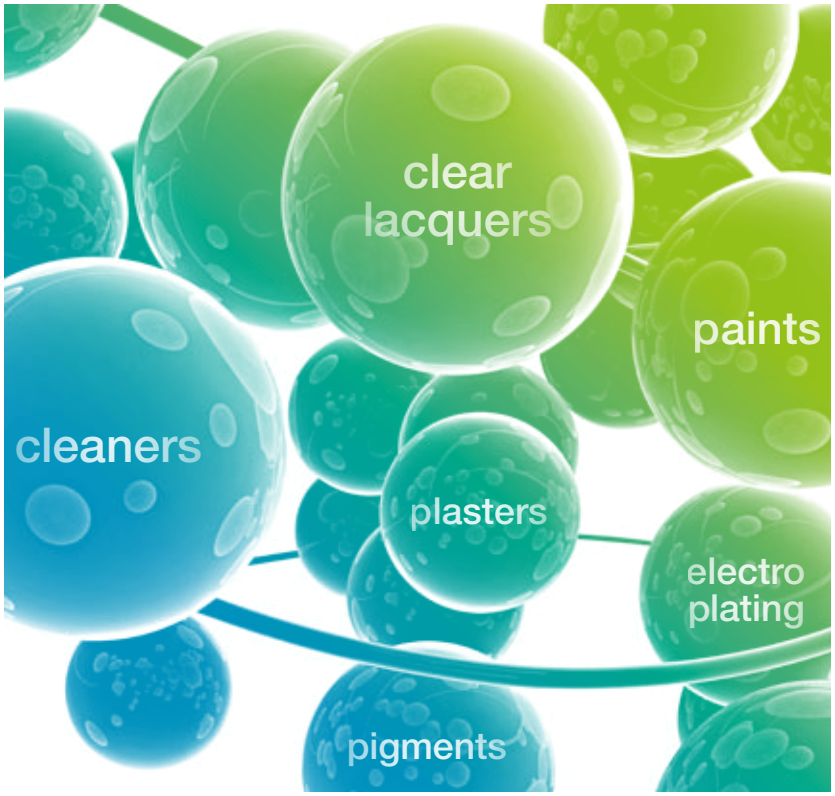
- Aqueous dispersions
- Amorphous silica
- Non-aggregated silica particles
- Several particle sizes available
- Stable in pH-range 2–11
- Non-classified chemicals
- Complies with Eco labeling regulations
- Complies with Food contact regulations

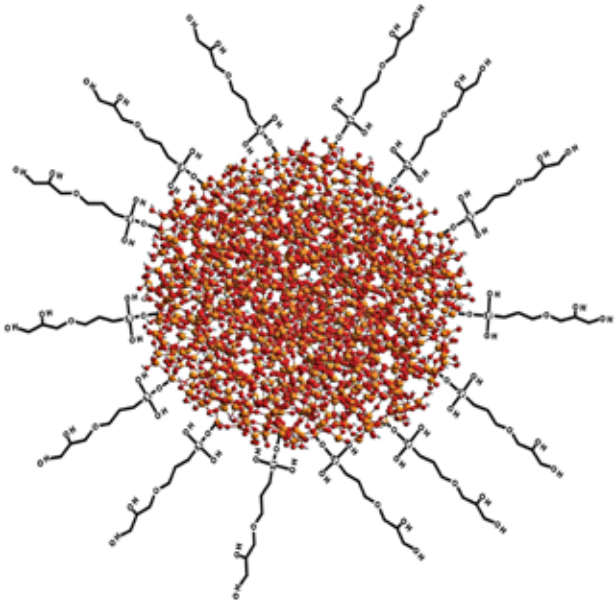
Bindzil CC products are tailor-made and adapted to different areas of application.

Available Bindzil CC products

Epoxy-silane surface modified colloidal silica

- Bindzil CC301 Dp: 7 nm,TS: 30 %
- Bindzil CC302 (high silane) Dp: 7 nm, TS: 30 %
- Bindzil CC401 Dp: 12 nm, TS: 40 %
- Bindzil CC151 Dp: 5 nm, TS: 15 %
- Bindzil CC151 HS (high sodium) Dp: 5 nm, TS: 15 %



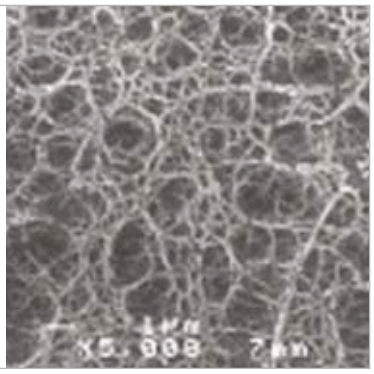


Silane modified silica particle for improved shelf life in all water borne resin formulations

Enhancement of Mechanical Properties – Silica Skeleton

- Increased hardness
- Increased abrasion resistance
- Improved anti-blocking

How it works: Three-dimensional silica skeleton.



Applications

Hardness

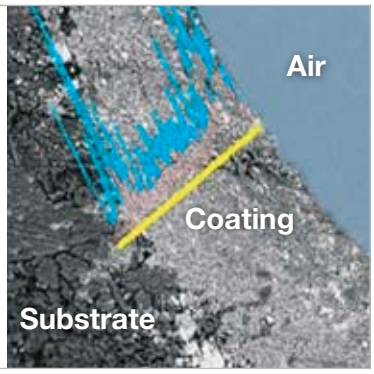
Abrasion resistance

Anti-blocking

Enhancement of Wetting Properties – Interaction with Substrates

- Improved wood penetration
- Improved adhesion
- Improved corrosion resistance
- Pigment dispersant

How it works: Silica level in blue. Enrichment at interfaces.

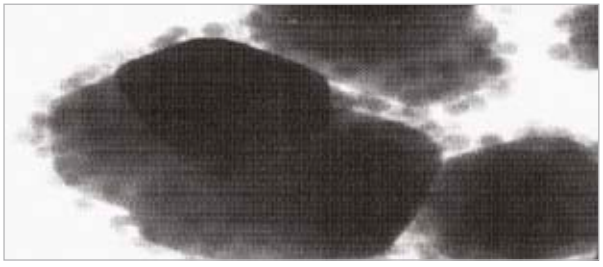


Applications

Wood penetration and anfeurung

Adhesion

Pigment dispersant



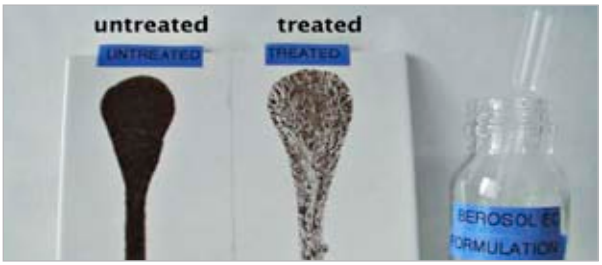
Change of Surface Properties – Hydrophilic/ Hydrophobic Balance

- Reduced dirt pick-up
- Anti-soil/hydrophilisation
- Improved printability

How it works: Silica on substrate, AMF study.

Applications

Anti-soil/hydrophilization



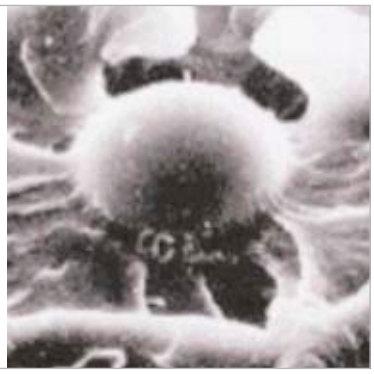
Reduced dirt pick-up

Improved printability

Cross-Linker in Polymers, Resins and Plastics – Polycondensation and Polyaddition Reactions

- Improved mechanical properties, e.g. improved hardness
- Improved heat resistance

How it works: Silica in polymer matrix.



Applications

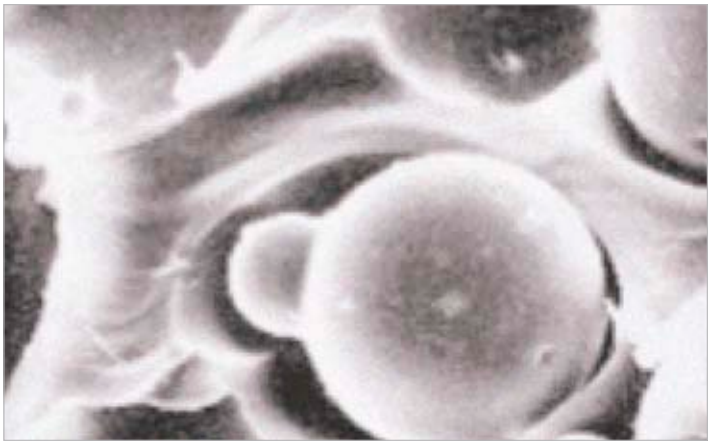
Hardness

Heat resistance

Scratch resistance

Organo-functional groups

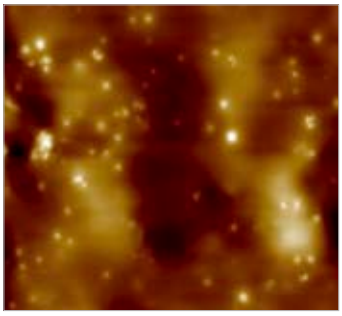
Coupling reaction silica with binder resin

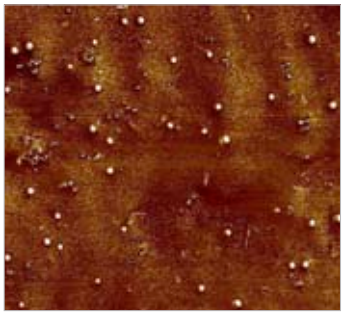


No silane treatment

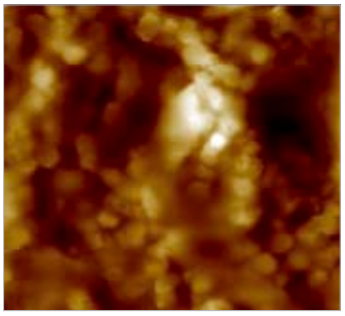
Silane treatment

Silica surface modifier for paints, AFM study





Tinting base



Tinting base with Bindzil CC postadded

Health, safety and environment
Bindzil Colloidal Silica Dispersions contain no classified raw materials. Before handling the material, read the corresponding Material Safety Data Sheet for health, safety and environmental information.
All Bindzil products are approved in accordance with EU directives both for direct and indirect food contact.

Further Information
For more detailed product information, please refer to the separate product guide. For samples, technical service and further information, please contact your nearest office, visit our website at www.colloidalsilica.com, or send an e-mail to colloidalsilica@akzonobel.com

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