

The Global Market for Sol-Gel Nanocoatings 2020-2030

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Abstracts

Organic/inorganic hybrid coatings prepared via the sol–gel process have garnered considerable research and commercial interest for application on glass, metallic and polymeric substrates .

The sol-gel process is considered attractive due to simple processing and relative low-cost, resulting in the creation of multi-functional, protective surfaces. This is due to the unique structure and properties of silica-based coatings and of hybrid inorganic-organic silicas in particular.

Enhanced coatings and surfaces obtained via this low-temperature route display a large range of bulk and surface properties that can be tailored by specific applications. The versatility of sol-gel coatings has enabled solutions in industries such as electronics, optics, solar energy harvesting, aerospace, automotive engineering, marine protection, textiles and healthcare. The sol-gel method also allows for control of the synthesis of multifunctional hybrid materials, where the organic, inorganic and, in some cases, biological precursors and polymers are mixed at a nanometer scale.

Properties that can be achieved with sol-gel coatings include:

Hydrophobic surfaces;

Anti-fingerprinting;

Oleophobic surfaces;

Anti-microbial surfaces;

Easy to clean surfaces;

Protective transparent coatings;

Corrosion resistance;

Low friction;

Chemical resistance;

Free of fluoropolymers;

Antistatic surfaces;

Conducting/semi-conducting surfaces;

Extreme mechanical wear resistant properties;

UV protection.

End user markets include:

construction (pipes, facades, bridges)

automotive (paint surface treatments, metal parts, metal structures, window, mirrors and lamps, plastic hoods)

marine

electronics (components, screens and displays, plastic and metal parts)

sanitary

oil and gas (pipes)

energy (wind power structures and blades glass surfaces on solar panels)

paper coatings.

food manufacturing.

cookware.

Report contents include:

Comprehensive quantitative data and forecasts for the global sol-gel coatings market.

Qualitative insight and perspective on the current market and future trends in end user markets.

End user market analysis and technology timelines.

Tables illustrating market size and by end user demand.

Full company profiles of sol-gel coatings application developers including technology descriptions, products, contact details, and end user markets.

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