

The Global Market for Hydrophobic, Superhydrophobic, Oleophobic and Omniphobic Coatings 2023-2033

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Abstracts

There has been increased recent commercial activity in hydrophobic, superhydrophobic, oleophobic and omniphobic coatings that demonstrate the ability to shed fluids quickly off of surfaces. The market is large and growing. Hydrophobic coatings are commercially available and durable. Superhydrophobic sprays applied by the consumer are available in a number of markets including textiles and architectural coatings. The market also expanded over the few years in markets such as packaging, aerospace and especially electronics (for waterproofing). Automotive companies including Tesla, Ford, Volvo, GM and Jaguar have product development initiatives.

These coatings are typically characterized by very high water and oil contact angles and are applied to a wide variety of surfaces and substrates, imparting anti-fingerprint, anti-soil, anti-fouling, self-cleaning, anti-icing, anti-microbial, easy-to-clean and anti-corrosion properties. Other properties that have been incorporated include transparency and colour, anisotropy, reversibility, flexibility and breathability (moisture vapor transfer). Superhydrophobic coatings incorporating antimicrobial additives can protect various indoor surfaces, such as fabric seats, carpeting, leather and vinyl, with just a single coat. These products are safe, odorless, and easy to apply with a hand sprayer. Hydrophobic, superhydrophobic, oleophobic and omniphobic coatings offer a multitude of industrial benefits including:

Consumer electronics

Anti-fingerprint coatings for optical surfaces such as displays and touch panels.

Coatings that self-clean themselves from contamination by fingerprints, greasy

smudges, makeup and other natural oils that are otherwise difficult to remove and which significantly deteriorate the view and appearance.

Hydrophobic and oleophobic precision optics.

Encapsulation of moisture- and oxygen-sensitive electronics, such as OLED (organic light emitting device) lighting and displays, quantum dot films, photovoltaics, and flexible electronics.

Printed circuit board and semiconductor packaging.

Interior surfaces

Anti-smudge and non-stick stainless steel components.

Coatings for household appliances and surfaces to prevent mould, fight bacteria and hide fingerprints.

Buildings

Dirt resistant and anti-soiling (glass, ceramics, metal) coatings.

Waterproof coatings for wood, stone, concrete and lacquer.

Protection against graffiti.

Consumer products

Anti-smudge coatings for eyeglasses.

Textiles

Waterproof textiles and leather.

Stain resistant fabrics.

Medical and healthcare

Biocidal hydrophobic coatings.

Anti-microbial coatings for use in hospitals where the potential spread of bacterial infections creates a hazard.

Aerospace

Ice adhesion barriers.

Window panels in aircraft.

Automotive and transportation

Anti-fogging and self-cleaning glass.

Anti-stain and self-cleaning textiles in public transport.

Easy-to-clean and self-cleaning treatments for vehicle windscreens, headlights and wheel rims.

Marine

Anti-icing coatings on ship structures.

Bio-fouling prevention through super repellent, slippery surfaces.

Plastics

Plastic with superior properties – weather resistant and hydrophobic.

This report covers:

Market segmentation.

Existing and new technology solutions.

Recent industry activity.

Market drivers and trends.

Applications by market.

Global revenues, by market and applications, historical and forecasted to 2033.

>150 company profiles. Companies profiled include Aculon, Biocoat, Inc., Dropwise Technologies, Integricote, Surfactis, Tata Steel etc.

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