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NANO COATING: ADVANCED PROTECTIVE AND FUNCTIONAL SURFACE TECHNOLOGY

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Abstract:

Nano coating technology involves the application of ultra-thin layers at the nanoscale to enhance surface properties such as durability, corrosion resistance, water repellency, and self-cleaning capabilities. These coatings, often composed of nanoparticles or nanostructured materials, create protective barriers that improve performance in various industries, including automotive, healthcare, electronics, and construction. By modifying surface characteristics at the molecular level, nano coatings offer superior adhesion, transparency, and long-lasting effects compared to traditional coatings. This paper explores the principles, types, applications, and future prospects of nano coating technology, emphasizing its role in advancing material science and industrial innovation.

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