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Trade Service Corporation

Nano-Technology-Based Water-Borne Pure Inorganic Coating Agents

As part of the skyrocketing global awareness of environmental concerns, Japan has declared that it will achieve carbon neutrality and zero greenhouse gas (GHG) emissions by 2050. Many Japanese government bodies are now banning numerous environmentally harmful chemicals to achieve this milestone. These bans also cover organic coating substances traditionally used to safeguard and increase the longevity of many industrial and medical equipment. Many companies are now shifting to water-based inorganic alternatives that have a lower environmental impact and do not contain organic solvents. Pushing the envelope in this regard is Trade Service Corp.

Trade Service has developed nano-technology-based, water-borne, pure, inorganic coating agents AD Tech coat, which uses silicon dioxide as the main ingredient and water as the solvent. AD Tech only requires water or a minimal amount of neutral detergent to remove dirt. The coat mitigates the harmful effects of organic paint while enhancing the performance of coated products and the business's corporate social responsibility initiatives. According to an evaluation by an international company, Trade Service's nano-technology-based paint can tackle various concerns, like transparency, haze, and fouling of the coated glass. The company's AD Tech coating agents are widely used on solar panels, glass curtains in high-rise buildings, buses, trains, and other public transport windows, among other industries.

The application of AD Tech on solar panels significantly reduces contamination by dust and particulate matter due to its anti-static effect. Add to that the coating's ability to be cleaned by rainfall, AD Tech coat also facilitates notable power generation improvement compared to conventional coating agents in snowy areas. "In case of AD Tech-coated solar panels, snow melts and slips off when the panel surface temperature rises above zero degrees Celsius while it does not on uncoated panels," says Katsumi Kishimoto, CEO of Trade Service Corp. This competency contributes to the volume of power generated and offers longer power generation time.




Katsumi Kishimoto
CEO

Similarly, AD Tech can protect glass curtains from dust. In some cases, cleaning the glass in high buildings may cost as much as 100 million yen per year, as most glass staining agents are atmospheric contaminants that adhere to the glass by static electricity. A water-borne, inorganic coating agent with an anti-static effect counters this issue.

However, most anti-static paints are organic materials unsuitable for coating exterior surfaces because ultraviolet rays can cause discoloration, deterioration, and fading. The water-borne, purely inorganic AD Tech paint can show a similar anti-static effect and lowers maintenance costs by reducing the adhesion of dirt and making the glass less susceptible to environmental impacts.

Adjacently, Trade Service Corp. has also developed the COSMO COAT that uses several ceramics compounds and water as the solvent. COSMO COAT is an alternative technology that compensates for the disadvantage of thermal spraying with short-term work and low cost. The COSMO COAT is mainly a heat resistance coating agent to protect high-temperature furnaces and enables significant cost savings by minimizing the need for industrial furnace maintenance. COSMO COAT is suitable for numerous industrial applications. It is predominantly used for coating the thermal coupling, gasification, and melting furnaces, protecting water-cooling walls of garbage incinerators and biomass plants and preventing corrosion of steam pipes at thermal power plants. It also has potential future applications in turbines, airplane engines, and blades.

Trade Service Corp. will continue highlighting the benefits of its innovative coating formula by accumulating more real-life use cases in the current market, where water-borne inorganic coating agents are gradually gaining mass recognition. The company is also focused on contributing to global conservation by reducing environmental burdens with its upcoming line of inorganic coating materials. With such an innovation- and sustainability-driven roadmap, Trade Service Corp. is set to create a sustainable and safer environment for humankind. 

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