WHAT ARE POWDER COATINGS?

Representing over 26 percent of the original equipment manufacturer (OEM) industry market, powder coatings are a pigmented coating system that use little to no solvents and are cured to create a high quality, durable finish. Due to their durability, powder coatings are a very popular coating system choice, noted by the U.S. Environmental Protection Agency (EPA) as a sustainable coating option.

Specifically, powder coatings are polymer resin systems, combined with curatives, pigments, leveling agents and other additives that have been well mixed and ground into a powder. The powder is then applied to a substrate using an electrostatic spray deposition (ESD) technique. The powder is then cured at a high temperature to form a very durable coating.

These types of coatings can be applied to a variety of products and substrates including metal, plastic and medium density fiberboard. Powder coatings do not use a solvent and therefore emit no volatile organic compounds (VOC) into the atmosphere. Whether it's being used as a functional or decorative coating, powder coatings are available in a large range of colors and textures and have excellent performance qualities.

— U.S. Environmental Protection Agency, “EPA Clean Lines: Strategies for Reducing Your Environmental Footprint; Surface Coating Operations”

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POWDER COATINGS AND SUSTAINABILITY

Powder coatings are considered a sustainable product due to their low carbon footprint and minimal environmental impact, cost effectiveness, and limited waste. By design, these types of coatings emit virtually no hazardous air pollutants (HAPS) and/or VOCs into the atmosphere due to the lack of solvent. The coatings are mainly applied indoors, where any additional coating that did not adhere to the substrate is collected and reused. This eliminates the need for expensive hazardous waste disposal systems and equipment. Moreover, unlike some liquid paint systems, powder coatings typically only require the application of one coat.

Powder coated products are extremely durable and can withstand extreme weather, UV-light exposure, moisture, and erosion. The hardness that powder coatings provide maximizes longevity of the product being coated, provides better corrosion protection, and does not require frequent reapplication, making the product itself viable for longer and lowering maintenance costs. Overall, this means that less product — and therefore, less energy — is used to provide products with functional, attractive coatings.

The U.S. Environmental Protection Agency (EPA) cites powder coatings as a sustainable coating option and they also can satisfy sustainable building standards and codes, including U.S. Green Building Council LEED v4. Overall, powder coatings are a cost-effective, environmentally friendly coating system option that provide a beautiful, durable coating to a variety of products.

Mercury Marine is the world’s largest producer of recreational outboard motors, and their iconic Phantom Black engines are recognized around the world for not only their performance, but also the high-gloss black that holds up extremely well to harsh marine environments. The use of powder coatings at Mercury facilities date back to the mid-1990s at the plant in Stillwater, OK. The powder coating formulation that eventually went into production for the Mercury outboard motors was developed and tested over a period of about five years. It is the responsibility of the coating engineers and manufacturing personnel to provide the consumer with a coating system that will continue to deliver those stunning characteristics for the life of the product.