Anodizing, Painting, or Powder Coating: Which is Best?

Whether you’re looking to protect a metal roof, storefront sign, or a component’s enclosure, adding an extra layer of protection in the form of anodizing, paint, or powder coating can go a long way to ensuring your surface’s lifespan for years to come. There are some key differences between the various methods and some are better suited to some applications than others. Here’s how to choose which is best for your project.
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**Benefits of Anodizing**

Anodizing is an electrochemical process that binds a layer of aluminum oxide to the surface of the metal in question. A thicker layer of anodic coating means a substantially longer lifespan, with the longevity being proportional to the thickness of the layer.

Aluminum oxide carries with it many benefits. Its hardness, durability, and resilience to inclement weather conditions protects the metal from corrosion and wear. Since the protective layer is fused electrochemically, it's relatively easy to change the color tone during application. And since it's actually part of the metal itself, anodic coating won’t chip, peel, or flake like paint or other organic coatings.

**Benefits of Painting/Powder Coating**

Painting and powder coating are both organic coating processes, meaning they'll be more susceptible to wear and tear by natural means. Sunlight, moisture, and oxidation are all possible over long periods of time, as are physical defects such as flaking or peeling. Both are typically made from the same base resin and will have similar physical and protective characteristics depending on the application.

Powder coating is more environmentally friendly than traditional liquid painting due to the powders being cured in an oven and therefore emitting zero VOCs. However, in the case of large orders, this can slow down production as the ovens may only cure a select number of components per session. The upside is the seemingly limitless number of color combinations available for use with paint or powder coating and ease of small batch mixes.
For more information about available protective coatings for your enclosure, front panel, or custom machine part, visit this page or contact Front Panel Express today.

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