

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.



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.

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.

Want to get an estimate on a part or front panel? [Download Front Panel Designer](#) for free by clicking here.

 08/08/2015

[Tweet](#)

[« Tips for Faster Part Machining Beyond Front Panels: Other Important Products We Can Create »](#)

Recent Posts

04/18/2016

Designing Component Enclosures with the Elements in Mind - A Complete Guide

[\[read more\]](#)

03/16/2016

Bumping and Shaking? How to Protect Your Enclosure from Vibration

[\[read more\]](#)

03/10/2016

Musicians: Create a Unique Sound with a Custom Effects Pedal!

[\[read more\]](#)

02/26/2016

Why Enclosure Cooling Systems Fail and How to Prevent It: Part 1

[\[read more\]](#)

02/16/2016

3 Ways to Better Customize Your Enclosure Design

[\[read more\]](#)

02/10/2016

Preventing Condensation in Electrical Enclosures

[\[read more\]](#)

02/04/2016

Audiophiles: Build Your Own Hi-Fi Amp with Front Panel Express!

[\[read more\]](#)

01/27/2016

Building Enclosures for Solar Energy - The Basics

[\[read more\]](#)

01/21/2016

NEMA Standards for Electrical Enclosures - What You Need to Know

[\[read more\]](#)

01/13/2016

3 Ways Active Cooling Protects Your Investment

[\[read more\]](#)

01/13/2016

Explaining Electromagnetic Compatibility as it Relates to Enclosures

[\[read more\]](#)

01/13/2016

4 Thermal Hazards in Control Panels and How to Prevent Them

[\[read more\]](#)

12/23/2015

3 New Year's Resolutions for Inventors in 2016

[\[read more\]](#)

12/17/2015

4 Great Gift Ideas for the Inventor in Your Life

[\[read more\]](#)

12/09/2015

Steel vs. Aluminum: Which is Best for Your Project?

[\[read more\]](#)

11/24/2015

Announcing Our Black Friday and Cyber Monday Specials!

[\[read more\]](#)

11/19/2015

Reducing Time and Cost by Modifying Enclosures to Your Custom Design

[\[read more\]](#)

11/12/2015

How to Build a Cheap Custom PC Case

[\[read more\]](#)

11/04/2015

Getting Started Designing Your First Enclosure

[\[read more\]](#)

10/28/2015

3 Reasons Why Front Panel Designer is Essential for Students

[\[read more\]](#)

10/15/2015

5 Ways to Improve Your Office Aesthetics and Boost Appeal

[\[read more\]](#)

10/12/2015

How Internal Temperature Affects Component Life

[\[read more\]](#)

09/30/2015

Choosing the Right Material for Your Component Enclosures - Part 2

[\[read more\]](#)

09/23/2015

Choosing the Right Material for Your Component Enclosures - Part 1

[\[read more\]](#)

09/17/2015

The Benefits of Producing Engraved Signs with High Speed Milling

[\[read more\]](#)

09/11/2015

High-Speed Machining vs. High-Efficiency Machining

[\[read more\]](#)

08/25/2015

Thread Milling vs. Tapping - The Benefits of Both

[\[read more\]](#)

08/18/2015

As Simple as 1-2-3: Going Step-by-Step Through Our Process

[\[read more\]](#)

08/14/2015

Tips for Faster Part Machining

[\[read more\]](#)

08/08/2015

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

[\[read more\]](#)

07/25/2015

Beyond Front Panels: Other Important Products We Can Create

[\[read more\]](#)

07/18/2015

Myths About Chatter: What's Really Causing Machining Vibrations?

[\[read more\]](#)

07/11/2015

Why Anodizing is Important

[\[read more\]](#)

06/20/2015

How Front Panel Express Supports Innovators and Inventors

[\[read more\]](#)

06/13/2015

3 Ways a Custom Enclosure Improves Your Project

[\[read more\]](#)

06/06/2015

The Benefits of Using Powder-Coated Aluminum

[\[read more\]](#)

05/30/2015

The Benefits of Our Automated Design Process

[\[read more\]](#)

05/23/2015

3 Reasons Why Front Panel Express Uses Vertical Machining

[\[read more\]](#)

05/19/2015

Explaining the Benefits of High-Speed Machining

[\[read more\]](#)

05/05/2015

5 Benefits of Outsourcing Machine Part Production

[\[read more\]](#)

04/27/2015

Plastic vs. Aluminum: Which Material is Best for Your Sign?

[\[read more\]](#)

04/23/2015

How to Build Your Own Front Panel in 3 Easy Steps

[\[read more\]](#)