



## **What is PVD, and When Do I Need it?**

*Frequently asked questions about PVD coatings -- what you need to know to determine when and where this durable finish is required for your product or application.*

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Physical Vapor Deposition (PVD) is an extremely thin, dense coating that resists wear and discoloration to significantly improve a plated product's durability.

PVD is an environmentally friendly vacuum coating process that provides bright and durable finishes on a wide variety of consumer and industrial components.

### **What types of products typically utilize a PVD coating?**

PVD is used on products that undergo excessive wear and require extra durability and corrosion resistance, including household appliances, plumbing fixtures and hardware.

Also, components that face tough external conditions but must remain attractive frequently incorporate a PVD coating, such as automotive trim and marine fittings.

### **What materials can be coated with PVD?**

Any substrate that is electroplated with nickel and chromium can be PVD coated. The most common are brass, zinc and ABS plastic.

The effectiveness of the PVD process depends on the base material and the quality of the chrome plating onto which the PVD is deposited.

Decorative PVD finishes cannot be deposited directly onto zinc, steel or plastic substrates without discoloration.

**What exactly is the PVD process?**

The process involves the deposition of zirconium nitride, titanium nitride or other metallic ion combinations under low vacuum conditions.

**How thick is the coating?**

The coating applied by MPC is typically extremely thin, about .05 microns. This thickness provides adequate protection and durability.

**Do I need a clear coat with PVD?**

No. No clear coat protection is required when a PVD finish is used.

**Can I match a specific color if I select PVD?**

PVD colors can be matched to meet your requirements, regardless of the substrate material – provided the chrome plating below the PVD is applied with the proper controls.

PVD colors range from 24K gold to dark brass. Metal and plastic components can be matched to assure uniform product color.

**Can I achieve different surface finishes?**

Your PVD finish depends upon the surface finish of your product. A polished or mirror surface will produce polished PVD finishes; brushed or satin surfaces will produce satin or matt PVD finishes.

**Does PVD mask imperfections in the surface?**

No. This process does not fill in or level out the surface, as electroplating sometimes does. Surface imperfections will remain visible after PVD coating is applied.

**What are the real benefits of PVD?**

PVD finishes add beauty to the finished piece, so it's used frequently in decorative products. More importantly, it provides exceptional corrosion resistance for high-humidity applications, and guards against chipping, fading or tarnishing.