

POWDER COATED WOOD

THE FREEDOM OF DESIGN OFFERING BOTH FORM AND FUNCTION

IT'S GREEN AND IT'S DURABLE!

BY CRAIG MARTIN

The design industry has always had to compromise with the trade-off between form vs. function. Advancements in powder coated wood finishes make it possible to have the best of form *and* function. It is now possible to use more shapes and contoured profile edges in designs, blending this with the functional benefits of a very durable powder coated finish. Powder coated wood has the look and shape that designers and architects can use to create unique designs without the limitations of many other surfaces. An added benefit which has catapulted a huge increase in demand is the environmental benefits associated with powder coated wood.

Powder coated wood finishes have improved greatly in the past year since smooth high quality finishes are now possible when combining the highest quality materials, using sophisticated technology in the powder application process, craftsmanship expertise of the technologically advanced powder application systems and CNC machining processes. The only drawback is that this high quality finish is not easily done, so it takes considerable investment and years of experience to achieve this level of quality.

A sophisticated and technologically advanced wood powder coater can produce the highest quality finish. Often it is hard to see the difference between a powder coated finish vs. a four coat liquid finish. Powder coated wood finish is far more durable than a liquid finish- and the powder coated wood finish is like a liquid finish on steroids. The coating is very strong and durable. In addition, powder coated wood finishes are usually 6-7 mils thick which makes it a much thicker and tougher alternative to a liquid finish.

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THE PROCESS

The powder coating process requires an electrostatic charge for the powder to attract to the wood while using a premium grade MDF. This electrostatic charge is created by heating the wood to bring the moisture content to the surface, since it is this moisture that serves as the electrostatic conductor. The adhesion of the powder to the board is so strong that to remove the powder finish from the board it is likely the MDF board substrate will chip off before the powder will chip away from the MDF.

This process requires technical expertise, highest quality MDF and powders, and powder application equipment that is often custom designed specifically for wood powder coating. One of the challenges for powder coating wood is the lack of natural electrical conductivity. Controlling the moisture content in the MDF is critical; the process of heating up the board to bring the moisture to the surface has to be

a very exacting science. Using too much heat will dry out the moisture and too little will not bring enough moisture to the surface. There are several variables which determine the best way to bring the moisture to the surface yet there is no one size fits all recipe for achieving this. This is where the expertise acquired from experience and research becomes critical to achieve the highest quality coating, consistently. It is also important to keep your scrap ratio minimal so the expertise also helps the bottom line.

FREEDOM OF DESIGN- ELEGANT CURVILINEAR SHAPES AND PROFILES

Elegant edge profiles, raised panel shapes, intricate detailing, cut-outs, embossed logos, or contoured surfaces are some of the many design options of powder coated wood. One of the great features of being able to use custom shapes is a very upscale appearance at very little cost compared to other alternative finishes.



Powder coated wood does not have the restriction in shapes and profiles that some laminates have since there is no edge banding.

Powder coated wood offers the same benefits unlimited design and shapes of liquid paints at a lower cost and much more durable which laminates and melamine's can not offer due to the limitations of shapes required for edge banding.

The seamless finish also provides for a more upscale appearance while providing a solid surface appearance. Plus this seamless finish does not have the warranty or defect issues that can occur from chipped edge banding or the peeling or separation at the seams with thermofoils.

POWDER COLORS AND TEXTURES ARE UNLIMITED

Rich elegant colors are unlimited, for example it is possible to have any shade of white in glosses ranging from 5° - 70°, from very smooth finishes to a wide range of textures. Or if you like bright, brilliant colors like the rainbow, then powder coated wood is just right for you. If its RAL or PMS colors you want, then just spec it out and it can be custom formulated. If you have a sample laminate, wall paper, or fabric swatch that you want to match, most likely it can be exactly matched to give you a color coordinated look that can be carried throughout your project.

Metallic colors can be very brilliant or matte-silver, black chrome, gold, or copper, platinum, brass, or many other hues. There are many multi-component colors using metallic's, such as silver veined or bronze veined which provide a combination of metallic color with a second color such as silver veined which uses both silver and black finish appearance.

Stains can offer a warm and attractive finish, such as cherry, mahogany, or maple. Or just make up a stain that you like and most likely powder coated wood can give you that look in a finish that is more durable than liquid.

Multi-colors allow for a combination of powder colors, such as a spackled looked of black,

white and grey or any other combination of colors to give you a multi colored appearance. Perhaps you like the look of solid surface granite, well you can have it and better yet you can get it in a smooth or textured finish depending upon the look you want to achieve. How about the look of slate, do you want it in blue, black, grey or just make up a finish that can truly be customized to your brand or preference.

There is a wide range of gloss levels from a matte finish tot a high gloss, such as a high gloss black that looks like a baby grand piano. As far as finishes, you can get it in smooth, microtexture which comes in a variety of texture depths, wrinkled, veined, or just make up a finish.

GREEN FRIENDLY AND HEALTHY LIFESTYLE

The powder coating wood process is environmentally responsible since the powder coating wood process has no VOC's or dangerous chemicals, as a matter of fact there are no

environmental permits required for powder coating wood so the application process is very environmentally responsible.

The materials are very green friendly. Sierra Pine Permacore MDF is designed specifically for powder coating using 100% recycled wood fiber. PermaCore has LEED credit support: MR 4.1, 4.2, 5.1, 5.2 with Third party certification – SCS with no added formaldehyde.

Also, powder coated wood can offer a healthy lifestyle benefit using antimicrobial additives from DuPont which will can remove 99.9% of the surface bacteria, plus since this finish is seamless there are no crevices for bacteria to hide and foster. This is a great product for health care, day care, schools or any environment where bacteria can be a threat.

DECORATING TREND OF THE FUTURE

Sleekly designed painted finishes are becoming vogue as one of designers most recent fashion trends. Architects, designers, and decorators are using powder coated wood to create this painted finish a popular fashion trend. Powder coated wood is projected to grow rapidly over the next five years and this growth will largely be due to the dramatic improvement in the finish appearance, finish performance and the rapidly growing interest in being Green responsible. So now it is possible to have form and function. So now you can have sleek and be durable, so now it is possible to have form and function.



SLEEK, ELEGANT DESIGN IS A GROWING TREND THAT IS WELL SUITED FOR WOOD POWDER COATING.