

# Wood Powder Coating

## THE SLEEPING GIANT OF THE SURFACE FINISHING INDUSTRY

BY CRAIG MARTIN

### A sleeping giant is about to be awakened.

You'll soon discover its cleverly disguised form made of powder-coated wood components featuring many custom shapes with rounded edges and graceful curves in any one of the season's current colors. In fact, this giant could be your favorite color, whatever it happens to be. This giant could be hiding anywhere – in hospitals or medical clinics, board rooms, kitchens, restaurants, hotels, retail stores and in other products that demand high design presentation with a durable, dependable surface.

Traditionally, powder coating has been a widely used surface finish on metal because of its durability, but today is proving itself a high quality, design friendly, environmentally sound technology that offers a limitless source of design creativity on wood.

In recent years, MDF has emerged as the substrate of choice for wood powder coating as several MDF manufacturers have specifically formulated it with low porosity and a homogeneous nature to readily accept the powder, plus it has an eight percent moisture content that makes it ideal as an electrostatic conduc-

tor which is a necessary element of powder coating and perfect for wood powder coating.

Style, versatility, flexibility are current buzzwords for what the consumer is looking for today and this product delivers. Wood powder coating affords designers the option to explore new and different shapes, colors and textures and it responds well to the changing demands of the design-driven savvy consumer. In addition, wood powder coating has seamless edges giving designers the ability to create products with contoured, bull nose and/or waterfall edges and meets these demands with style.

#### SUPERIOR PERFORMANCE

By comparison, wood powder coating is more dependable, durable and is now considered an upscale alternative to traditional overlays such as melamine, laminate, thermofoil or liquid applications. Wood powder-coated finishes meet or exceed most KCMA performance specifications and are an ideal finish for vertical and horizontal surfaces such as cabinetry and countertops.

ABOVE: QUALITY POWDER COATED WOOD REQUIRES STATE-OF-THE-ART TECHNOLOGY. OPPOSITE: POWDER COATED KITCHEN CABINETRY MAKES A BEAUTIFUL STATEMENT. POWDER COATED RAISED-PANEL CABINET DOORS PROVIDE A HIGH QUALITY AND DURABLE FINISH.

As stated earlier, moisture has met its match. A wood powder-coated finish has proven to have long-lasting properties that for even the most intense environments. It will hold up to wet, humid environments, such as health club locker rooms, garages, etc. It can also withstand the extreme temperatures of hot, humid Florida summers or the frigid cold of Alaskan winters. The uniform, seamless coating will not delaminate from the substrate.

#### STATE-OF-THE-ART TECHNOLOGY MAKES IT POSSIBLE

Powder-coated wood finishes have improved greatly in the last couple of years. Powder-coated wood has caught the attention of architects and designers because it creates a visually appealing end product without the seams of laminates or thermofoils. It is so strong it is stain- and moisture-resistant and will not peel or delaminate even under the most challenging of circumstances. Quality wood powder coating requires state-of-the-art technology and experienced technical manufacturing expertise in processing to create the durability and aesthetics that make this so highly desirable.

High quality powder-coated wood finishes require investment in millions of dollars of the most advanced technology and equipment, such as automatic powder application systems. For example, a 15-gun automatic system will provide a much more attractive, consistent and uniform mil coverage than an eight-gun or

hand-sprayed finish. The process of pre-heating and curing the board and powders requires technology with digital controls that offer temperature and moisture controls over exacting surface areas vs. limited controls.

#### GREEN FRIENDLY AND HEALTHY

Wood powder coating is environmentally friendly as the process recaptures and recycles 95 percent of the powder. Plus, the application process poses no environmental hazards. The finished product is also environmentally superior to other finishes and won't negatively impact indoor air quality because it contains no heavy metals or solvents and does not give off-gas HAPs (hazardous air pollutants) or VOCs (volatile organic compounds). Recycled MDF and formaldehyde-free boards are also available. Wood powder coating has become a great alternative to the growing concern of laminate PVC-edge banding and its impending health threats.



#### POWDER-COATED WOOD APPLICATIONS

This is a versatile product that has a wide range of applications, many of which are just now being developed. As a matter of fact, it is expected that in the next several years, powder-coated wood may be the preferred finish in a wide range of applications. Below are just a few of the market niches and applications for this great finish.

**Cabinetry and Countertops.** A high quality finish can only be achieved using the highest quality technology, premium quality MDF, and with skilled craftsmanship and documented process controls designed to produce consistently smooth high-gloss finishes.

Powder-coated wood can be an excellent product for cabinet doors and drawer fronts because it is more durable than wet paint, thermofoil, or laminate finishes. Wood powder-coated components will not delaminate or peel. Plus, because it is moisture and stain resistant, it is a much more durable finish than most other options. It is available in a variety of colors and stain finishes with a host of shapes and styles. In the bathroom, laundry room, garage, commercial buildings, etc. the moisture and stain resistance prove to be a great benefit.

Bathroom vanity tops and serving islands are also great uses for this product. About the only application not recommended would be for kitchen counter tops since it can be vulnerable to knife cuts.





**Health Care.** Patient and waiting rooms in hospitals, doctor's offices and clinics, nursing homes and school nurse offices today are finding the benefits of this product undeniable. For additional protection, there is an antimicrobial additive that is available for the powder that is embedded in the finish which removes 99.9 percent of the bacteria from the surface and provides more than eight years of active benefit.

Bacterial infections are a silent threat in these environments and a finished product that will not crack, peel or delaminate will reduce the effects of bacteria. Plus, it has the added benefit of being seamless, so bacteria cannot infest and spread.

This is a great product for many surfaces in this environment, such as cabinetry and countertops, plus it works great with hospital/clinic furniture, medical cabinets, laboratory surfaces, cafeteria tables, medical products, and a host of other applications limited only by the imagination.



CLOCKWISE, STARTING AT TOP LEFT: HEALTH CARE INSTALLATIONS BENEFIT FROM POWDER COATING'S SEAMLESS EDGES, ANTIMICROBIAL POWDERS AND GREAT CHEMICAL AND STAIN RESISTANCE. THE HOSPITALITY INDUSTRY CLAIMS THESE HEALTHY BENEFITS AS WELL. POWDER-COATED OFFICE FURNITURE INCLUDES CUBE SYSTEMS, CONFERENCE TABLES, AND COMPUTER STATIONS. POWDER-COATED SCHOOL DESKS ARE SEAMLESS, AND WITH ANTIMICROBIAL POWDERS, 99.9 PERCENT OF THE SURFACE BACTERIA IS REMOVED, PROVIDING FOR HEALTHIER CLASSROOMS.

### School and Institutional Applications.

There are endless possibilities for this product in schools ranging from desk tops, computer work stations (certain finishes work great as a mouse pad), lab tops, countertops, plus lockers and doors, and many other custom designed applications to fit each facilities specific need. Plus the flexibility of wood powder coating allows custom design and branding using school colors and logos.

**Hospitality and Lodging.** Powder-coated wood is a great choice for table tops, bed headboards, furniture, built-in cabinetry, bathroom surfaces and many other applications. Wood powder coating currently suits an emerging trend worldwide as several hotel chains now offer an entire floor of "healthy living" rooms that use easy-to-clean wood floors, antimicrobial surfaces, no VOC materials, no laminates

with PVC edge banding, bacteria-free ventilation systems, ductwork that has been treated with antimicrobial powder coatings, and a host of other healthy living elements.

**Office Furniture.** Manufacturers are now offering powder-coated wood components for desks and desk tops, computer work stations, boardroom components, writing tables, office cube system components, cabinetry door and drawer fronts and many other custom applications. Powders used for this market can be formulated to the guidelines of ANSI/BIFMA (American National Standards Institute and the Business and Institutional Furniture Manufacturers Association) standards. Today, many commercial buildings are seeking green-friendly LEED credits by using wood powder-coated components that use recycled MDF and have no VOC's or formaldehyde additives.



### Store Fixtures and Display Applications.

Powder-coated MDF is currently being used in many retail applications ranging from horizontal selling surfaces to vertical cabinetry with decorative finishes. Since this finish allows for embossing it can also be used for brand-building efforts with embossed logos or messages. Retailers enjoy the flexibility in shapes and designs that can be custom designed for specific applications including cutouts for wiring, custom footprints to hold products, business card holders, etc.

A variety of finishes and colors can be specifically matched to complement current laminate finishes for custom color coordination. Retailers benefit because this product can be designed to fit so many different specific merchandising needs.

**Furniture.** Powder-coated wood, due to its construction, is an excellent fit for ready-to-assemble furniture since there are no concerns with edge banding. It works well for children's furniture because of the many fun and unusual shapes that can be created, plus the antimicrobial powders provide for a healthy surface and durable finish. In addition, there are no health concerns with the powders used in wood powder coating so it is very kid-friendly.

Powder-coated wood is also frequently used for electronic cabinets and stands, tables, plus bases for furniture because of its moisture resistance.



### THE FUTURE OF SUPERIOR WOOD FINISHING HAS ARRIVED

Watch as this sleeping giant awakens to the dawn of a relatively new, exciting and expanding industry turning the dream of a superior surface finish into reality. There will be many more applications in the future for this versatile, excellent product as wood powder coaters, powder and MDF manufacturers and technology continue to improve. There are many new methods and processes that are currently being tested that will help this sleeping giant become a major factor in the surface and panel industry.

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TOP OF PAGE: POWDER-COATED MDF OFFERS VERSATILITY FOR STORE FIXTURES AND DISPLAYS. DIRECTLY ABOVE: BABY FURNITURE IS AN EXCELLENT FIT FOR POWDER-COATED WOOD WITH CHILD-FRIENDLY ANTIMICROBIAL POWDERS.