

DOOR PRESS

A Marketing/Communications Publication

Sidelights



By Amanda Paulsen
 Communications Coordinator

VT Industries Architectural Wood Doors will be displayed at various local and national tradeshows during 2006. The national tradeshows include the AIA 2006 National Convention and Design Exposition, and the Door and Hardware Institute (DHI) 2006 31st Annual Conference and Exposition.



This summer, June 8-10th at the Los Angeles Convention Center in Los Angeles, California VT doors will be at the American Institute of Architect (AIA) show. This show is the premier event for architects and building industry professionals.

This fall VT doors will be at the annual DHI show in San Diego, California. The attendees of this show are primarily architectural wood door and hardware distributors.

Lastly, in November, VT doors will be at the U.S. Green Building Council (USGBC) "green" show in Denver, Colorado. This show will feature VT's environmentally friendly products to assist projects with Leadership in Energy and Environmental Design (LEED) certification.

Formica 'Engineered' Wood Veneers Combine Natural Beauty, Fabrication Ease of Laminate

A new collection of 30 "engineered" wood veneers from Formica will make its debut in June, according to Renee Hytry, senior vice president global design.

"This new engineered wood surfacing is laminated to a phenolic backing, offering designers many opportunities to create natural environments with the fabrication ease of high pressure laminate," Hytry noted.

"It looks and feels exactly like real wood because it is real wood, but it's very easy to fabricate into architectural doors," Hytry explained.

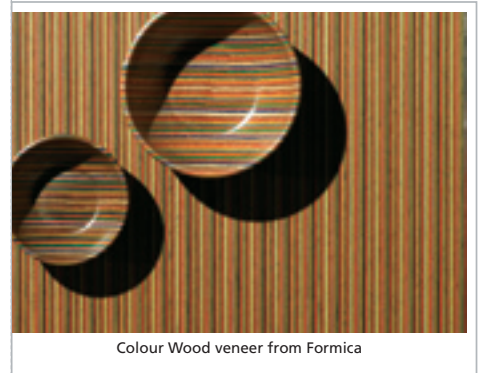
A true veneer

Derived from sustainable forestry practices, Formica Veneer is produced from poplar, obeche, basswood and bamboo. "If you run your hand across the surface you will actually feel the ticking," Hytry said.

"After the veneers come off the tree, they are colored, stacked and pressed into dies to create the graining effect we want,"

she continued. "Then they're re-sliced to look exactly like a ribbonwood, oak or a cherry, so it's uniform from sheet to sheet.

"It offers the beauty of wood with more consistent quality and usability versus



Colour Wood veneer from Formica

conventional veneers. For style and honesty of materials, this product category is ideal for the hospitality industry."

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VT Industries Recalls 50 Years of Changes In Architectural Wood Door Industry



By Roger Clausen

"In those days we didn't have room in the main shop to begin our production of architectural doors, so we rented a chicken house on the east side of town. I'll never forget we had to pull a press down there from town with a truck.

We put planks under the press and slid it on the snow because it was too heavy to lift and we didn't have a forklift, so we slid

it down here on planks like a snow sled." - Roger Clausen, founder of VT Industries

From its inauspicious beginnings nearly a half-century ago, architectural wood door manufacturing at VT Industries has experienced rapid and constant changes under the leadership of company founder Roger Clausen, and his son, Doug, who is current company president and CEO.

In its early days, VT was an Authorized Door Manufacturer under a program sponsored by Formica Corporation. "Back then, our capacity was about 100 doors a week if we were lucky," Roger recalled. "That was the start of the door business and from there it's grown every year since."

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Medium Density Overlay + Opaque Finish = The Perfect Painted Door



By Randy Carpenter
Sales Manager
Northern Region & Canada

When specifying opaque finish (painted) doors for the best result, it's essential to use the optimum materials starting with the substrate. Unfortunately, many designers are unfamiliar with physical characteristics of paint-grade wood veneer that can attribute to less than satisfactory results.

A common problem with paint-grade wood veneer involves the meeting joints between veneer leaves which can spread apart when sealer, primer, or topcoats are applied. This can cause the wood to shrink and swell as the moisture content changes with the ambient conditions.

Natural color variations in paint-grade wood veneer create conditions that may require the application of extra primer coats to achieve a uniform base for the topcoat to finish upon. Without this preparation, the finish coat will have uneven color as the wood grain shows through, causing a lack of consistency in appearance from door to door.

The best substrate

The Architectural Woodwork Institute (AWI) Quality Standards, and the Window and Door Manufacturing

Association (WDMA) both promote Medium Density Overlay (MDO) as the best substrate for opaque finishes.

Available as single piece faces (no joints) in sizes up to four feet wide by ten feet long (4' X 10'), MDO provides a uniform substrate that is free of the natural color variation, splices and wood grain found in paint grade wood veneers. It is available either primed or un-primed.

In the 8th edition of its quality standards, AWI states, "Medium Density Overlay provides the optimum paintable surface for architectural panels and doors. The thermosetting resin overlay is designed to take and hold paint." From both an aesthetic and production perspective, MDO is the material of choice.

Factory finishing

Another component of a perfectly finished opaque door is the finishing process. If any one or more of the variables involving manpower, material, method, machines or the environment are uncontrolled, the outcome of the finish is in doubt and you should be concerned. The obvious choice is to have the doors factory finished where these basic variables are known and controlled.

In the modern factory finishing process, skilled laborers finish hundreds of doors a week in a controlled environment where the temperature is constant, the dust is captured and the lighting is excellent.

Application of the finish doesn't vary from project to project. It is always put on using the same process for every order. The machines are kept in good repair and don't fail due to lack of use or maintenance. And above all, there is no guesswork because tradesmen know how to work with the materials they are finishing.

Increase customer satisfaction by specifying the use MDO substrates and factory finishing for all opaque projects.



Paint Grade Birch



Primed MDO

Stock and Custom Color Matching Goes High Tech

While there's no such thing as a perfect color match, VT's new spectrophotometer and Rexson pigment dispenser give VT a way to color consistently.

"This new system supports the production line and is used for stock and custom colors on our flush wood doors, giving us the ability to quantify color utilizing a Delta E value," according to Al Peine, production manager. Delta E is the difference between a sample color and a reference color.

A spectrophotometer determines the spectral reflectance curve of an object that is illuminated. The light reflected is separated into wavelengths and measured to determine a value. This is similar to the computerized tools at a local hardware store that custom color matches paint.

All of the tints and dyes are programmed into the CNC machine. "The 3x5 sample sent in by a customer is read for stain color as well as the raw wood or substrate material," Peine noted.

After the formula is determined, it is sent electronically to the pigment dispenser. It then dispenses the formula's pigments and stain base within 1/100th of a gram of each ingredient.

As the matching process continues, the system will continue to suggest corrections to the formula to bring the Delta E number to an acceptable range. No pair of samples will have identical color values, and this new system determines color tolerances.

"We still rely on our employees' expertise to fine tune the match," Peine added.

When the nearly perfect match is determined for the sample, the formula is stored for when the doors are going through the production line.



Rexson pigment dispenser

Formica 'Engineered' Wood Veneers Combine Natural Beauty, Fabrication Ease of Laminate

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Choice of finishes

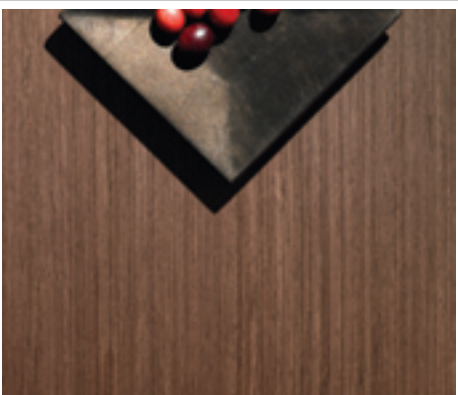
All designs are offered in non-postforming grade with two polyurethane finishes recommended for dry light-duty horizontal or vertical applications:

- Wax (Wx) finish offers a trendy, natural low-sheen surface with subtle ticking to replace a wood or dry wood finish (gloss level of 5+/-3)
- Gloss (Gl) finish is a traditional, sophisticated luster finish with appropriate understated ticking (gloss level of 25+/-5).

Use and care of this product is very similar to high pressure laminate, Hytry reported. The veneer meets industry performance standards for stain resistance and cleanability established by the American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA).

All purpose citrus cleaners are recommended for removing contact adhesive over-spray during fabrication, while neutral cleaners and polishes (pH = 7) perform best for normal cleaning without permanently damaging the veneer.

Hytry cautions against using abrasive cleaners, powders, scouring pads, steel wool, sandpaper, petroleum-based products (e.g., paint thinner, lacquer thinner) and strong acidic or alkaline products which can damage the veneer finish.



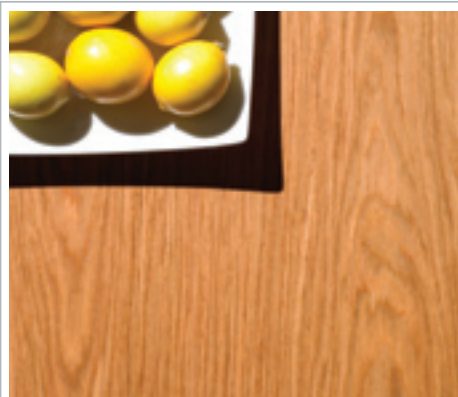
Mocha Striawood

Engineered wood grains

Formica Veneers are available in traditional designs such as maple, cherry and oak, as well as exciting new species like *Zabri Wood*, *White Ice Tree* and *Bombay Bamboo*.

Classic wood layouts with a wax finish are available in traditional designs such as *Authentic Oak* (unstained hand-rubbed red oak in conventional straightgrain wood), *Cathedral Natural Cherry* (flat cut cherry with cathedrals naturalized with highlights of green and red), *Cathedral Oak* (unstained red oak colors with classic cathedral layout) and *Cathedral Walnut* (rich dark brown color with elegant narrow cathedrals).

Seven classic wood grains are offered with a gloss finish including *Grand Mahogany* (traditional deep red in a straightgrain layout), *Cathedral Maple* (pale colored flame cathedral layout sprinkled with small birdseye knots), *Cathedral Birch* (golden color with balanced yet rounded cathedrals), *Cathedral Fruitwood* (light cherry executed with narrow cathedrals and small birdseye knots), *Cathedral Applewood* (soft orange color executed with narrow cathedrals and small birdseye knots) and two *Cathedral Cherry* designs with contrasting rounded cathedrals.



Cathedral Cherry

Exotic species

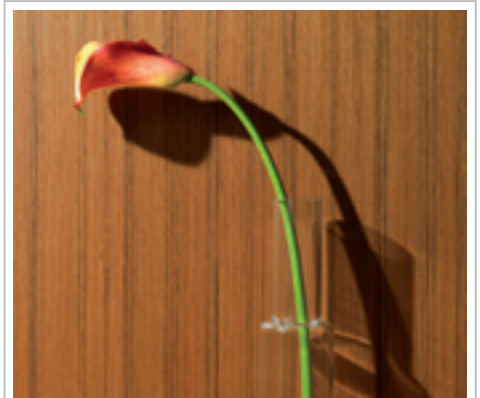
With engineered veneers, it's possible to mimic the look of teakwood, without cutting down rainforests where that species is found. Among the more exotic aesthetics in the collection is a *Colour Wood* veneer made from real wood with a wax finish and very thin stripes of bright yellow, green, blue, red and black.

Another exotic veneer called *White Ice Tree* features an icy pale exotic wood with linear accents of coco brown and a wax finish.

Three exotic straightgrains with a wax finish are *Zabri Wood*, which is honey toned with black zebra stripes;

Indian Ebony, a warm black color with taupe stripes; and *Island Teke*, a rich cinnamon-color with ebony striations.

"Three tropical exotics made of real bamboo are also available to create elegant veneers for environmental interiors," Hytry added. "Our *Bombay Bamboo* is traditional bamboo bleached natural with a wide horizontal cut layout, while our *Flaxen Bamboo* and *Wicker Bamboo* designs are both in thin vertical cut layouts."



Island Teke

Other designs in the collection include:

- **Fineline Series**, composed of very thin architectural striations for a modern wood toned surface with a wax finish, includes *Blond* (light natural maple color), *Pear* (warm mid-tone color) and *Koffee* (dark brown wenge color).
- **Striawood Series**, offers a relaxed naturalized straightgrain with a wax finish in *Maple* (light natural maple color), *Cherry* (medium warm cherry color), *Rum Cherry* (rich red-toned cherry color) and *Mocha* (softened dark walnut brown color).
- **Subtle Birdseye** designs with a gloss finish are available in *Blond* (light natural color) and *Cordial Cherry* (defined with a candy glazed red color).
- **Ribbonwood Series** with a wax finish is available in *Blond* and *Cherry*, featuring a softly planked layout with a wavy fries structure refined and elegant.

VT Industries Recalls 50 Years of Changes In Architectural Wood Door Industry

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Business 'takes off'

As business grew in the early '60s, Roger earned his pilot's license and began making sales calls in a Piper Comanche 250 in order to cover VT's rapidly expanding sales territory. One magazine account explained, "Holstein, Iowa, is not exactly a population center. (Roger) Clausen decided to take to the air in 1962 and extend his area to Canada, the Rockies, the Great Lakes and the Gulf of Mexico."

Roger wasn't the only pilot at VT. Two other sales people covered their territories by plane. "We used an airplane to go out and pick up customers and bring them in to Holstein to show them what we could do for them," Roger noted. "The use of an airplane is still very important in our business today."

By 1964, the door manufacturing operation had changed its name to VT Industries and relocated to a new 55,000-square-foot plant that has continued to expand over the years with major investments in new technology. One trade magazine observed, "From its inception, VT has been a pioneer in the panel processing and laminating industry combining progressive production methods with creative product design and marketing."

'High tech revolution'

Steady growth throughout the '70s and '80s made VT the largest

manufacturer of high pressure decorative laminate wood doors in the industry. Among the company's key customers during this period was the Hospital Corporation of America (HCA) which was experiencing rapid expansion. "In the early '80s, we made major investments in new door manufacturing equipment to upgrade our capabilities and HCA provided much of the impetus for that to happen," Doug Clausen recalled.

In 1992, an article in *Millwork Manufacturing* magazine reported: "The secret to VT's success is found in the company's philosophy that to grow, a company must continually search for new methods to improve the quality of its products and services. The company's high tech revolution began in 1982 when it revamped its door plant with trimmers, edgcutting and edgebanding machines, hot presses and material handling equipment imported from Germany and Italy. In 1987, VT installed a door core composer. In 1990 they added a U.V. cured flat finishing line. In 1991 the firm installed a computerized NC controlled architectural door processing line."

By the mid-'80s, VT had expanded into the wood veneer segment of the marketplace and by the late '80s had switched from a 7-ply to 5-ply door construction. According to Doug Clausen, "We made the decision that to be at the high end of

the architectural door business, we had to get into 5-ply construction. We feel that we've developed the most automated facility in North America, which has allowed us to improve quality, service and the production levels necessary to meet our customers' demands."



In 1989, an article appearing in a quarterly publication of the woodworking industry, *Stiles Online*, proclaimed: "Today, VT has one of the most highly automated door production facilities to be found anywhere." Three years later, the Woodworking Machinery Importer Association named VT Industries its "1992 Innovator of the Year."

Evolving doors

From the early '60s to present day, VT architectural wood doors have evolved to provide a wide range of performance features and aesthetic enhancements. Industry requirements for fire safety, sound dampening, security ratings and environmental considerations led to ongoing improvements in materials and new construction techniques.

The growing demand for environmentally responsible building products has also had an impact on the architectural door industry. VT was the first manufacturer in the wood door industry to use structural composite lumber (SCL) as a stile and rail material. The company played an integral role in the acceptance of SCL by the Window and Door Manufacturers Association (WDMA) as an approved hardwood material for stiles, rails and

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Light and Oxidation effects on Wood



By Tom Hoffert
Technical Development Manager

For total appreciation of wood, it is important to keep in mind that no two pieces are identical. Wood varies in color and grain from tree to tree and between pieces within a tree. These characteristics enhance the beauty and interest of wood.

Due to a natural photosynthesis process caused by light (natural and artificial) and oxidation, all wood will change in color over a period of time. Some species are more light sensitive than others, such as cherry, mahogany, walnut and teak. These species will readily mellow and darken when subjected to light.

Because of this fact, it is recommended by the wood door industry that during the storage and jobsite staging process the entire door surface be covered and protected from light exposure to avoid discoloration that occurs when doors are left unprotected. This effect is sometimes referred to as a sunburn effect caused by exposure to natural sunlight, however it can also occur with exposure to artificial light.

No finish system can totally suppress these color changes caused by light exposure.

The photo (on top) shows mahogany veneer with a clear finish while the other image (at right) is a cherry veneer that is unfinished. Both have been exposed to intense artificial lighting for only 8 hours. The VT logo is the area that was exposed.



Mahogany Veneer with Clear Finish



Cherry Veneer Unfinished



New STC 45 Doors Are Now Available

VT Industries now offers a sound attenuation core STC 45 architectural wood door with a 20-minute fire rating for single doors up to 4-0 x 8-0.

These doors feature 5-ply construction including matching edges with wood veneer or high pressure decorative laminate (HPDL) face material.

The door types for these new STC doors from VT Industries are 5550 for non rated wood veneer, 5P50 for positive pressure and negative pressure 20-minute doors, 1250 for non rated HPDL and 1P50 for positive pressure and negative pressure 20-minute doors.

VT Industries Recalls 50 Years of Change In Architectural Wood Door Industry

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Doug Clausen

core material in lieu of stave or particleboard core. SCL is manufactured using state-of-the-art technologies which allow for complete utilization of the natural resource.

"We are always looking at new products to enhance our product design," Doug Clausen explained. "One of the areas that we are working on is to reduce the formaldehyde that is inherent in some of the substrates that we use. We now offer doors made from agrifiber cores manufactured from materials such as wheat straw, soybean straw and sunflower hulls bonded together with urea formaldehyde-free resins."

A continuing commitment

In spite of all the changes that have occurred in recent years, VT Industries continues to operate under the same business fundamentals established in 1956 by Roger Clausen and echoed by Doug Clausen today: "First, the key to our continued growth is to listen to

our customers and provide them with the products and services they need to be successful with their customers. The continued focus of our company for the foreseeable future is what we can do to provide better service for the customer.

"Second, you have to have a competitively priced, higher quality product than you've ever had before and provide it in a shorter amount of time.

"Finally, we encourage an attitude of continuous improvement from every individual in our company. We always work with this attitude so we can stay ahead of the changes occurring within our industry."

VT Doors Are 'Suite' Success At PETCO Park in San Diego

As refrains of "Take Me Out to the Ball Game" once again fill the air, new major league ballparks across the country are surrounding the National Pastime with a whole new level of fan amenities never imagined by Abner Doubleday.

Luxury suites at newer ballparks like the \$450 million PETCO Park in San Diego, have become showplaces for VT 5-ply wood veneer doors specified for entrances, team offices, retail and dining areas.

Chosen as "Best New Ballpark for 2004 by baseballparks.com," PETCO Park was recognized for its design, site selection and fan amenities that include 58 luxury suites, seven lounges and restaurants.

Rooms with a view

VT provided more than 270 doors for the project, according to Mark Ferraro, Security Hardware Co. Quarter sliced white maple veneer doors with a clear factory finish were specified for the private suites overlooking the ball field.

White plain slice cherry veneer with a clear factory finish were installed throughout the Western Metal Supply building that is configured into the stadium overlooking left field, Ferraro noted. The brick structure, constructed in 1909, houses a souvenir shop on its main floor, luxury suites on its second and third levels, and a bar and grill on its top floor with terrace dining and rooftop seating.

The ballpark with its seating capacity for 42,445 fans was designed by architect Antoine Predock together with HOK Sport + Venue + Event. Gabbard Hardware Co. in Poway, California, was the supplier and installer for the doors, frames and hardware.

Other amenities include:

- Selected seating with computer technology that allows fans to surf the Internet, check out their favorite players stats, or order food.

- A Padres Hall of Fame.
- A 250-seat auditorium.
- A children's entertainment zone and theater.
- A park beyond the outfield fence.



PETCO Park in San Diego

Trivia Question

Congratulations to Eugene Boyer at the A.G. Mauro Company for the correct answer to the question, "What was VT Industries called when it was founded in 1956?"

What substrate material provides the "optimum paintable surface," according to the Architectural Woodwork Institute?

Answer this question based on this issue of the Door Press for a chance to win a VT prize. Place your answer on an index card with your complete contact information, or the back of your business card, and mail to the address listed. Entries must be postmarked by June 15, 2006. Limit one entry per person, and one winning per year.

Door Press Trivia
Attn: Amanda Paulsen
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VT employees and sales representatives are excluded from this promotion.

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