

### Composite panel substrates and decorative surfaces provide limitless options for design and downstream applications.

The 2011 Surface & Panel Buyers Guide, sponsored by the Composite Panel Association (CPA), provides the most comprehensive product information available about North American composite panel and decorative surfacing products. The Guide includes in-depth descriptions of the various types of composite panels and decorative surfaces, as well as the many standard and specialty products available.

### COMPOSITE PANELS

There are three types of wood-based composite panels: particleboard, medium density fiberboard (MDF), engineered wood siding and trim (EWST) and hardboard. These panels can be engineered to the customer's specific physical/ mechanical properties and surface characteristics to create durable, functional end products. By their very nature, wood-based composite panels are among the greenest materials in the world, and a great choice for environmentally conscious consumers.

All particleboard and MDF facilities in this Guide offer third party certified products to meet the California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM 93120) regulation. CPA maintains a current list of CARB certified and exempt facilities at www.pbmdf.com.

### **DECORATIVE SURFACES**

Decorative surfaces are used in a wide variety of wood-based applications including: cabinets, mouldings, flooring, furniture, countertops, store fixtures, doors and shelving. Composite panels provide an ideal substrate for decorative surfaces - affordable, consistent, uniform in strength and free of defects.

Decorative surfaces are broadly separated into overlays and coatings. Overlays include decorative foils, high pressure laminates, light basis weight papers, thermally fused melamine (TFM), film overlays, wood veneer and heat transfer foils. Coatings are utilized in both liquid and powder forms.

### SECTIONS OF THE GUIDE

- PRODUCT DESCRIPTIONS detail the characteristics of the materials, common applications and key physical properties.
- **PRODUCT GUIDES** provide company specific product information for the major manufacturers and suppliers of these panel and surfacing products, including designations for environmentally-certified, CARB exempt and no added ureaformaldehyde (NAUF) products.
- SALES CONTACT INFORMATION is provided for each producer to help customers locate products.
- GLOSSARY OF TERMS offers help for customers unfamiliar with industry terms.

CPA offers an extensive online library of articles and technical bulletins on products referenced in this Guide at www.pbmdf.com.

### **ENVIRONMENTAL AND GREEN BUILDING PROGRAMS**

The following programs are designed to recognize the environmental efficacy and/or green building claims of composite panel products available in the marketplace.

### **EPP Programs**

CPA sponsors an Environmentally Preferable Product (EPP) certification program to highlight composite panel products that contain 100% recycled or recovered fiber and meet low formaldehyde emission limits. EPP-certified mills have also achieved compliance with California's regulation on formaldehyde emissions.



EPP

The EPP program includes manufacturers of finished products. Products carrying the EPP Downstream logo were manufactured by a company that has demonstrated its environmental commitment by purchasing EPP-certified composite wood panels.

Visit the CPA's web site for a list of EPP-certified companies.

### Other Green Building Programs

The most prominent US green building certifications are the National Association of Home Builders' (NAHB) Model Green Home Building Guidelines and U.S. Green Building Council's (USGBC) The Leadership in Energy and Environmental Design (LEED) Green Building Rat-

### EPP-certified products are eligible for the following NAHB Model Green Home **Building Guidelines Credits:**

- Recycled-Content, Section 2.4.1 = 3 points
- Renewable Materials, Section 2.6.1 = 3 points
- · Minimize Potential Sources of Pollutants, Section 5.1.5 = 6 points

### Composite Wood Products are eligible for the following U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Credits:

- Recycled Content MR Credit 4
- Regional Materials MR Credit 5
- · Certified Wood MR Credit 7
- Low Emitting Material EQ Credit 4.4

### Composite Wood Products are also used in downstream systems eligible for:

- Low Emitting Materials EQ Credit 4.5 (LEED-CI)
- Environmentally Preferable MR Credit 5 Products (LEED-H)

### **CONTINUING EDUCATION UNITS (CEUs)**

CPA develops continuing education units (CEUs) on the array of decorative surface and wood-based composite panel options available for residential and commercial applications. In this edition, CPA is publishing the fourth in a series of CEUs approved by the American Institute of Architects, titled Thermally Fused Melamine: Where ecology, economy, aesthetics and performance meet.



### **ABOUT THE COMPOSITE** PANEL ASSOCIATION

Founded in 1960, the Composite Panel Association (CPA) is dedicated to advancing the North American wood-based panel and decorative surfacing industries. CPA represents both industries on technical, public policy, quality assurance and product acceptance issues.

CPA General Members include the leading manufacturers of particleboard, MDF, EWST and hardboard, representing over 95% of North American manufacturing capacity.

CPA Associate Members include manufacturers of decorative surfaces, furniture, cabinets, mouldings, doors and equipment, along with laminators, distributors, industry media and adhesive suppliers. All are committed to product advancement and industry competitiveness.

CPA is a vital resource for both manufacturers and users of industry products. As a highlyregarded and accredited standards developer, CPA publishes and maintains the industry's ANSI product standards.

CPA operates an International Testing and Certification Center (ITCC) and manages the Grademark Certification Program, the largest and most stringent testing and certification program for North American composite panel products. The association helps manufacturers create in-plant quality control programs through educational programs and on-site assistance.

CPA also compiles and publishes the most definitive industry economic performance data, as well as technical bulletins on the use of industry products and other educational materials. The association partners with Surface & Panel magazine in publishing this Guide and regular editions of the magazine.

### MORE INFORMATION

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### surface panel



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On the cover: Consistent and durable composite panels combined with fashionable decorative surfaces offer infinite design possibilities in residential and commercial applications. The Surface & Panel Buyers Guide is your complete source for specifying the right materials for any application.









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"The economic recovery will be especially good news for specifiers of composite panel products and wood-based decorative surfaces, since so many innovative products are now available and itching to find a consumer market."

One good thing we can say about 2010 is that the economic free fall is over and we've begun what could be a long, slow and tenuous come-

back. A year from now we may be smiling, but not just yet.

The economic recovery will be especially good news for specifiers of composite panel products and wood-based decorative surfaces, since so many innovative products are now available and itching to find a consumer market.

This 2011 Buyer's Guide to Composite Panels and Decorative Surfaces (a special edition of Surface & Panel magazine) is your roadmap to finding these products and putting them to use in your residential, commercial or architectural project - or in the manufacture of furniture, cabinets, doors, flooring, mouldings and other products.

Make sure this Guide is a keeper for your office, and bookmark the Composite Panel Association (CPA) web site at www. pbmdf.com to access the electronic version that will be updated throughout the year. You'll also find a wide range of technical bulletins and industry standards there.

And if you want to enhance your professional credentials or are just curious, read CPA's latest Continuing Education Unit (CEU). This time you'll test your knowledge and learn about the wide-ranging attributes of Thermally Fused Melamine (TFM) surfaces. This CEU and others like it are also available on the CPA web site, and a new unit on Green Surfaces and Substrates will be published in the spring.

When it comes to "being green", CPA members are proud of their leadership in offering innovative products and supporting forward-looking environmental policies. Recent events speak louder than words.

More than a year ago, CPA and the Sierra Club joined to form a broad coalition of industry, environmental, labor and healthfocused groups to support a federal standard that limits the formaldehyde emissions from composite wood products. Modeled on California's so-called "CARB Rule" that is embraced by responsible manufacturers around the world, the legislation

passed by Congress last year gives certainty and structure to a complex regulatory landscape while also making important refinements to California's law. It also calls for a level playing field when it comes to regulating composite wood products sold in the U.S., regardless of where they are made.

The federal legislation directs the path of a pending regulation by the U.S. Environmental Protection Agency (EPA) that now has explicit boundaries and must be enacted by 2013. CPA is actively participating in this EPA rulemaking process and we are determined to make sure it stays true to the wishes of Congress; that it does not create new, unnecessary burdens for small business; that rigorous third party product testing and certification is maintained so consumers have full confidence in what they buy; and that domestic and offshore manufacturers are treated the same when it comes to enforcement.

But don't take my word for it. If you really want to see industry's commitment to making low-emitting, innovative products, then read the product listings in this 2011 Buyer's Guide. You will see a showcase of CARB Phase 2, ultra low emitting, and no added urea-formaldehyde particleboard and MDF products.

Builders and remodelers should also pay close attention to this year's section on Engineered Wood Siding and Trim, to help you distinguish these construction products from traditional hardboard applications.

Then it's on to the many decorative surfaces available for composite wood-based products, and in these pages you'll find options for every need.

Tough times bring out the best, and sometimes the worst, in all of us. When we're at our best we embrace change, continuous improvement and innovation. We work even harder to understand the needs of our customers, and provide exceptional service. I'm proud to represent an industry that is showcasing its best, and offering a value proposition that can't be beat.

Tom Julia | President, Composite Panel Association 703-724-1128 | tjulia@cpamail.org



## Thermally Fused Melamine Where ecology, economy, aesthetics and performance meet

This CEU provides an introduction to thermally fused melamine (TFM), a decorative surfacing material that is sometimes called melamine or low pressure laminate.

In addition to addressing the definition of TFM and how it is made, this unit will explore the history of the surface treatment as well as design and end-use considerations.



TFM is a decorative surface and a building material that requires no additional substrate, adhesive or laminating equipment prior to processing into a finished product. The panel's durability, design versatility and ease of use make it a common specification across many market segments, including case goods, furniture, store fixtures, home organization, flooring and institutional applications. It is often used in conjunction with other materials to value engineer projects by reducing costs while maintaining design integrity.



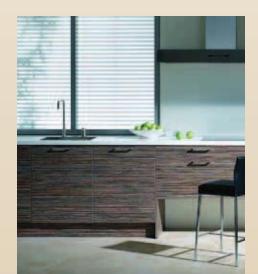




TFM is made from three primary ingredients: décor paper, melamine based resin system and a substrate, typically medium density fiberboard (MDF) or particleboard. An additional overlay may also be used for performance or aesthetic characteristics. The décor paper is impregnated with a melamine resin then laminated directly to the substrate without the need for additional adhesive. When pressed under heat and pressure the melamine resin creates a cross-linked thermoset bond between the décor paper and the substrate resulting in a homogenous decorative panel.

### HISTORY/TECHNICAL DEFINITION

The TFM story is about refining the use of wood for machinability, conservation, economic and aesthetic precision. Wood has always played an important role as a building material in solid and plank form, however in its natural form, wood varies dramatically in terms of species, availability, performance and aesthetics. Craftsmen have compensated for these variations in many cases by hand-cutting veneers from rare species and using them as a decorative layer on top of more stable or readily available species. This practice uses resources efficiently and reduces materials costs. Yet it still leaves wood susceptible to scratching and warping, especially in moist environments.



The capacity for improving the performance of wood products while conserving resources grew exponentially in the 20th century due in large part to the development of two seemingly unrelated technologies. The first is synthetic plastics, which advanced around the turn of the century. The resulting artificial resins were defined as thermoplastic (which turn to liquid when heated, then solidify when sufficiently cooled) and thermosets (which irreversibly cure under heat and pressure to make a material that is resistant to heat, water, chemicals and electrical current). The second is high speed printing technology, which also advanced in the early part of the century, making it possible to print large rolls of décor paper with high-fidelity photorealistic designs such as wood grains. Generally a décor paper is printed with water-based pigments. The use of décor papers allows designers to achieve any visual effect, such as rare stone or endangered wood species without negatively impacting the environment.

These two technologies became increasingly important when resources became more

scarce during World War II. Innovative manufacturers began combining resins with wood waste (sawdust, wood chips and refined cellulose) and pressing the mix to make composite panels. The resulting panel substrates (including hardboard, MDF and particleboard) were not only structurally sound and predictable in their performance, but also valuable for their ecological contribution to making optimal use of wood residuals.





The classic laminating process, developed in the first third of the 20th century, uses heat and pressure to press a layer of décor paper onto a stack of layered kraft paper (similar to brown bag paper). The kraft paper layers are saturated with an inexpensive, dark phenolic resin, while the decorative layer is saturated with melamine resin, which produces a clear surface. The resulting high pressure laminate (HPL) material is then glued to the substrate using a contact adhesive and pressing equipment.

By the middle of the last century a whole new generation of high-performance woodbased products, created from rapidly renewable wood species, readily available materials and pre-consumer recycled waste was born. Some years later manufacturers in Europe realized that by eliminating the kraft paper layers, melamine impregnated décor paper could be pressed directly to the substrate. The resulting TFM material is a homogenous, ready-to-use decorative panel that requires no further laminating prior processing. TFM offers excellent aesthetics, as well as scratch and wear resistance. Today, TFM is manufactured in state-of-the-art facilities throughout North America.

### PRODUCT DESCRIPTION. SUSTAINABILITY AND ADHESION TO SUBSTRATE

In addition to visual appeal and performance criteria, contemporary specifiers must respond to client demands for sustainable and environmentally friendly products. So it is important to understand the basic science and technology behind the component parts of TFM: substrate, melamine resin and décor paper.

It is generally accepted that the use of reclaimed wood and paper is good, and that the adhesives used to produce composite panels should be as benign as possible.

North American composite panel manufacturers offer boards produced with different adhesive formulations to meet today's stringent requirements for indoor air quality such as the California Air Resources Board (CARB) formaldehyde emissions rule, the CPA Environmentally Preferable Product (EPP) specification and others. All Composite Panel Association member board manufacturers offer CARB Phase 2 formaldehyde emission compliant products, and many also produce ultra low-emitting formaldehyde (ULEF) and/

or no-added formaldehyde (NAF) products. The CARB emission ceilings are among the most stringent anywhere in the world for composite wood panels, and are complimented by a rigorous third party testing and certification program and extensive chain of custody requirements. Additionally, reclaimed wood sequesters carbon, making composite panels a more ecologically-sound use of fiber than if it's landfilled or burned as biomass.



THIS PAGE: STEEL PRESS PLATES ADD TEXTURE AND GLOSS LEVEL THAT ENHANCE THE FIDELITY OF THE DECOR PAPER DESIGN, TFM DECORATIVE PANELS PROVIDE HIGH-END AESTHETICS FOR THE MODERN KITCHEN AND BATH.







### **LEED CREDITS** & FSC CERTIFICATION

TFM is an excellent product to specify for residential, commercial and healthcare interior applications. Non-porous hard surfaces are easy to clean and do not harbor dirt or contaminates. No-added formaldehyde (NAF) substrates support improved indoor air quality. TFM can contribute to as many as six LEED credits depending on sourcing and substrate.

Also, increasingly the décor paper used in the production of TFM is available with FSC-chain of custody certification. To fuse the decorative layer and composite substrate the paper must first be impregnated with a melamine formaldehyde resin system. After saturation the paper is partially cured to a B-stage, at which point it must be stored within specific temperature and moisture parameters to prevent curing. B-stage papers have a finite shelf life. When the saturated paper is pressed to the substrate a complete cross-linked bond is created between the melamine and formaldehyde minimizing potential emissions. Once the décor paper is fused to the substrate it effectively seals the composite panel, reducing substrate emissions by nearly 98 percent.



### **END USE APPLICATIONS AND DESIGN CONSIDERATIONS:**

TFM is a cost-effective material that is highly resistant to warping, bowing, moisture, scratching, staining and abrasion due to wear. It is easily fabricated and as a result is widely used in the following applications:

- Flooring
- Case goods
- · Store fixtures
- · Organization systems and closets
- · Kitchen and bath cabinets
- Wood paneling
- Office, residential and healthcare furniture
- · Architectural accents

Enhanced performance characteristics, such as microbial resistance and super-durability can also be achieved by increased paper thickness and specialized saturation techniques. Overlays can be added during the pressing process to enhance surface performance or aesthetic appeal. The use of specialized steel

press plates can add dimensional characteristics (matte, gloss, ticking, texture) to the sur-

From its early aesthetic roots of white and solid colors, TFM has matured to offer a broad range of designs. Almost any design that can be printed can be made into TFM, and with modern rotogravure and digital printing technologies the possibilities are endless. Popular designs include contemporary wood grains, exotics and abstracts, though whimsical and custom designs are increasingly specified in retail, commercial and hospitality applications.

TFM is often used in conjunction with other decorative surfacing materials to engineer products that precisely meet design criteria. Décor matching programs across engineered materials allow designers to specify panels to the exact requirements of the application with a consistent visual. TFM panels typically require a decorative edge treatment and can be specified with or without edge, and with single or opposite-side face treatments.



THIS PAGE: ONCE CURED, TFM IS A HOMOGENOUS DECORATIVE PANEL WITH EXCELLENT SCRATCH, STAIN AND WEAR RESISTANCE. IT IS A POPULAR MATERIAL IN COMMERCIAL, HOSPITALITY AND FURNITURE APPLICATIONS.

### **Case Studies:**

### PREMIUM DESIGN

Technology drives design, and design depends on technology to satisfy the wants and needs of the consumer market. Many firms specializing in premium residential development and retail spaces use TFM decorative panels for kitchen cabinetry as well as built-in furniture and store fixtures. Modern architects design with modern materials, methods and means. TFM is a decorative panel that requires no further laminating before processing, making it a trouble free material for fabricators. Plus it has excellent aesthetics wear and scratch resistance. For any big development project anything that can reduce cost and production time is very beneficial. Beyond ease of use, TFM is recognized for its aesthetic value. TFM designs come from printed décor paper, allowing professionals to provide their clients with the increasingly popular look of exotic or rare minerals and wood species, but without exploiting precious resources or breaking the bank. The consistent visual of TFM designs means professionals can specify for a big job and not worry about panel matching. The other benefit there is of course value-engineering. TFM designs match other materials that have different performance characteristics, so pieces can be built with a uniform look inside and out.

### THE FIFTH WALL

Advanced printing technology produces décor paper, the decorative layer of TFM decorative panels, with unprecedented realism. Improved

print fidelity combined with specialized surface treatments and overlay techniques results in a consumer product that designers can stand behind, or rather, on, Ninety-five percent of laminate flooring is made from TFM decorative panels. Laminate flooring is specified for applications where the design calls for a hard surface with the warmth of real wood, that won't scratch, dent or warp. Laminate flooring

is a common specification for both residential and commercial applications. TFM is used in healthcare applications because it is a hard surface that is easy to clean and does not harbor dirt or allergens. It also has excellent scratch, dent and wear- resistance, making it a popular choice for hotel and restaurant environments. Because laminate flooring has limitless design possibilities and low life-time cost of maintenance it is an efficient solution for a wide variety of projects. Professionals working toward sustainable objectives can earn up to six LEED credits by specifying TFM decorative panels.

### RESOURCES

The Composite Panel Association (CPA) is the trade association representing the North American wood-based composite panel and decorative surfacing industries. Manufacturers and processors of surface materials may reference the Voluntary Compendium of Standards for Decorative Overlays. The standards outline the attributes of each type of decorative overlay, including TFM, decorative foils, 3D overlays, light basis weight papers, oriented polypropylene films (OPP), and vinyl films. The Compendium provides information and industry-accepted test methods to determine the performance and physical characteristics of the different overlays, and allows product identification for a particular application. For more information visit the Composite Panel Association at www.DecorativeSurfaces.org or www.pbmdf.com.





### Thermally Fused Melamine: Where ecology, economy, aesthetics and performance meet.

### Circle the letter of the correct answer for each question below.

### 1. What two technologies lead to the development of TFM?

- A. Synthetic plastics and high speed printing of paper
- B. Nanotechnology and high speed printing of paper
- C. High speed printing of paper and hydroelectric power
- D. Hydroelectric power and nanotechnology

### 2. Which of the following is NOT used in making TFM decorative panels?

- A. Substrate
- B. Kraft paper
- C. Resin
- D. Décor paper

### 3. Specialty overlays give TFM decorative panels certain performance characteristics, including all of the following EXCEPT:

- A. Stain resistance
- B. Moisture resistance
- C. Impact resistance
- D. Anti-microbial qualities

### 4. Saturated décor paper that is partially cured is referred to as:

- A. B-stage
- B. A-game
- C. Immature
- D. Holding

### 5. After resin-saturated décor paper is pressed to a substrate to make TFM:

- A. It must be adhered to a panel for processing.
- B. It is ready to use as a decorative panel.
- C. It must be dried in an oven at low heat for a long period.
- D. It must be stored at a specific temperature and humidity to fully cure.

### 6. TFM designs match other designs available in which of the following:

- A. HPL
- B. 3D Laminates
- C. Low basis weight papers
- D. All of the above

### 7. The visual design for TFM decorative panels comes from:

- A. Kraft paper
  - B. HPL
  - C. Wall paper
  - D. Décor paper

### 8. TFM decorative panels can contribute to up to how many LEED credits?

- A. 0
- B. 2
- C. 4
- D. 6

### 9. Circle True or False: Steel press plates emboss both texture and gloss level to the surface of TFM decorative panels. TRUE FALSE

### 10. TFM decorative panels are routinely specified for all of the following applications EXCEPT:

- A. Exterior siding
- B. Flooring
- C. Cabinetry
- D. Case goods
- E. Furniture

You will earn one (1) Learning Unit by answering at least 80% of the questions on this page correctly and submitting the responses with your contact information below. A certificate of completion will be sent to you upon receipt of a satisfactory submission. There is no fee.

### Take this quiz online at www.DecorativeSurfaces.org

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### PARTICLEBOARD



Particleboard is a composite panel product consisting of cellulosic particles of various sizes that are bonded together with a synthetic resin or binder under heat and pressure. Particle geometry, resin levels, board density and manufacturing processes may be modified to produce products suitable for specific end uses. At the time of manufacture additives can be incorporated to impart specific performance enhancements including greater dimensional stability, increased fire retardancy and moisture resistance.

Today's particleboard gives industrial users the consistent quality and design flexibility needed for fast, efficient production lines and quality consumer products. Particleboard panels are manufactured in a variety of dimensions with a wide range of physical properties that provide maximum design flexibility for specifiers and end users.

COMMON USES

COUNTERTOPS

KITCHEN CABINETS

SHELVING

DOOR CORE

MANUFACTURED HOME DECKING

STAIR TREADS

FLOOR UNDERLAYMENT

**OFFICE & RESIDENTIAL FURNITURE** 

STORE FIXTURES



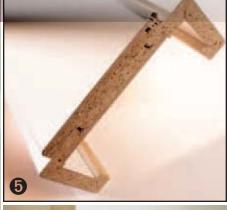


PARTICLEBOARD IS CONSISTENT, DURABLE AND PRODUCED TO PRECISE THICKNESSES IN A VARIETY OF PANEL SIZES 1.

PARTICLEBOARD IS FOUND IN FURNITURE, FLOORING AND CABINETS IN BOTH RESIDENTIAL AND COMMERCIAL SETTINGS, INCLUDING HOSPITALS 2 AND KITCHENS 3.











PARTICLEBOARD HAS EXCELLENT MACHINING CHARACTERISTICS, WHICH IS IMPORTANT WHEN POST-FORMING HIGH PRESSURE LAMINATE COUNTERTOPS 4 AND FOR

THE STABILITY AND CONSISTENCY OF THE MATERIAL LENDS ITSELF FOR USE AS WORK SURFACES 4, AND THE CORE FOR INTERIOR DOORS 6.

PREFABRICATED EDGE APPLICATIONS 5.

### PRODUCT STANDARDS AND CERTIFICATION

The American National Standard for Particleboard (ANSI A208.1) is the North American industry voluntary standard. It classifies particleboard by density and strength and covers physical, mechanical and dimensional characteristics as well as formaldehyde levels. The Standard was developed through the sponsorship of the Composite Panel Association (CPA) in conjunction with producers, users and general interest groups. A summary of the ANSI Property Requirements is included in this Guide and copies of the Standard are available from CPA.

Third-party certification to ANSI Standards is required for many applications of composite panels. For example, the US Department of Housing and Urban Development (HUD) requires the physical properties of manufactured home decking to be third-party certified. In addition, many building code jurisdictions require the physical properties of particleboard underlayment and stair treads to be third-party certified. HUD and the states of California and Minnesota also require third-party certification of formaldehyde emissions for nearly all particleboard and MDF under their jurisdiction.

### FORMALDEHYDE EMISSION LIMITS

The standard has a tiered system of emission levels allowing either a maximum of 0.18 ppm or 0.09 ppm for industrial grades or 0.20 ppm for manufactured home decking. To meet the needs of the market many particleboard manufacturers have voluntarily developed ultra low-emitting and no added urea-formaldehyde (NAUF) products, so there are a wide variety of products available today with reduced formaldehyde levels, as well as a growing number of non-formaldehyde alternatives. Those companies currently producing NAUF products are identified in the product listings in this Guide.

In addition, CPA's Environmentally Preferable Product (EPP) program (to which a majority of the North American producers subscribe) requires emission limits no higher than the California Air Resources Board (CARB) Airborne Toxic Control Measure ("CARB Rule").

Finally, various overlays and surface treatments have been shown to significantly reduce product emissions. For additional information about emissions, see the CPA Technical Bulletin "VOC Emission Barrier Effects."

PARTICLEBOARD CONTINUED ON PAGE 20 >



PARTICLEBOARD IS MADE IN A WIDE RANGE OF PROPERTIES TO SUIT JUST ABOUT ANY PURPOSE. IN VERTICAL APPLICATIONS 1, A LOW DENSITY PRODUCT MAY BE THE PERFECT CHOICE. IN DEMANDING APPLICATIONS LIKE OFFICE FURNITURE WORK SURFACES **2**, A HIGHER DENSITY PRODUCT MAY BE INDICATED.



### Table A: REQUIREMENTS FOR GRADES OF PARTICLEBOARD

### ANSI 208.1-2009 Particleboard

Grade	1	Dimensional Toleran	ces		Phy	sical and Mecha	nical Properties		
		Thickness	Tolerance				Screw-h	nolding	_
	Length & Width mm (inch)	Panel Average from Specified mm (inch)	Variance from Panel Average mm (inch)	Modulus of Rupture N/mm² (psi)	Modulus of Elasticity N/mm² (psi)	Internal Bond N/mm² (psi)	Face N (pounds)	Edge N (pounds)	Linear Expansion max. avg. percent
H-1	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	14.9 (2161)	2160 (313300)	0.81 (117)	1600 (360)	1200 (270)	NS
H-2	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	18.5 (2683)	2160 (313300)	0.81 (117)	1700 (382)	1400 (315)	NS
H-3	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	21.1 (3060)	2475 (359000)	0.90 (131)	1800 (405)	1400 (315)	NS
M-0	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	7.6 (1102)	1380 (200200)	0.31 (45)	NS	NS	NS
M-1	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	10.0 (1450)	1550 (224800)	0.36 (52)	NS	NS	0.40
M-S	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	11.0 (1595)	1700 (246600)	0.36 (52)	800 (180)	700 (157)	0.40
M-2	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	13.0 (1885)	2000 (290100)	0.40 (58)	900 (202)	800 (180)	0.40
M-3i	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	15.0 (2176)	2500 (362600)	0.50 (73)	1000 (225)	900 (202)	0.40
LD-1	±2.0 (0.080)	+0.125 (0.005)	±0.125 (0.005)	2.8 (406)	500 (72500)	0.10 (15)	360 (81)	NS	0.40
		-0.375 (0.015)							
LD-2	±2.0 (0.080)	+0.125 (0.005)	±0.125 (0.005)	2.8 (406)	500 (72500)	0.14 (20)	520 (117)	NS	0.40
<u> </u>		-0.375 (0.015)							

### Table B: REQUIREMENTS OF PARTICLEBOARD FLOORING PRODUCTS AND BUILDING CODE GRADES

Grade		D	imensiona	al Tolerand	es						Ph	ıysical aı	nd Mech	anical Pr	roperties					
		Length & Panel Average Width from Specified Panel Avera mm (inch) mm (inch)																		
	Width		from Sp	pecified	Panel A	Average	Ru	ulus of pture n² (psi)	Ela	dulus of asticity m² (psi)		ernal ond n² (psi)	Hard N (po		Loa	ntrated <sup>6</sup> ading bunds)		ckness Si max. avg. (inch) per		Linear Expansion max. avg. percent
PBU	+0 (0 -4.0 (0.1	,	±0.375	(0.015)	±0.250	(0.010)	11.0	(1595)	1725	(250200)	0.40	(58)	2225	(500)	N	IS <sup>7</sup>	1.6	(0.063)	NS	0.35
D-2	±2.0 (0.0	80)	±0.375	(0.015)	±0.250	(0.010)	16.5	(2393)	2750	(398900)	0.55	(80)	2225	(500)	2670	(600)	NS		8	0.30
D-3	±2.0 (0.0	80)	±0.375	(0.015)	±0.250	(0.010)	19.5	(2828)	3100	(449600)	0.55	(80)	2225	(500)	2670	(600)	NS		8	0.30

		Width from Specified Panel Averag mm (inch) mm (inch) mm (inch)						Screw-h	nolding	_
	Width	from Specified	Variance from Panel Average mm (inch)	Modulus of Rupture N/mm² (psi)	Modulus of Elasticity N/mm² (psi)	Internal Bond N/mm² (psi)	Hardness N (pounds)	Face N (pounds)	Edge N (pounds)	Linear Expansion max. avg. percent
M-3	±2.0 (0.080)	±0.200 (0.008)	±0.100 (0.004)	16.5 (2393)	2750 (398900)	0.55 (80)	2225 (500)	1100 (270)	1000 (225)	0.35

### PARTICLEBOAR

Control   Column	PARTIC	CLEBOA	RD		TIFIED	O ADDED UREA-FORMALDEHYDE)*	CARB EXEMPT (ULEF / NAF)**			USTI			UNDERLAYMENT (PBU)	MFD HOME DECKING D-2, D-3	DOOR CORE LD-1, LD-2	COMPOSITE PANEL	ASSOCIATIO	N //	
La Grande, Oregan		BRAND NAME	WOOD SPECIES		EPP CERTIFIED	NAUF (NO	CARBEX	0- <b>M</b>	M-1	S-M	M-2	M-3i	FLOOR U	MFD HOP	DOOR CC	AND TREATMENTS	PRESS SIZE (FT.)		RANGE
Rameth Falls, Oregon   Collins Pine Purticleboard, Free Form   Western Pine   FSC   • • • • • • • • • • • • • • • • • •		Boise Select, Boise Evergreen, Anchor™		FSC	•	•				•	•	•				BE C CS EF HD LD MR S ST	5x18, 4x24	3/8 – 1-1/4	41 – 50
Paral, Chihushua   Durapley Supremo, Duramel, Duracore, Duralam   Pine   Paral, Chihushua   Pine			Western Pine	FSC	•	•			•	•	•					C CS MR S	5x24	3/8 – 1-1/4	42 – 47
Dauglas Fir, Hemlock   Price		Duraplay Supremo, Duramel,	Pine		•				•		•	•	•					1/8 – 1-1/8	40 – 55
Greenville, Florida  Southern Yellow Pine  Aspen, Basswood, Northern Hardwoods  Marshfield, Wisconsin  Uni-Cor ST, Uni-Cor ST Lite, Uni-Cor FR Aspen, Basswood, Northern Hardwoods  FSC  CS DC SR FR LB LD  Typ  4 X Continuous  8 X Continuous  8 X Continuous  8 X Continuous  1/12 - 5/16  46-49  Maderas Sintéticos de México, S.A. de C.V. (MASISA)  Durango, Mexico  Placa Masisa, Mor Masisa, Melamina, Masisa  Melamina, Masisa  Melamina, Masisa  NewPRO Blonde  Pine, Spruce  Pine, Spruce  A A A A A A A A A A A A A A A A A A A	Albany, Oregon Bennettsville, South Carolina Simsboro, Louisiana	UltraPine®, UltraPine® Plus, Vesta UltraPine®, UltraPine® Plus, Vesta	Pine Pine	FSC FSC	•	•			•	•	•	•	•	•	•	C CS DC LD M MR S C CS DC LD M MR S	10xContinuous 10xContinuous	9/32 – 1-1/2 1/4– 1-1/2	41 - 46 41 - 46
Marshfield, Wisconsin Uni-Cor ST, Uni-Cor ST Lite, Uni-Cor FR Aspen, Basswood, Northern Hardwoods  Maderas Conglomeradas S.A. de C.V. Tialnepantla, Mexico MACOPAN Pine / Softwood Pine / Softwood  Maderas Sintéticos de México, S.A. de C.V. (MASISA) Durango, Mexico Placa Masisa, MDF Masisa, Melamina, Masisa  NORTHERN ENGINEERED WOOD PRODUCTS, INC. Smithers, British Columbia NEWPRO Blonde Pine, Spruce Pine, Spruce Pine, Spruce  OCS LP P W  4X Continuous 8X Contin		NC.	Southern Yellow Pine								•					BE CS PA S V W	5x12, 5x24	5/16 - 5/8	50
Tialnepantia, Mexico MACOPAN Pine / Softwood • • CS LP P W 8X Continuous 1/12 - 5/16 46-49  Maderas Sintéticos de México, S.A. de C.V. (MASISA) Durango, Mexico Placa Masisa, MDF Masisa, Melamina, Melamina, Melamina, Melamina, Melamina, Melamina, Melamina, Melamina				FSC		•	•								•	CS DC SR FR LB LD	7x9	1-1/8 – 2-1/4	28 – 37
Duranguense Pine  NORTHERN ENGINEERED WOOD PRODUCTS, INC. Smithers, British Columbia NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde			Pine / Softwood									•				CS LP P W		1/12 - 5/16	46-49
Smithers, British Columbia NEWPRO Blonde Pine, Spruce • • • • • • • • • • • • • • • • • • •		Placa Masisa, MDF Masisa,	Duranguense Pine								•				•	CS FO LP LD M	4x8, 5x8, 8x8	3/8 – 1-3/8	35 – 50
Huntsville, Ontario Panolam, Pionite, Conolite Canadian Wood Mixture • • • • • • • • • • • • • • • • • • •			Pine, Spruce		•	•				•	•					M	8x48	1/4 – 1	38 – 50
Post Falls, Idaho EnStron, EnStron Plus, Terramica Western Softwoods FSC / SCS • • • • • • • CS MR 4x8 1/4 – 1-1/8 42 – 48  PPM PACIFIC PANELS MEXICO, S.A. DE C.V.			Canadian Wood Mixture		•	•						•				C FR LP M MR	5x18, 8xContinuous	1/4 – 1-1/2	42 – 45
			Western Softwoods	FSC / SCS	•	•	•	•	•	•	•	•	•			CS MR	4x8	1/4 – 1-1/8	42 – 48
			Pine (Some Recycled)		•						•					C CS FO LP LD M MR P S V W	4x40	3/8 – 1-3/8	42 – 47

REXCEL S.A. DE C.V. Chihuahua, Chihuahua Zitacuaro, Michoacan		Ponderosa Pine Wood Mixture								•		•			BE C CS FO LP M S ST CS FO LP M	8xContinuous 8x20 Multi-Opening	3/8 - 1-1/8 3/8 - 1-1/4	40 – 50 40 – 50
DOCEDUDG																		
ROSEBURG Dillard, Oregon	UltraBlend™, SkyBlend™	Fir, Pine Blend	FSC	•				•		•		•		•	B BE C CS DC EF ET F FO M MR	5x18, 8x24	3/8 – 1-1/2	30 – 48
Louisville, Mississippi Missoula, Montana	UltraBlend™ UltraBlend™, SkyBlend™	Southern Pine Western Pine, White Fir	FSC	•				•	:	•		•		•	P PA PF PR S ST T V W  B BE C CS DC EF ET F M P PF  PR S ST T	5x18 5x24, 8xContinuous	3/8 – 1-1/8 7/32 – 1-1/2	45 – 52 40 – 49
Russellville, South Carolina Taylorsville, Mississippi Vienna, Georgia	UltraBlend™, SkyBlend™ UltraBlend™, SkyBlend™ UltraBlend™	Southern Pine Southern Pine Southern Pine	FSC FSC FSC	•				•		•		•		•	C DC BE C MR S TG	5x24 5x24 4x24	3/8 - 1-3/4 3/8 - 1-3/4 3/8 - 1-1/8	42 – 52 42 – 52 45 – 52
									H									
SIERRAPINE Adel, Georgia Martell, California	ENCORE™, ENCORE™ MR Ampine™, ENCORE™	Southern Pine Western Pine	FSC FSC	•				•		•		•		•	C CS DC HD LB LD MR PF PR S BE C CS DC EF HD LB LD LP MR PF PR S	5x18	3/8 – 1-7/8	32 – 55 32 – 55
Springfield, Oregon	ENCORE™, ENCORE™ FR, ENCORE™ MR	Western Softwoods	FSC	•	•			•		•	•	•		•	BE C CS DC EF FR HD LB LD LP MR S ST	5x24 5x24, 4x16	3/8 – 1-3/16 3/8 – 1-3/4	32 – 55
TAFISA CANADA INC. Lac-Megantic, Quebec	Tafipan	Spruce, Pine, Fir, Maple, Birch, Aspen		•				•		•					C LD M	9x and 10xContinuous	1/4 – 1-1/2	38 – 44
TEMPLE-INLAND																		
Diboll, Texas	Temstock	Southern Pine		•	•	•	•		•	•	•	•		•	BE C CS EF HD LD MR S	4x24	1/4 – 1-1/8	41 – 52
Hope, Arkansas	Temstock	Southern Pine		•	•		•	•	•	•	•	•		•	C DC LD MR	9x25	3/8 – 1-1/8	41 – 52
Monroeville, Alabama	Temstock	Southern Pine		•			•	•	•	•	•	•		•	FR LD MR	4x24	1/4 – 1-1/8	41 – 52
Thomson, Georgia	Temstock	Southern Pine		•			•	•	•	•	•	•		•	LD MR	4x24	1/4 – 1-1/8	41 – 52
TIMBER PRODUCTS CO	OMPANY																	
Medford, Oregon		Fir, Pine		•	•		•	•	•	•	•	•		•	CS DC FO LP LB M PA PF S V W	4x16	3/8 – 1-11/16	30 – 47
UNIBOARD		On the sea Bire.											Г					
Moncure, North Carolina	Uniboard PB	Southern Pine, Soft Hardwood	FSC	•				•		•				•	C DC LD LF LP M	9x24 (7 multi-platen)	1/2 – 1-1/8	38 – 46
Sayabec, Quebec	Uniboard PB	Softwood, Hardwood	FSC	•		•		•		•				•	C DC LD LP M MR	8x114 and 10xContinous	1/4 – 1-3/4	38 – 42
Val-d'Or, Quebec	Uniboard PB	Softwood, Hardwood	FSC	•	•	•	•	•	•	•	•				LD LP M	8x20 (10 multi-platen)	1/2 – 1-1/8	38 – 42
WEBB FURNITURE EN	TERPRISES, INC.																	
Galax, Virginia	Webb Particleboard	Pine		•	•	•		•	•	•				•	C CS DC LB LD	5x12	7/16 – 1-1/2	30 – 48

Special Items and Treatments: Base Coat (B), Bullnose Edge (BE), Countertop (C), Concrete Form (CF) Cut to Size (CS), Door Core (DC), Door Stiles and Rails (SR), Edge Fill (EF), Edge Tape (ET), Fill (F), Fire Retardant (FR), Flush Door Skins (FD), Foil (FO), High Density (HD), Hot Melt Wax (H), Laminate Flooring Substrate (LF), Laminated Products (LP), Lockblocks (LB), Low Density (LD), Melamine (M), Mende (MN), Moisture Resistant (MR), Moulding (MO), Moulded Door Skins (MDS), Paint (P), Perforated (PE), Prefinished (PF), Print (PR), Shelving (S), Smooth Siding (SS), Stair Tread (ST), Textured Siding (TS), Topcoat (T), Tongue and Groove (TG), Turning and Moulding (TM), Vinyl (V), Wood Veneer (W)

All particleboard and MDF facilities in this Guide offer third party certified products to meet the California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM 93120) regulation. Some facilities may also have been issued a NAF or ULEF Exemption Executive Order from the State of California. CPA maintains a current list of CARB certified and exempt facilities at www.pbmdf.com.

variace & panel BUYERS GUIDE 2011 www.pbmdf.com

<sup>\* &</sup>quot;No added urea-formaldehyde" (NAUF) and NAF panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations

<sup>\*\*</sup> CARB exempt (NAF/ULEF) manufacturers offer composite wood product categories that have no added formaldehyde (NAF) and/or ultra-low emitting formaldehyde (ULEF), and have been exempted from third party certification requirements of the California Air Resources Board (CARB) ATCM 93120.

### PARTICLEBOARD

### **PARTICLEBOARD**

### **BOISE CASCADE, LLC**

PO Box 62 Boise, Idaho 83707 (888) 264-7372 Fax (208) 395-7635 twparticleboardsales@bc.com www.bc.com/particleboard

### **COLLINS PRODUCTS, LLC**

PO Box 16, 6410 Highway 66 Klamath Falls, Oregon 97601 (800) 547-1793 Fax (541) 882-8671 dbarnes@collinsco.com www.collinswood.com

### **DURAPLAY DE PARRAL, S.A. DE C.V.**

Av. Santa Barbara 21 Barrio de Espana Parral, Chihuahua Mexico 33870 (505) 217-1700 Fax (505) 217-1702 duraplayus@cs.com www.duraplay.com

### **FLAKEBOARD**

St. Stephen Sales 80 Tiverton Court, Suite 701 Markham, Ontario L3R 0G4 (800) 268-9830 Fax (905) 475-3988 customer.service@flakeboard.com www.flakeboard.com

Western US Sales PO Box 428 Albany, Oregon 97321 (888) 650-6302 Fax (541) 928-4116 customer.service@flakeboard.com www.flakeboard.com

Eastern US Sales 515 River Crossing Drive, Suite 110 Fort Mill, South Carolina 29715-7900 (877) 273-7680 Fax (800) 808-1454 customer.service@flakeboard.com www.flakeboard.com

### FLORIDA PLYWOODS, INC.

PO Box 458, 1228 NW US 221 Greenville, Florida 32331 (850) 948-2211 Fax (850) 948-4616 info@flply.com www.flply.com

### MARSHFIELD DOORSYSTEMS, INC.

1401 East Fourth Street Marshfield, Wisconsin 54449 (800) 826-4020 Fax (715) 387-4218 www.customdoorcomponents.com

### MADERAS CONGLOMERADAS S.A. DE C.V.

Ave. San José # 2 San Juan Ixhuatepec Tlalnepantla, Edo. Mex. CP 54180 +52 (55) 5715-5870 Fax +52 (55) 57155960 ranzjorge@yahoo.com www.macosa.com.mx

### MADERAS Y SINTÉTICOS DE MÉXICO, S.A. DE C.V. (MASISA)

Jaime Balmes 8, Piso 2-202 Mexico, DF 11510 +52 (55) 9138-2300 Fax +52 (55) 9138-2308 jose.catalanleiva@masisa.com www.masisa.com

### NORTHERN ENGINEERED WOOD PRODUCTS, INC.

PO Box 2890 Smithers, British Columbia VOJ 2NO (403) 279-4994 Fax (403) 279-4989 rnorton@newpro.ca www.newpro.ca

### PANOLAM INDUSTRIES INTERNATIONAL, INC.

Muskoka Road 3, Box 7500 Huntsville, Ontario P1H 2J7 (800) 672-6652 Fax (708) 789-6658 www.panolam.com

### **PLUMMER FOREST PRODUCTS**

401 N. Potlatch Road P.O. Box 788 Post Falls, Idaho 83854 (208) 777-2202 m.mai@nwpanel.com www.plummerforestproducts.com

### PPM PACIFIC PANELS MEXICO, S.A. DE C.V.

P.O. Box 5224 Chula Vista, California 91912-5224 (619) 819-6064 (619) 819-8490 mzichlin@pacificpanelsmexico.com www.pacificpanelsmexico.com

### REXCEL S.A. DE C.V.

Blvd. Juan Pablo II KM 2.5 Chihuahua, Chihuahua Mexico 31390 +52 (614) 429-8900 Fax +52 (614) 429-8905 rodrigo.mier@desc.com.mx www.rexcel.com.mx

### **ROSEBURG**

Western Sales PO Box 1088 Roseburg, Oregon 97470 (800) 245-1115 Fax (541) 679-2543 karenh@rfpco.com www.Roseburg.com

Southeastern Sales 12000 Findley Road, Suite 320 Johns Creek, Georgia 30097 (866) 387-2646 Fax (678) 474-1258 jimbu@rfpco.com www.Roseburg.com

### SIERRAPINE

Western Sales 3010 Lava Ridge Court, Suite 220 Roseville, California 95661 (800) 676-3339 Fax (916) 772-3415 info@sierrapine.com www.sierrapine.com

Eastern Sales 801 Cook Street Adel, Georgia 31620-3438 (888) 633-7477 Fax (229) 896-7695 info@sierrapine.com www.sierrapine.com

### TAFISA CANADA INC

4660 Villeneuve Lac-Megantic, Quebec G6B 2C3 (888) 882-3472 Fax (888) 711-3472 tafisa@tafisa.ca www.tafisa.ca

### TEMPLE-INLAND

303 South Temple Drive Diboll, Texas 75941 (800) 231-6060 Fax (936) 829-7846 BryanWilson@templeinland.com www.temple.com

### **TIMBER PRODUCTS COMPANY**

PO Box 269 Springfield, Oregon 97477 (800) 547-9520 Fax (541) 744-5431 mherbert@timberproducts.com www.timberproducts.com

### UNIBOARD

Montreal and Quebec Sales 2540 Daniel-Johnson, Suite 500 Laval, Quebec H7T 2S3 (800) 263-5240 Fax (450) 682-6630 www.uniboard.com

Ontario and Western Canada Sales 6205 Airport Road, Bldg A, Suite 300 Mississauga, Ontario L4V 1E3 (905) 673-5743 Fax (905) 673-0175 www.uniboard.com

US Sales 985 Corinth Road Moncure, North Carolina 27559 (877) 864-8641 Fax (877) 864-3291 www.uniboard.com

### WEBB FURNITURE ENTERPRISES, INC.

150 Jackson Street Galax, Virginia 24333 (276) 236-6141 Fax (276) 236-0963 jfrazier@webbfurn.com www.webbfurn.com

### MEDIUM DENSITY FIBERBOARD



Medium Density Fiberboard (MDF) is widely used in the manufacture of furniture, kitchen cabinets, door parts, mouldings, millwork and laminate flooring. MDF panels are manufactured with a variety of physical properties and dimensions, providing the opportunity to design the end product with the specific MDF needed.

MDF is a composite panel product typically consisting of cellulosic fibers combined with a synthetic resin or other suitable bonding system and joined together under heat and pressure. Additives may be introduced during manufacturing to impart additional characteristics.

The surface of MDF is flat, smooth, uniform, dense and free of knots and grain patterns. The homogeneous density profile of MDF allows intricate and precise machining and finishing techniques for superior finished products. Trim waste is significantly reduced when using MDF compared to other substrates. Stability and strength are important assets of MDF, which can be machined into complex patterns that require precise tolerances.







# MEDIUM DENSITY FIBERBOARD

COMMON USES

DOORS, JAMBS & MILLWORK

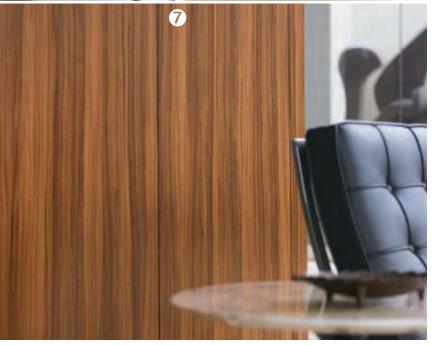
LAMINATING & FINISHING

**EDGE SHAPING & MACHINING** 

**OFFICE & RESIDENTIAL FURNITURE** 

LAMINATE FLOORING





MDF IS THE PERFECT SOLID WOOD SUBSTITUTE. THE STABILITY, STRENGTH AND HOMOGENEITY OF MDF ALLOW FOR AN INCREASING NUMBER OF APPLICATIONS. INTERIOR MDF MOULDINGS 1 ARE EASILY MACHINED AND LAMINATED OR PAINTED. IT IS WIDELY USED IN THE MANUFACTURE OF KITCHEN CABINETS 2. INTERIOR DESIGNERS FIND NEW AND EXCITING WAYS TO USE MDF SUCH AS DECORATIVE SURFACE PANELING 3. MDF IS USED AS THE CORE MATERIAL IN STORE FIXTURES AND LAMINATE FLOORING 4. MDF CAN BE MACHINED WITH VERY TIGHT TOLERANCES AND IS USED FREQUENTLY IN INTERIOR DOORS 6, OFFICE FURNITURE 6, AND PANELING 7.

### ECO\$GOLD" ENGINEERED FOR THE FUTURE

West Fraser's ECO+GOLD is a premium quality MDF panel, manufactured by West Pine MDF, that meets the environmental demands required for today's market.

- No Added Formaldehyde
- Manufactured from 100% recycled wood fiber
- Using these products earns green project points
- · Ultra low emissions CARB Certified

West Fraser is committed to producing MDF panels and programs designed to meet the changing needs of today's customers.



West Fraser MDF Sales & Marketing 9919 - 65 Avenue, Alberta Canada T6E 0L1 Ph: 1.780.413.8900 | Fax: 1.780.413.8910 e-mail: mdf@westfraser.ca www.westfaser.com/products/panels/panels.asp







### PRODUCT STANDARDS AND CERTIFICATION

The American National Standard for Medium Density Fiberboard (ANSI A208.2) is the North American industry voluntary standard. It classifies MDF by physical and mechanical properties and identifies product grades. Specifications identified in the Standard include physical and mechanical properties, dimensional tolerances and formaldehyde emission limits. The Standard was developed through the sponsorship of the Composite Panel Association (CPA), in conjunction with producers, users and general interest groups. A summary of the ANSI Property Requirements are included in this Guide, and copies of the Standard are available from CPA.

THE SMOOTHNESS AND STABILITY OF MDF ENSURES ITS SPECIFICATION IN CUSTOM SHELVING FOR DEMANDING RETAIL ENVIRONMENTS 1. MDF IS WELL SUITED FOR RESIDENTIAL CONSTRUCTION OF MODERN HOMES 2, WHERE CLEAR-COATED MDF WAS USED FOR INTERIOR WALLS, DOORS AND CASEWORK IN THIS DESIGNER HOME 3, AS WELL AS IN MORE TRADITIONAL HOMES 3, WHERE CABINETS AND BUILT-INS SHOWCASE THE PERFORMANCE OF MDF BEAUTIFULLY.

Third-party certification to ANSI A208.2 is required for many applications of composite panels. For example, HUD and the states of California and Minnesota require third-party certification of formaldehyde emissions for nearly all MDF and particleboard under their jurisdiction.

### FORMALDEHYDE EMISSION LIMITS

The standard has a tiered system of emission levels allowing either a maximum of 0.21 ppm or 0.11 ppm for panels thicker than 8 mm. Panels 8 mm and thinner shall conform to either the 0.21 ppm or 0.13 ppm maximum limit. To meet the needs of the market many MDF manufacturers have voluntarily developed ultra lowemitting and no added urea-formaldehyde (NAUF) products, so there are a wide variety of products available today with reduced formaldehyde levels, as well as a growing number of non-formaldehyde alternatives. Those companies currently producing NAUF products are identified in the product listings in this Guide.

MDF CONTINUED ON PAGE 26 >





In addition, CPA's Environmentally Preferable Product (EPP) program (to which a majority of the North American producers subscribe) requires emission limits no higher than the California Air Resources Board (CARB) Airborne Toxic Control Measure ("CARB Rule").

Finally, various overlays and surface treatments have been shown to significantly reduce product emissions. For additional information about emissions, see the CPA Technical Bulletin VOC Emission Barrier Effects.

Table 2: PHYSICAL AND MECHANICAL PROPERTY REQUIREMENTS FOR MDF WHEN DETERMINED IN ACCORDANCE WITH ASTM D 1037-06a PART B TEST METHODS FOR HARDBOARD

Grades		Phys	sical and Mech	nanical Prope	rties	
			Inte	rnal	Max	imum
	Mod		Bo			kness
	of Ruptur	e (MOR)	(IE	•)	Swe	II (TS)
	N/mm²	(psi)	N/mm²	(psi)	mm	(inch)
210	18.9	2741	0.32	46	2.2	(0.087)
220	28.9	4192	0.54	78	2.2	(0.087)
230	28.9	4192	0.90	131	2.2	(0.087)

MDF IS THE MATERIAL OF CHOICE
IN HOME INTERIORS ① AND
COMMERCIAL SPACES ②, WHERE TIGHT
TOLERANCES, SMOOTH SURFACES AND
INTRICATE MACHINING ARE CRITICAL.

PROPERTY REQUIREM	MENTS COMMON TO ALL MDF
Properties	Tolerance Limits
Panel Length or Width ≥ 0.61 m (2 feet)	<u>+</u> 2.0 mm (0.080 inch)
Panel Average from Specified Thickness	± 0.125 mm (0.005 inch)
Variance from Panel Average Thickness	<u>+</u> 0.125 mm (0.005 inch)
Linear Expansion (LE)	≤ 0.33 percent
Formaldehyde Emissions	See below

Formaldehyde Emissions  $\leq 0.21$  ppm or  $\leq 0.11$  ppm for MDF with a minimum thickness greater than 8mm. Formaldehyde Emissions  $\leq 0.21$  ppm or  $\leq 0.13$  ppm for MDF with a maximum thickness  $\leq 8$ mm.

	JM DENS BOARD	ITY		CERTIFIED	NAUF (NO ADDED UREA-FORMALDEHYDE)*	CARB EXEMPT (ULEF / NAF)**	DENSITY	3D DENSITY	VSITY	MOISTURE RESISTANT	COMPOSITE PANEL AS	SOCIATION	//	
COMPANY AND MILL LOCATION	BRAND NAME	WOOD SPECIES	CERTIFIED WOOD	EPP CER	NAUF (NC	CARBEX	LOW DEN	STANDARD	HIGH DENSITY	MOISTUF	SPECIAL ITEMS AND TREATMENTS (SEE LEGEND BELOW)	PRESS SIZE (FT.)	THICKNESS RANGE (IN.)	DENSITY RANGE (LBS/FT³)
CLARION BOARDS, II Clarion, Pennsylvania	NC. Standard Premium, Flooring Premium, Standard Premium High Density	Hardwoods Northern Softwoods	FSC	•	•	•	•	•	•	•	HD LD LF LP M MO MR	10xContinuous	3/16 – 1-1/8	38 – 57
<b>DEL-TIN FIBER, LLC</b> El Dorado, Arkansas	Solidium, Solidium Free	Southern Pine			•	•		•		•	CS LF LD MO MR S	9xContinuous	3/16 – 1	40 – 60
Eugene, Oregon  Malvern, Arkansas Sault Ste. Marie, Ontario	Premier®, Premier® Plus, Premier® HD, Premier® MR, Vesta Premier®, Premier® Plus, Premier® FR, Premier® MR, Vesta, elite™, Evo Premier®, Premier® Plus, Premier® MR, Vesta Superior MDF, Superior Plus MDF, Superior SW, Superior Lite, Vesta Fibrex®, Fibrex Vesta	Pine  Douglas Fir, Hemlock  Pine  Spruce, Pine, Fir  Mixed Hardwoods	FSC FSC FSC		•		•	•			CS FR HD LD  C-MDF FR HD LD  CS HD S LP LD M PF  B CS F FR FO HD LF M MR	5x18  4x16  5x18, 5x24  10xContinuous  5xContinuous,	3/8 - 2 1/4 - 1-1/4 3/8 - 1-1/2 3/16 - 1-1/2 1/16 - 5/16	39 - 55 32 - 55 41 - 46 40 - 48 55 - 62
GEORGIA-PACIFIC W Monticello, Georgia		Southern Pine		•				•			P PA PE  B CS F FD FO MN P PA PE PF PR T	5xContinuous  4xContinuous	1/10 – 1/4	50 - 56
KRONOSPAN LLC Eastaboga, Alabama	Krono-light, Krono-med, Krono-DR Krono-dur, Krono-dur plus	Southern Pine, Light Hardwood					•	•			CS HD LF LD MR	10xContinuous	1/8 – 1-1/2	32 – 62
<b>LANGBOARD, INC.</b> Willacoochee, Georgia	Langboard MDF, Elite®	Southern Yellow Pine		•				•			BE CS DC MO S ST TM	5x18	3/8 – 1-1/2	41 – 52
MADERAS CONGLON Tlalnepantla, Mexico	IADERAS CONGLOMERADAS S.A. DE C.V.							•			CS LP P W	4 X Continuous 7 X Continuous	1/12 - 7/32	48-51
PAN PACIFIC PRODUCE Broken Bow, Oklahoma	CTS, INC. Megaboard	100% Pine			•		•	•	•		DC SR HD LD	8x20	3/4 – 4	22 – 65

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PLUM CREEK MDF, Columbia Falls, Montana	INC.  Super Refined MDF2®, Thin HDF,  Glacier Green™ and Glacier Clear™	Western Softwoods	SFI / SCS	•	•		•	•	•	•	CS FD HD LD LF MR	5x18, 10xContinuous	1/16 – 1-1/2	40 – 60
SIERRAPINE Medford, Oregon Rocklin, California	ARREIS, Medex, Medite, Medite II Medite FR, Medite 3D, Permacore Rock-Top	Western Softwoods Western Pine	FSC FSC	•	•	•	•	•	•	•	CS DC EXT FR HD LD LP MR MO PF PR S TM W CS FD LD MN MO P PF PR S SR T	5x18 8xContinuous	1/4 – 1-1/2 2mm – 7mm	40 – 55 45 – 50
TEMPLE-INLAND Mt. Jewett, Pennsylvania	ULTRASTOCK	Mixed Hardwoods	FSC	•		•	•	•		•	BE CS HD LD LF MO MR S	9x25	7/32 – 1-5/16	40 – 55
UNIBOARD Moncure, North Carolina Mont-Laurier, Quebec	Uniboard MDF Uniboard MDF	Southern Pine Softwood, Hardwood	FSC FSC	•	•	•	•	•	•		HD LD M MO HD LD MO	10xContinuous 9xContinuous	5.6 – 9.8mm 9.53 – 28.58	33 – 57
UNILIN US MDF Mt. Gilead, North Carolina		Southern Yellow Pine		•				•			CS FD HD LF MR PR	9xContinuous	1/16 – 3/8	45 – 62
WEST FRASER MILL Quesnel, British Columbia White Court, Alberta	S LTD.  WestPine MDF, EcoGold™  Ranger Board	Spruce, Pine, Fir Spruce, Pine, Fir		•	•	•	•	•			HD LF LD HD LF LD	10xContinuous 6x24	3mm - 3/4 3/8 - 1-1/2	41 – 60 41 – 60

Special Items and Treatments: Base Coat (B), Bullnose Edge (BE), Countertop (C), Concrete Form (CF), Colored MDF (C-MDF), Cut to Size (CS), Door Core (DC), Door Stiles and Rails (SR), Edge Fill (EF), Edge Tape (ET), Fill (F), Fire Retardant (FR), Flush Door Skins (FD), Foil (FO), High Density (HD), Hot Melt Wax (H), Laminate Flooring Substrate (LF), Laminated Products (LP), Lockblocks (LB), Low Density (LD), Melamine (M), Mende (MN), Moisture Resistant (MR), Moulding (MO), Moulded Door Skins (MDS), Paint (P), Paper (PA), Perforated (PE), Prefinished (PF), Print (PR), Shelving (S), Smooth Siding (SS), Stair Tread (ST), Textured Siding (TS), Topcoat (T), Tongue and Groove (TG), Turning and Moulding (TM), Vinyl (V), Wood Veneer (W)

All particleboard and MDF facilities in this Guide offer third party certified products to meet the California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM 93120) regulation. Some facilities may also have been issued a NAF or ULEF Exemption Executive Order from the State of California. CPA maintains a current list of CARB certified and exempt facilities at www.pbmdf.com.

<sup>\* &</sup>quot;No added urea-formaldehyde" (NAUF) and NAF panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

<sup>\*\*</sup> CARB exempt (NAF/ULEF) manufacturers offer composite wood product categories that have no added formaldehyde (NAF) and/or ultra-low emitting formaldehyde (ULEF), and have been exempted from third party certification requirements of the California Air Resources Board (CARB) ATCM 93120.

### MDF/HARDBOARD/ ENGINEERED WOOD SIDING AND TRIM

### MDF

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Eastern US Sales 515 River Crossing Drive, Suite 110 Fort Mill, South Carolina 29715-7900 (877) 273-7680 Fax (800) 808-1454 customer.service@flakeboard.com www.flakeboard.com

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Route 4, Box 371, Highway 3 Broken Bow, Oklahoma 74728 (580) 584-6247 Fax (580) 584-6230 waynes@panpacificproducts.com www.panpacificproducts.com

### PLUM CREEK MDF. INC.

265 Meadow Lake Blvd. Columbia Falls, Montana 59912 (800) 548-3099 Fax (406) 892-6870 will.warberg@plumcreek.com www.plumcreek.com

### **SIERRAPINE**

3010 Lava Ridge Court, Suite 220 Roseville, California 95661 (800) 676-3339 Fax (916) 772-3415 info@sierrapine.com www.sierrapine.com

### **TEMPLE-INLAND**

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### UNIBOARD

Montreal and Quebec Sales 2540 Daniel-Johnson, Suite 500 Laval, Quebec H7T 2S3 (800) 263-5240 Fax (450) 682-6630 www.uniboard.com

Ontario and Western Canada Sales 6205 Airport Road, Bldg A, Suite 300 Mississauga, Ontario L4V 1E3 (905) 673-5743 Fax (905) 673-0175 www.uniboard.com

US Sales 985 Corinth Road Moncure, North Carolina 27559 (919) 542-2128 www.uniboard.com

### **UNILIN US MDF**

149 Homanit USA Road Mt. Gilead, North Carolina 27306 (910) 439-6959 Fax (910) 439-6497 bryan.traylor@unilin-us.com www.unilin.com

### **WEST FRASER MILLS LTD.**

9919 65th Avenue Edmonton, Alberta T6E 0L1 (780) 413-8900 Fax (780) 413-8910 mdf@westfraser.com www.westfraser.com

### HARDBOARD / ENGINEERED WOOD SIDING AND TRIM

### **COLLINS PRODUCTS. LLC**

6410 Highway 66 Klamath Falls, Oregon 97601 (800) 417-3674 Fax (541) 884-7282 lburns@collinsco.com www.collinsco.com

### **CMI/CRAFTMASTER MANUFACTURING INC.**

500 W. Monroe, Suite 2010 Chicago, Illinois 60661 (800) 405-2233 Fax (312) 382-8703 info@cmicompany.com www.miratectrim.com

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### LOUISIANA-PACIFIC CORPORATION

East River Plant 414 Union Street, Suite 2000 Nashville, Tennessee 37219 (888) 822-8899 www.lpcorp.com

Roaring River Plant 414 Union Street, Suite 2000 Nashville, Tennessee 37219 (888) 822-8899 www.lpcorp.com

### SACOPAN, INC.

652 Chemin du Moulin Sacre-Coeur, Quebec G0T 1Y0 (418) 236-1414 Fax (418) 236-1415 sacopan@sacopan.com www.sacopan.com

### STIMSON LUMBER COMPANY

520 Southwest Yamhill Street, Suite 700 Portland, Oregon 97204 (800) 445-9758 Fax (503) 295-1849 gconnolly@stimsonlumber.com www.stimsonlumber.com

### HARDBOARD



Hardboard is used in a variety of applications including furniture components, moulded door skins, wall paneling, underlayment and perforated boards.

Hardboard is a composite panel manufactured primarily from inter-felted ligno-cellulosic fibers consolidated under heat and pressure. Other materials may be added during the manufacturing process to improve certain properties, such as resistance to abrasion and moisture, and to increase strength and durability.

Hardboard has a uniform thickness, density and appearance and has no grain. It resists marring, scuffing and abrasion, as well as changes in temperature and humidity. Hardboard can be cut, routed, shaped and drilled with standard woodworking tools. In addition, hardboard can be securely glued or fastened with screws, staples or nails. Hardboard panels can be laminated with paper overlays, plastic laminates and veneers.



HARDBOARD'S LIGHT WEIGHT, THIN PROFILE AND STRUCTURAL INTEGRITY MAKE IT THE RIGHT CHOICE FOR **BACKING MATERIAL ON HOUSEHOLD** FURNITURE 3, INTERIOR WALL PANELING 4 AND DRAWER BOTTOMS. PERFORATED HARDBOARD HAS LONG BEEN A STAPLE IN HOME ORGANIZATION AND STORAGE 2, 3.







### PRODUCT STANDARDS AND CERTIFICATION

The American National Standard for Basic Hardboard (ANSI A135.4) is the North American industry standard. It classifies hardboard by thickness and physical properties, and includes five classes: Tempered, Standard, Service-Tempered, Service and Industrialite. Copies of the Standard are available from the Composite Panel Association (CPA).

The American National Standard for Prefinished Hardboard Paneling (ANSI A135.5) establishes the property requirements for dimensional tolerances and moisture content, along with resistance to abrasion, fading, heat, humidity, scrape, steam and stain. Requirements for washability, gloss, workmanship and flame spread are also specified.

COMMON USES PERFORATED BOARD



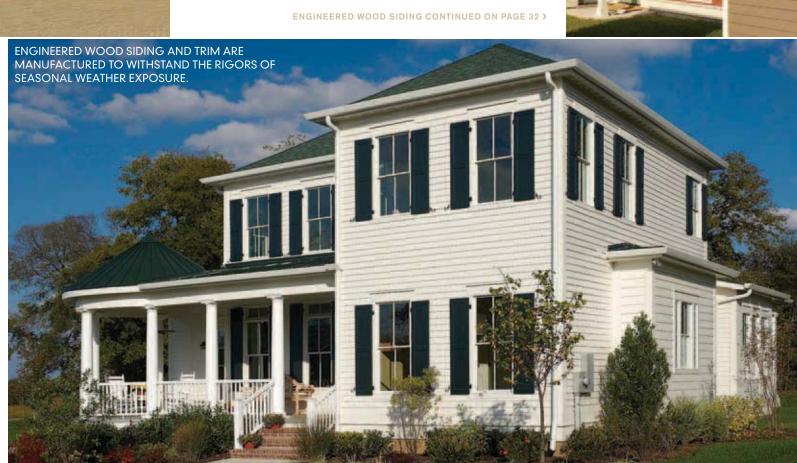
Hardboa	rd: THIC	KNESS	& PHYSI	CAL PRO	OPERTIE	S				
ANSI A135.	4-2004 Basic	Hardboard		RESISTANCE GE PER PANEL)		LUS OF		TENSILE S (MIN. AVERAG		
CLASS	NOMINAL	THICKNESS	WATER ABSORBTION BASED ON	THICKNESS SWELLING	(MINIMUM	TURE I AVERAGE ANEL)		ALLEL RFACE		DICULAR RFACE
	mm	inch	percent	percent	MPa	psi	MPa	psi	MPa	psi
	2.1	1/12	30	25						
	2.5	1/10	25	20						
1	3.2	1/8	25	20	41.4	6000	20.7	3000	0.90	130
TEMPERED	4.8	3/16	25	20						
	6.4	1/4	20	15						
	7.9	5/16	15	10						
	9.5	3/8	10	9						
	2.1	1/12	40	30						
	2.5	1/10	35	25						
	3.2	1/8	35	25	31.0					
2 STANDARD	4.8	3/16	35	25		4500	15.2	2200	0.62	90
	6.4	1/4	25	20						
	7.9	5/16	20	15						
	9.5	3/8	15	10						
	3.2	1/8	35	30						
3 SERVICE-	4.8	3/16	30	30	31.0	4500	13.8	2000	0.52	75
TEMPERED	6.4	1/4	30	25						
	9.5	3/8	20	15						
	3.2	1/8	45	35						
	4.8	3/16	40	35						
_	6.4	1/4	40	30						
4 SERVICE	9.5	3/8	35	25	20.7	3000	10.3	1500	0.34	50
	11.1	7/16	35	25						
	12.7	1/2	30	20						
	15.9	5/8	25	20						
	6.4	1/4	50	30						
5	9.5	3/8	40	25						
INDUSTRI-	11.1	7/16	40	25	13.8	2000	6.9	1000	0.17	25
ALITE	12.7	1/2	35	25	-					
	15.9	5/8	30	20						

### NGINEERED OOD SIDING AND TRIM

COMMON USES INTERIOR TRIM



Engineered Wood Siding and Trim (EWST) are categories of composite panels that have been designed and manufactured to perform in interior and exterior exposure applications with the appearance of traditional wood. These advanced composites can be engineered with enhanced resistance to moisture, dimensional stability and protection against fungal decay and termites. The engineered properties translate into long-lasting durability allowing for decades of service life while maintaining their attractive appearance. Today's engineered wood siding and trim products are highly versatile and come in many forms including sophisticated woodgrains and embossed surfaces.







TODAY'S SIDING AND TRIM PRODUCTS ARE OFFERED IN A WIDE RANGE OF TEXTURES, WIDTHS AND PROFILES THAT CAN CREATE ENDLESS STYLES AND THEMES.

The American National Standard for Hardboard Siding (ANSI A135.6), now referred to as the Engineered Wood Siding standard, covers requirements and methods of testing for exterior durability, dimensions, straightness, squareness, physical properties and surface characteristics. It also includes trade terms and methods of identifying engineered wood siding. Third-party certification to the ANSI Standards is required for many applications of siding panels. Many building code jurisdictions require the physical properties of engineered wood siding to be third-party certified. CPA's accredited certification program is recognized and approved by building code officials to evaluate siding products for code compliance.



# ARDBOARD

### HARDBOARD

				CERTIFIED	ADD	ED (S2	ED (S1	e.	ERED	<b>≱</b>	IN/FA	2	PANE							
COMPANY AND MILL LOCATION B	RAND NAME	WOOD SPECIES	CERTIFIED WOOD	EPP CERI	NAUF (NO	TWO-SIDED	ONE-SIDED (S1	TEMPERED	UN-TEMPERED	INDUSTRIAL	DOOR SKIN/FA	TILEBOARD	INTERIOR PANE	SIDING	TRIM	SPECIAL ITEMS AND TREATMENTS (SEE LEGEND BELOW)	PRESS SIZE (FT.)	THICKNESS RANGE (IN.)	DENSITY RANGE (LBS/FT³)	L
COLLINS PRODUCTS	, LLC																			
Klamath Falls, Oregon	TruWood Siding & Trim	Western Softwoods	FSC /SCS		•	•	•		•				•	•	•	B BE CF CS LP MR P PM SS TS TG UP	4x16	7/16 - 5/4	47	フ ロ ロ ス
CMI/CRAFTMASTER	MANUFACTURING, INC.																			ū
Towanda, Pennsylvania	CraftMaster molded door designs	Hardwoods	SCS		•		•	•			•					MDS	5x7, 5x14	1/8	60	C
	Extira panels	Hardwoods	SCS		•	•			•	•					•	MR UP	4x16	1/2 – 1-1/4	45 - 49	
	MiraTEC trim	Hardwoods	SCS		•	•			•						•	MR PM	4x16	4/4, 5/4	47	
GEORGIA-PACIFIC W	OOD PRODUCTS LLC																			<u></u>
Duluth, Minnesota	SuperWood	Aspen,																		U
<b>24.41.</b> ,	очрогиосч	Mixed Hardwoods	SFI		•		•	•	•	•	•		•			B CS GD F P PE PF PR T	4x16, 5-1/2x16	1/16 – 9/32	60 - 65	-
Phillips, Wisconsin	Jubilee, Lionite, UltraStrate	Aspen,																		
		Mixed Hardwoods	SFI		•	•		•	•	•		•	•			B CS F P PE PF PR T	4x8	1/10 – 1/4	62 - 66	- 2
LOUISIANA-PACIFIC	COPPORATION																			<b>&gt;</b>
East River, Nova Scotia	Canexel	Hardwood	ISO-9001 SFI											•		PF TS	7x16, 4x24	3/8 – 7/16	58 - 65	7
Roaring River, North Carolina		Mixed Hardwoods	SFI		•		•		•					•	•	PF PM SS TS UP	4x16, 4x18	7/16 – 1/2	47-52	
SACOPAN, INC.																			-	   
Sacre-Coeur, Quebec	SACOPAN	SPF.																		3
odoro oocur, quebec	UNUUI AIN	Sawmill Residuals														MDS	65x90	1/8	60 - 65	N
																				-
STIMSON LUMBER O	OMPANY																			-
Forest Grove, Oregon	Stimson Hardboard	Douglas Fir	SFI	•					•							B CS HD LD M P PE PF PM TS	4x16	1/10 – 5/8	50 - 70	
,	Duratrim	]													•					

JELING

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**JED UREA-FORMALDEHYDE)\*** 

Special Items and Treatments: Base Coat (B), Bullnose Edge (BE), Countertop (C), Concrete Form (CF) Cut to Size (CS), Door Core (DC), Door Stiles and Rails (SR), Edge Fill (EF), Edge Tape (ET), Fill (F), Fire Retardant (FR), Flush Door Skins (FD), Foil (FO), Garage Door Panels (GD), High Density (HD), Hot Melt Wax (H), Laminate Flooring Substrate (LF), Laminated Products (LP), Lockblocks (LB), Low Density (LD), Melamine (M), Mende (MN), Moisture Resistant (MR), Moulding (MO), Moulded Door Skins (MDS), Paint (P), Paper (PA), Perforated (PE), Prefinished (PF), Primed (PM), Print (PR), Shelving (S), Smooth Siding (SS), Stair Tread (ST), Textured Siding (TS), Topcoat (T), Tongue and Groove (TG), Turning and Moulding (TM), Unprimed (UP), Vinyl (V), Wood Veneer (W)

<sup>\* &</sup>quot;No added urea-formaldehyde" (NAUF) panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

### MDF/HARDBOARD/ ENGINEERED WOOD SIDING AND TRIM

### MDF

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Eastern US Sales 515 River Crossing Drive, Suite 110 Fort Mill, South Carolina 29715-7900 (877) 273-7680 Fax (800) 808-1454 customer.service@flakeboard.com www.flakeboard.com

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### PLUM CREEK MDF. INC.

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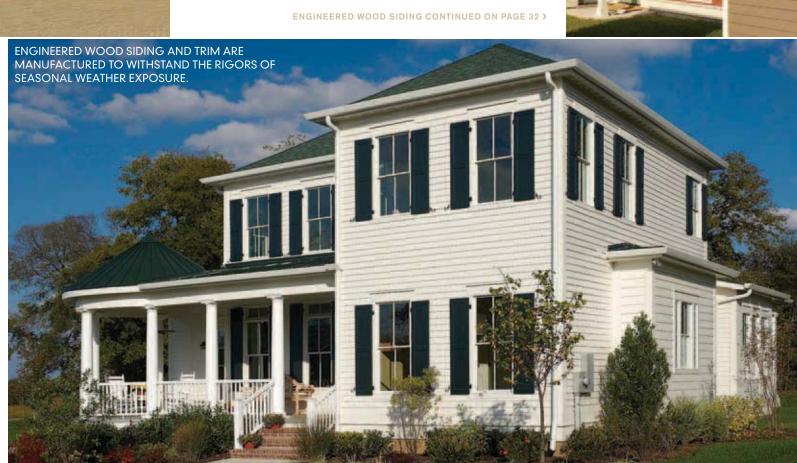
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### NGINEERED OOD SIDING AND TRIM

COMMON USES INTERIOR TRIM



Engineered Wood Siding and Trim (EWST) are categories of composite panels that have been designed and manufactured to perform in interior and exterior exposure applications with the appearance of traditional wood. These advanced composites can be engineered with enhanced resistance to moisture, dimensional stability and protection against fungal decay and termites. The engineered properties translate into long-lasting durability allowing for decades of service life while maintaining their attractive appearance. Today's engineered wood siding and trim products are highly versatile and come in many forms including sophisticated woodgrains and embossed surfaces.







TODAY'S SIDING AND TRIM PRODUCTS ARE OFFERED IN A WIDE RANGE OF TEXTURES, WIDTHS AND PROFILES THAT CAN CREATE ENDLESS STYLES AND THEMES.

The American National Standard for Hardboard Siding (ANSI A135.6), now referred to as the Engineered Wood Siding standard, covers requirements and methods of testing for exterior durability, dimensions, straightness, squareness, physical properties and surface characteristics. It also includes trade terms and methods of identifying engineered wood siding. Third-party certification to the ANSI Standards is required for many applications of siding panels. Many building code jurisdictions require the physical properties of engineered wood siding to be third-party certified. CPA's accredited certification program is recognized and approved by building code officials to evaluate siding products for code compliance.



# ARDBOARD

### HARDBOARD

			CERTIFIED	ADD	ED (S2	ED (S1	e.	ERED	<b>≱</b>	IN/FA	2	PANE			AUNE TIXIII				,	
COMPANY AND MILL LOCATION	BRAND NAME	WOOD SPECIES	CERTIFIED WOOD	EPP CERT	NAUF (NO	TWO-SIDED	ONE-SIDED (S1	TEMPERED	UN-TEMPERED	INDUSTRIAL	DOOR SKIN/FA	TILEBOARD	INTERIOR PANE	SIDING	TRIM	SPECIAL ITEMS AND TREATMENTS (SEE LEGEND BELOW)	PRESS SIZE (FT.)	THICKNESS RANGE (IN.)	DENSITY RANGE (LBS/FT³)	
COLLINS PRODUCTS	, LLC																			E
Klamath Falls, Oregon	TruWood Siding & Trim	Western Softwoods	FSC /SCS		•	•	•		•				•	•	•	B BE CF CS LP MR P PM SS TS TG UP	4x16	7/16 - 5/4	47	7 1 1 7
CMI/CRAFTMASTER I	MANUFACTURING, INC.																			G
Towanda, Pennsylvania	CraftMaster molded door designs	Hardwoods	SCS		•		•	•			•					MDS	5x7, 5x14	1/8	60	C
	Extira panels	Hardwoods	SCS		•	•			•	•					•	MR UP	4x16	1/2 – 1-1/4	45 - 49	\$
	MiraTEC trim	Hardwoods	SCS		•	•			•						•	MR PM	4x16	4/4, 5/4	47	
GEORGIA-PACIFIC W	OOD PRODUCTS LLC																			
Duluth, Minnesota	SuperWood	Aspen,																		U
Zuluul, Illiniootta	- Cups. 1100u	Mixed Hardwoods	SFI		•		•	•	•	•	•		•			B CS GD F P PE PF PR T	4x16, 5-1/2x16	1/16 – 9/32	60 - 65	-
Phillips, Wisconsin	Jubilee, Lionite, UltraStrate	Aspen,																		
		Mixed Hardwoods	SFI		•	•		•	•	•		•	•			B CS F P PE PF PR T	4x8	1/10 – 1/4	62 - 66	G
LOUISIANA-PACIFIC	CORPORATION																			<b>&gt;</b>
East River, Nova Scotia	Canexel	Hardwood	ISO-9001 SFI				•							•		PF TS	7x16, 4x24	3/8 – 7/16	58 - 65	7
Roaring River, North Carolina		Mixed Hardwoods	SFI		•		•		•					•	•	PF PM SS TS UP	4x16, 4x18	7/16 – 1/2	47-52	
SACOPAN, INC.																				   
Sacre-Coeur, Quebec	SACOPAN	SPF.																		3
cao. o coca, quesco	5.100.7.11	Sawmill Residuals									•					MDS	65x90	1/8	60 - 65	N
																				-
STIMSON LUMBER C	COMPANY																			
Forest Grove, Oregon	Stimson Hardboard Duratrim	Douglas Fir	SFI	•	•		•	•	•	•	•		•		•	B CS HD LD M P PE PF PM TS	4x16	1/10 – 5/8	50 - 70	

JELING

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<sup>\* &</sup>quot;No added urea-formaldehyde" (NAUF) panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

### MDF/HARDBOARD/ ENGINEERED WOOD SIDING AND TRIM

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COMMON USES
TABLETOPS
COUNTERTOPS
FURNITURE
CABINETRY
CASE GOODS
FLOORING

HPL is the direct descendent of the original plastic laminate. It is considered to be one of the most durable decorative surface materials and is available with special performance properties including chemical, fire and wear resistance. Special grades of HPL can be postformed around curved edges by application of heat and restraint.

HPL is produced by saturating multiple layers of kraft paper with phenolic resin. A layer of printed décor paper is placed on top of the kraft paper before pressing. The resulting sandwich is fused together under heat and pressure (more than 1,000 PSI). Because phenolic and melamine resins are thermoset plastics, the curing process transforms the resin into plastic by a cross linking process that converts the paper sheets into a single, rigid laminated sheet. Thermosetting creates strong, irreversible bonds that contribute to HPL's durability

HPL is laminated to a panel utilizing a variety of adhesives. Particleboard or MDF are the preferred substrate because they provide a stable, durable, consistent and economical foundation.

Due to its durability, HPL is a common choice for horizontal surfaces including flooring, countertops and desktops. It also performs well in horizontal and vertical applications for high traffic settings such as hospitality, office furniture, healthcare, retail casework, commercial interiors and educational facilities.

A relatively new development in HPL technology is Double Belt Press (DBP) for the production of Continuous Pressed Laminate (CPL). CPL is decorative paper impregnated with resins and fused under heat and high pressure with resin-impregnated backer(s). Laminate properties are similar to standard HPL and typical thickness range is .4 mm to 1mm. CPL is available in desired sheet lengths or continuous rolls.

Flexible CPL is decorative paper impregnated with flexible thermosetting resins and fused under heat and high pressure with resin-impregnated backer(s). This engineered CPL offers a unique range of formable decorative laminates suitable for profile wrapping and edgebanding applications. Common thickness range is .2 mm through .4 mm. Surface properties are similar to vertical grade HPL and are used significantly to complement HPL and TFM laminates.

HPL CONTINUED ON PAGE 36 >





SPECIAL CUSTOM LAMINATES ① CAN BE PRODUCED TO MATCH THE THEME OR DÉCOR OF ANY ENVIRONMENT. DESIGNERS AND ARCHITECTS OFTEN SPECIFY THEM FOR RESTAURANT SETTINGS ②. HIGH PRESSURE LAMINATE IS CONSIDERED ONE OF THE MOST DURABLE DECORATIVE SURFACE MATERIALS AND PERFORMS VERY WELL FOR HORIZONTAL APPLICATIONS SUCH AS COUNTERTOPS ③ AND FURNITURE ④.



ITS DURABILITY MAKES HPL PERFECT FOR LAMINATE FLOORING AND OFFICE FURNITURE 1. HPL COUNTERTOPS AREN'T JUST FOR KITCHENS; THEY CAN STAND UP TO THE RIGOROUS DEMANDS OF SCIENCE LABS AND CLASSROOMS 2.



### There are many types or grades of high pressure laminates engineered for specific performance requirements:

GENERAL PURPOSE: Most widely used HPL and suitable for horizontal and vertical surface applications. Typical thickness range from 0.028" to 0.048" (0.71 to 1.22 mm).

POSTFORMING: Can be formed around curved edges by application of heat and restraint. Maximum thickness is approximately 0.038" (0.97 mm) and can normally be formed to radii as small as 3/8" (9.5 mm).

BACKER: HPL produced without a decorative face. Available as standard (most common; slightly thinner than decorative HPL) or regrind (reclaimed HPL with decorative sheet sanded off).

SPECIAL PRODUCTS: Special purpose high pressure laminates include cabinet liners, high-wear, fire-rated, electrostatic dissipative and chemical resistant laminates.

In addition to aesthetic attributes, the lamination of particleboard or MDF with HPL can improve the physical performance of the substrate. For example, a shelf of 3/4" industrial (M-2) particleboard that is 24" long will carry 45 lbs per square foot (psf) of uniform loading with 0.133" deflection. The same shelf can carry 85 lbs psf before reaching the same deflection if overlaid with HPL.



## THERMALLY FUSED MELAMINE THERMALLY FUSED MELAMINE TEM or thermally fused malamine is made by fusing

TFM or thermally fused melamine is made by fusing a resin-impregnated sheet of décor paper directly to a substrate. There is no kraft paper used in TFM, and the resulting panel is ready for finishing. The décor paper generally weighs between 60 and 130 g/m² and is the same as the paper used in the production of HPL, making for easy matching across materials. Heat and pressure activate the resin in the saturated TFM sheet, creating a cross-linked bond with the substrate. This effectively seals the substrate. Particleboard and MDF are ideal substrates for TFM because they are consistent, uniform in strength and free of defects.

TFM CONTINUED ON PAGE 40 >

DECORATIVE PAPERS SATURATED WITH REACTIVE RESINS, CURED UNDER HEAT OR PRESSURE AND PERMANENTLY FUSED TO A SUBSTRATE SUCH AS PARTICLEBOARD AND MDF BECOME BOTH A DECORATIVE AND A CONSTRUCTION MATERIAL ①. THESE PANELS ARE OFTEN REFERRED TO AS THERMALLY FUSED MELAMINE (TFM) AND ARE USED EXTENSIVELY IN THE PRODUCTION OF CABINETS AND COUNTERTOPS IN RESIDENTIAL ②, ③ AND COMMERCIAL ④ ENVIRONMENTS.

COMMON USES

LAMINATE FLOORING

CABINETRY

COUNTERTOPS

SHELVING

STORE FIXTURES

HOME OFFICE FURNITURE







TFM decorative panels can be manufactured with enhanced visual and performance characteristics. Surface textures are created with steel press plates that emboss the decorative overlay to heighten the realism of wood grain, stone or abstract designs. Steel press plates can also be used to create or control the gloss level of the surface.

TFM decorative panels have excellent scratch and wear resistance. They are widely used in laminate flooring, office furniture, closet system components, store fixtures and cabinets. It is also an appropriate spec in healthcare, hospitality, commercial and retail settings. TFM decorative panels typically require a decorative edge treatment and can be specified with or without edge, and with single or opposite-side face treatments. Due to the performance, design flexibility and cost advantages, TFM offers an excellent option for designers and specifiers.



## RESERVED THE WAY

### TRADITION MEETS INNOVATION

Since 1973, Funder America (FAI) has drawn from its centuryold Austrian heritage to bring vertically integrated innovation, technology and flexibility to customers throughout the U.S. Three strategically located TFM panel and component-manufacturing facilities include the Mocksville, N.C., headquarters, which houses Funder's exclusive saturation business, large-volume panel lamination and full component capabilities. It's also home to a recently

added state-of-the-art powder-coating facility; MDF powder coating is a cost-efficient and environmentally friendly technology that offers design flexibility, seamless edges and an unlimited range of shapes.



Whatever your decorative surface needs, Funder has an innovative cost-effective solution. Funder's own Navigator Collection of 10 on-trend woodgrain designs brings excellent realism and rich character to panel-based furniture, fixtures and casework.

### **FUNDER AMERICA AT A GLANCE**

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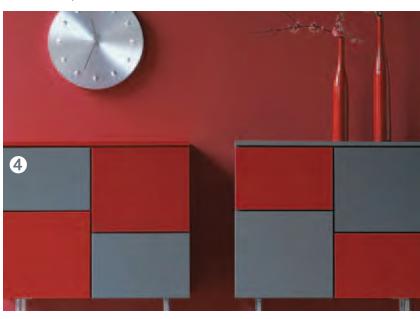


### The two most common thermoset resin systems used in **TFM** decorative panels:

MELAMINE: The resin is introduced into the paper during an impregnating operation. After the paper is impregnated it is partially cured (B stage) using curing ovens. The melamine resin is fully cured under heat and pressure during hot press lamination. The B staged paper has a definite shelf life that varies with temperature and humidity. Melamine resins are fully cured at 300-400 psi and 300-400 F. They are noted for their hardness, scratch resistance and color stability and are the most commonly used resin in saturated paper overlays.

THERMALLY FUSED MELAMINE PROVIDES EXCELLENT HARDNESS AND SCRATCH RESISTANCE, SUFFICIENTLY DURABLE FOR COMMERCIAL INTERIORS 1, LAMINATE FLOORING APPLICATIONS 2, MODERN KITCHENS 3 AND OFFICE FURNITURE 4.

POLYESTER: The resin is introduced into the paper during an impregnating operation. After the paper is impregnated it is partially cured (B stage) using curing ovens. Polyester resin is fully cured at 175-200 psi and 275-350 F during hot press lamination. The B staged paper has a definite shelf life that varies with temperature and humidity. Polyester resins are noted for their chemical, stain, water and impact resistance, color clarity and machinability.





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### DECORATIVE FOILS



Decorative foils are an intermediate-range paper-based overlay and are also called impregnated papers. They are generally pre-impregnated with a blend of melamine, acrylic and urea resins during the paper-manufacturing process or post-impregnated after the paper is fully cured. Decorative foils weigh between 40 and 200 grams/ m² untreated. During the impregnation process, the cellulose papers typically gain between 20 and 50 percent of their base weight. Those between 100 and 200 grams are dubbed specialty papers and are more likely than lighter-weight varieties to be used for exposed decorative surfaces.



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### HEAT TRANSFER FOILS

Heat transfer foils involve the transfer of a complete coating system from a carrier film to a substrate by means of heat and pressure. When transferred at point of contact between heated roller and substrate, the coating system provides both a decorative effect and a protective layer to provide specified end use properties.

The foils are gravure printed in reverse sequence on a copolymer film. That is, the release coat is applied first followed by a protective coating, the decorative pattern, the base coat and finally, the heat-activated adhesive. These foils can be applied vertically or horizontally to flat surfaces, curves, edges and contoured profiles. They are thermoformable, making them ideal for applications with doors or decorative trim, and can be restamped after application to correct defects or damage.



The impregnated foils are bonded with an adhesive system to a substrate (ex: MDF or particleboard). Quantity, method and type of impregnation and the type of adhesive system and substrate will have a direct effect on the finished product. These qualities will be demonstrated in cutting and



machining performance. Although impregnated papers do not require a topcoat to be considered a foil, most foils receive a finished topcoat for increased durability and scratch-resistance.

Due to substrate surface advancements, the use and performance of decorative foils has increased. Widespread use of decorative foils ranges from retail fixtures to closet systems, RTA



furniture, profile wrappings and POP displays. Specifiers choose decorative foils for their sharp print fidelity; wear-, stain- and water-resistant qualities; ease of maintenance and durability as well as their costeffectiveness and reliable machining and manufacturing characteristics.

DECORATIVE FOILS ARE ADHERED TO A SUBSTRATE USING A GLUE SYSTEM. THE APPLICATIONS ARE VIRTUALLY IDENTICAL TO THERMALLY FUSED PAPERS AND INCLUDE HOME STORAGE 1, CLOSET SYSTEMS AND KITCHEN CABINETS 2.





COMMON USES **FURNITURE** MANUFACTURED HOUSING

(RTF), three-dimensional laminate (3DL) and twodimensional laminate (2DL), are thermoplastic film overlays. They provide end users the freedom to design components with contoured surface profiles and seamless edges without requiring edge treatments. Designers can also use film overlays to customize shapes and incorporate punch-outs, logos and concave/convex surfaces. These films are available in solid colors or printed designs.

3D LAMINATES' RESISTANCE TO CHIPPING, CRACKING AND BREAKING MAKE THEM A POPULAR CHOICE FOR CABINET DOORS 1 AS WELL AS WORK SURFACES AND CONFERENCE TABLES 2. A SEAMLESS EDGE PROFILE AND AN EASY TO CLEAN SURFACE ARE IDEAL FOR HEALTHCARE APPLICATIONS 63. FILM OVERLAYS ARE VACUUM FORMED OR MEMBRANE PRESSED OVER CONTOURED SUBSTRATES 4.





The films used in 3DL and 2DL are thermoplastic, meaning they soften when heated to take on the shape of their substrate and return to a firm state when sufficiently cooled.

3DLs are primarily made of polyvinyl chloride (PVC) and polyester (PET) films. They can be seamlessly membrane pressed or vacuum formed around contoured components, including edges. 3DL can also be used in 2DL applications such as profile wrapping and flat lamination. 3D laminates are available in typical thicknesses from 0.008" to 0.040" and customized gloss ranges. In addition, they can be embossed with specific patterns to improve realistic aesthetics.

3D laminates are resistant to chipping, cracking or breaking making them a popular choice for retail store fixtures. In addition, their application seals the core panel substrate from bacteria and moisture, which make them an increasingly popular choice in healthcare settings for over bed tray tables, furniture and cabinetry. Due to their ability to wrap around custom shapes, edges and contoured surfaces, designers often specify 3DL materials for POP displays, commercial hospitality components, office furniture and door/drawer fronts for cabinetry.

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MEMBRANES & MORE

2DLs are generally made from vinyl, polypropylene (PP) or oriented polypropylene (OPP). They are designed to be flat laminated or profile wrapped.

2DLs are available in a variety of thicknesses ranging from 0.001" to 0.007", and can be solid colored, reverse printed or top printed with an overlay based on end use requirements.

2D laminates provide excellent water and chemical resistance, and varying degrees of scratch and stain resistance. Common uses for 2D Laminates include walls and ceilings of recreational vehicles, vertical surfaces for retail store fixtures, cabinets, commercial flooring, and residential components.

### Films can be divided into eight categories:

2ML REVERSE PRINTED RIGID FILM: Print design and base coat are printed on the back of the film in reverse order. This film is used for wall paneling (mostly in recreational vehicles), kitchen cabinets, furniture and manufactured housing.

### SEMI-RIGID CLEAR FILM / REVERSE PRINTED:

The film is frequently embossed and can be coated with scuff resistant coatings. These films range from 4 to 8 mils in thickness. Some can be mitre folded.

**SANDWICH FILM**: Semi-rigid two-ply overlay. The opaque base film is top printed and a clear overlay is laminated on top. This film is designed for mitre folding and flat sheet lamination. These films range from 5.5 to 8 mils in thickness. Some are available with scuff resistant topcoating.

SOLID COLOR FILM / SEMI-RIGID FILM: This film is integrally colored and can be top printed and/ or embossed. Top printed film is used extensively in manufactured housing, recreational vehicles, commercial paneling and movable walls. Plain solids are used in furniture, kitchen cabinets, fixtures and displays and office furniture applications. Thicknesses range from 3.5 to 8.0 mils. Some films are available with scuff resistant topcoatings.

THERMOFORMED OVERLAY FILMS: Single-ply or two-ply construction. Gauges range from .010" to .030" and the film may be printed in wood grain or decorative patterns. Films may be embossed and may be coated with scuff and stain resistant coatings. Primers to promote adhesion are available. Films are designed for thermoforming with heat and pressure in a bladder press or vacuum forming process. Decorative effects can be achieved with two-ply films when a router is used to expose a different color in the bottom ply film. Films may also be flat laminated or mitre folded. Raised panel cabinet doors and free-formed furniture components are the most common applications for this type of film.



WOODGRAIN FILM OVERLAYS, COATED FOR SCUFF, SCRATCH AND STAIN RESISTANCE, ARE WELL-SUITED TO OFFICE FURNITURE 1 AND HOSPITAL SURFACES 2.

WRAPPING FILMS: Rigid vinyl films in gauges from .005" to .010". Film may be printed in wood grain or decorative patterns, may be embossed and may be coated with scratch and stain resistant coatings. Films are designed for wrapping profiles, like picture frames and furniture moulding, and can also be flat laminated and mitre folded.

CALENDERED POLYPROPYLENE FILM: These films range from 5 to 20 mils in thickness and are available in a range of solid colors. Typical applications include flat laminations and edge banding for garage and kitchen cabinets as well as electronics.

ORIENTED POLYPROPYLENE (OPP) FILM (OPAQUE): Relatively new to the decorative overlay category, these films are stretched (oriented) in both the machine and cross-machine direction to deliver improved dimensional stability. In addition, OPP offers resistance to water and chemicals. Because of its non-absorbent print surface OPP is ideal for high fidelity wood grain prints and decorative patterns. OPP films may be embossed and are typically coated for scuff, scratch and stain resistance. Oriented polypropylene films are available in thicknesses ranging from 0.9 to 2.2 mil (23 gsm to 56 gsm). Typical applications include RTA furniture, cabinets, wrapped profiles, ceiling and wall panels.







### LIGHT BASIS WEIGHT PAPERS

COMMON USES SHELVING SYSTEMS **CLOSET SYSTEMS** PANELING HOME OFFICE FURNITURE



Light basis weight papers range in weight from 23 to 50 grams/m<sup>2</sup>. The paper may contain acrylic, polyester or other resins added during the paper making process to improve the internal bond strength. The paper is then printed and topcoated with polyurethane, urea, polyester, acrylic or melamine or a combination thereof for increased durability and performance.

These papers can be printed with excellent quality and high-fidelity patterns. Optional chemical, optical, or gloss-matte embossing of these papers enhances the realism of woodgrain and natural patterns. Light basis weight papers have long been common in higher levels of value engineering and are widely used in cabinets, store fixtures, paneling, shelving, closet systems, RTA and home office furniture.

Light basis weight papers are usually divided into two categories, standard and industrial. Standard grade papers contain a lower amount of resin in the base paper and offer an economical overlay for use on general surface applications.

Industrial grade papers with their higher resin content, should be specified for applications that demand higher production and processing performance (i.e., improved cutting and machining). The cost effectiveness of this overlay group is further enhanced by the possibility of single sided panels. It is not necessary to laminate both sides of the substrate to achieve a balanced panel. As an additional application, depending on their weight, light basis weight papers can be profile wrapped to produce trim that is an exact match of the flat surface.

Light basis weight papers will accept a variety of adhesives applied during the laminating process. Additionally, they can be supplied precoated with hotmelt adhesive ready for hot roll laminating without any additional adhesive application to the paper or substrate. The performance and appearance of the finished panel will be affected by the adhesive system used and substrate quality.  $\blacksquare$ 







LIGHT BASIS WEIGHT PAPERS (LBWP) ARE IDEAL AS AN ECONOMICAL OVERLAY. INDUSTRIAL-GRADE LBWP HAVE A HIGHER RESIN CONTENT AND GREATER INTERNAL BOND AND ARE OFTEN USED IN KITCHEN CABINETS 29, HOME OFFICE FURNITURE 6 AND CLOSET SYSTEMS 6. STANDARD LBWP ARE USED IN LOW WEAR APPLICATIONS LIKE SHELVING 3, 4 AND PANELING, IN THIS CASE FOR CEILINGS 1.



COMMON USES **EDGE BANDING READY TO ASSEMBLE FURNITURE CASE GOODS** 



Another common decorative surfacing material used in the lamination industry is natural wood veneer. Veneers are available in a variety of wood species, both domestic and imported. Composite panels, like particleboard and MDF, are the preferred substrate for veneers due to their superior surface qualities of being flat, smooth, uniform, dense and free of knots and grain patterns. In addition, their dimensional stability, strength properties and cost advantages further increase the advantages of using these substrates.

The veneers are typically sliced between 1/25" to 1/50" (1.0 mm to 0.51 mm) and are available plain or with a paper or fleece backer that have varying degrees of flexibility. The backers provide stability and strength to the veneer and minimize splintering, cracking and checking. Veneered composite panel constructions are used in many applications including high quality furniture, case goods, store fixtures and cabinetry. Some veneers are used for profile wrapping, typically over MDF, for high end millwork applications.

Veneers can be overlaid with either heat activated resins or cold pressed. The main resin used in hot press systems is a ureabased adhesive due to its ability to make the panel more rigid, faster processing parameters and lower cost base. Another hot press resin system that is increasingly used is a soy-based resin. Cold press systems typically use polyvinyl acetates, casein and contact adhesives. These systems are used for smaller production quantities and may be less rigid than heat activated resin systems.



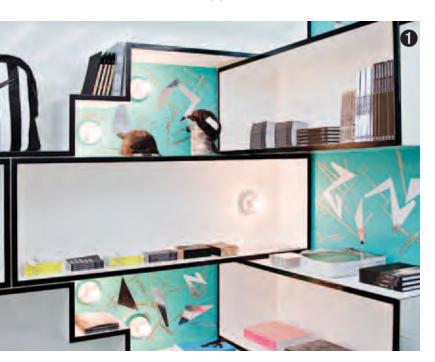




WOOD VENEERS HAVE BECOME THINNER 1, 3 AS THE TECHNOLOGY TO PROCESS THEM HAS IMPROVED. NEVERTHELESS, THIN VENEERS WOULD NOT HAVE PRACTICAL APPLICATION WITHOUT THE ADVANCES MADE IN THE SURFACE QUALITY OF PARTICLEBOARD AND MDF. WOOD VENEERS REQUIRE A GLUE SYSTEM AND A SURFACE FINISH. VENEERS ADD WARMTH TO COMMERCIAL INTERIORS 2, FURNITURE 4, ENTERTAINMENT VENUES 5 AND RESTAURANTS 6.

### COATINGS

Another common decorative surfacing option is paint coating. With the advance of technology, coatings can now be applied to composite wood substrates in either liquid or powder forms. Paint can also be used in tandem with special inks, particularly in applications calling for printed wood grains or abstract patterns. Aside from wood grain printing, coatings are available as a decorative color finish or as a clear protective topcoat. The surface characteristics of composite panel products, especially MDF, allow for direct coating and printing applications, which result in exceptionally consistent defect-free finishes. While some industrial finishes are available on a retail basis. most coatings are custom formulated to fit the specific prefinisher's line configuration and the requirements of the intended end application.



MDF IS THE PERFECT SUBSTRATE FOR STRIKING HIGH-GLOSS FEATURES IN RETAIL ENVIRONMENTS 1 AND SATIN GLOSS COATED MILLWORK AND KITCHEN CABINETS 2. POWDER COATING PROVIDES A CONSISTENT AND DURABLE FINISH FOR CONTOURED COMPONENTS 4, AND IS AVAILABLE IN A WIDE RANGE OF COLORS, TEXTURES AND FINISHES 3.



There are many types of liquid coatings used as industrial decorative surfaces. Coatings can be water or solvent-based, and chemistry advancements continue to provide increases in performance of both types. Both families of coatings are used in finishing cabinets and furniture, exterior siding, millwork, trim, flooring and fixtures.

WATER-BASED ACRYLIC LATEX COATINGS: These coatings are used in industrial, commercial and residential settings and are formulated for both interior and exterior applications. Manufacturers can modify these coatings with different types of resins and cross-linking agents to extend the service life and exterior durability of the coating system. These additives also improve the chemical, corrosion and water resistance properties.

One of the advantages of water-based coatings is their lower VOC content, which reduces their impact to indoor air quality. They are also superior to other coating types in their exterior durability and color retention, which is a function of the acrylic resins used in the formulation. However, these coatings do not perform as well as solvent borne coatings in chemical and wear resistance.

SOLVENT-BASED COATINGS: The higher VOC nature of solventbased coatings limits their use primarily to industrial settings that are equipped with specialized air handling and treatment devices. These coatings can be modified with urethanes, epoxies, nitrocellulose, alkyds and acrylics to impart certain performance qualities.

Solvent-based coating systems are widely recognized for their outstanding chemical and wear resistant properties. This family of coatings is used for high gloss finishes that have superior abrasion resistance. Their toughness and performance properties are among the reasons they are extensively used in the furniture and kitchen cabinet manufacturing business. In addition, there is minimal grain raise and fiber swell with solvent-based coatings, and the finish is easier to touch up and repair if damaged.

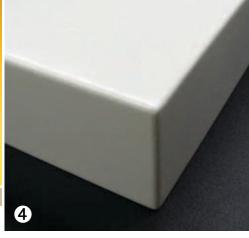
ULTRA-VIOLET (UV) COATINGS: The main difference with this coating type is how the coating is cured or dried. UV coatings have special ingredients that react almost instantaneously with UV radiation. This results in a significantly faster curing process. As a result, UV coatings are extremely tough, durable and long lasting. They are mainly formulated as clear coats and sealers.



### POWDER COATINGS

The popularity of powder coating has continued to grow as an industrial finishing system. Initially developed as an alternative way to coat metal, the advantages of this evolving technology have made powder coating the fastest growing industrial finish for metal in the world. Powder coatings are used on appliances, machinery, furniture and fixtures. The powder coating process significantly reduces waste, with nearly 95% transfer efficiency and low VOC emissions.

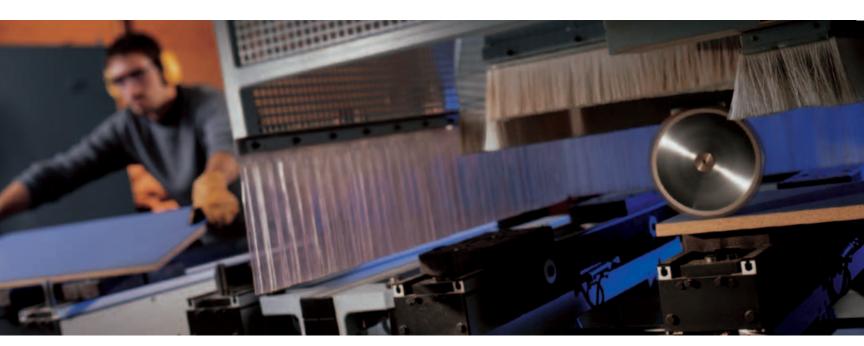
In the late 1990's, companies began experimenting with applying powder to wood products, particularly MDF. As MDF was a wood-based product and not prone to carrying electrical charges (critical for the electrostatic process), there were significant processing challenges to overcome. With the development of specially engineered MDF and powders, along with new processing techniques, these efforts were successful and a new way to finish composite panel products was launched.



COMMON USES
CABINETS
FURNITURE
EXTERIOR SIDING
MILLWORK
TRIM

Powder coating is an advanced method of applying a decorative and protective finish onto a wide range of materials and products that are used for both industrial and consumer applications. The powder used for the process is a mixture of finely ground particles of pigment and resin that is sprayed onto a surface to be coated. The charged particles adhere to the electrically grounded surface until heated and cured to create a variety of smooth and textured finishes that are uniform and durable. The coating process is a single-stage application where all exposed surfaces are coated simultaneously.

The benefits of powder coatings include increased design flexibility, cost efficiency and seamless edges. Powder coatings also provide high resistance to heat, moisture, abrasion, staining and fading, and offer a range of colors, textures and finishes.



### Taking Care of Business

For 45 years, Stiles has been helping manufacturers succeed by meeting the needs of a changing industry. Tasks once done manually can now be accomplished with the push of a button or a mouse click, allowing sophisticated software applications and CNC machines to work hand-in-hand with traditional craftsmanship and artistry. The world's largest independent distributor of quality machinery, Stiles is focused on offering solutions that improve process technology and maximize production capacity. And, as the industry continues to evolve, Stiles maintains its passionate commitment to make your business a success.

Find out how Stiles can help you take care of your business. Call Stephan Waltman at **616.698.7500** or email **swaltman@stilesmachinery.com**.



### North American Composite Panel Manufacturers

### LEGEND 2 MANITORA 1. Boise Cascade, LLC 2. Clarion Boards, Inc. 44 ALBERTA CMI/CraftMaster Manufacturing, Inc. Collins Products, LLC **SASKATCHEWAN** Dakota Panel Calgary Decorative Panels International, Inc. Vancouver, DNTARIO DeFehr Furniture Del-Tin Fiber, LLC Seattle, 9. Duraplay de Parral, S.A. de C.V. Thunder Bay WASHINGTON 29 N/DAK 10. Flakeboard • MONTANA 11. Florida Plywoods, Inc. Bismarch MINNESOTA 12. Georgia-Pacific Wood Products LLC 13. Giles & Kendall, Inc. ATOMAD HTUDE 14. Hambro Group 15. Industrias Emman, S.A. de C.V. Méwaukee, Detroit WYOMING 16. JELD-WEN, Inc. Toledo New York IDWA 17. Kronospan LLC Philadelphia 18. Langboard, Inc. 19. Louisiana-Pacific Corporation City San Francisco Kansas LITAH 20. Maderas Conglomeradas, S.A. de C.V. (MACOSA) COLORADO KANSAS 21. Maderas y Sintéticos de México, S.A. de C.V. (MASISA) St. George Wichita. 22. Marshfield DoorSystems, Inc. 23. Masonite International Corporation Las Vegas Santa Fe 24. Northern Engineered Wood Products, Inc. OKLAHOMA 25. Overhead Door Corporation Los Angeles ARIZONA NEW MEXICO 26. Pan Pacific Products, Inc. San Diego 27. Panolam Industries International Inc. 28. Plum Creek MDF. Inc. 29. Plummer Forest Products 30. Ponderplay, S.A. de C.V. 31. PPM Pacific Panels Mexico, S.A. de C.V. San Tampa 32. Rexcel S.A. de C.V. 33. Roseburg 34. Sacopan Inc. Hidalgo del Parral Monclova: 35. SierraPine 36. Stimson Lumber Company Saltillo 37. Tafisa Canada Inc. MEXICO 38. Taosa Paneles S.A. de C.V. CPA Particleboard Members 39. Temple-Inland CPA Medium Density Fiberboard Members 40. Timber Products Company 41. Uniboard CPA Hardboard and Engineered Wood Siding/Trim Members 42. Unilin US MDF Non-Member Particleboard 43. Webb Furniture Enterprises, Inc. 44. West Fraser Mills Ltd. Non-Member MDF, Hardboard and Engineered Wood Siding/Trim



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CPL (CONTINUOUS PRESSED LAMINATE
DECORATIVE FOILS
HEAT TRANSFER FOIL
HIGH PRESSURE LAMINATES
LIGHT BASIS WEIGHT PAPER
PHENOLIC
POLYESTER
POLYPROPYLENE
SATURATED PAPER
THERMALLY FUSED MELAMINE
VINYL FILM
WOOD VENEER
OTHER (SEE NEXT COLUMN)

### COMPOSITE PANEL ASSOCIATION

		INAT	N N	TIVE	ESSI	ASIS	2	띮	OPYL			Σ	ENE	SEE		
COMPANY AND LOCATION	BRAND NAME	3-D LAMINAT	CPL (CONTIN	DECORATIVE HEAT TRANSI	HIGH PRESSU	LIGHT BASIS	PHENOLIC	POLYESTER	POLYPROPYI	SATURATED	THERMALLY	VINYL FILM	WOOD VENE	OTHER (SEE	OTHER PRODUCT TYPES	SPECIAL TREATMENTS, FEATURES AND CAPABILITIES
AET FILMS New Castle, Delaware	SynDECOR®								•					•	SynDECOR ®, a performance polymer-based decorative overlay	Water resistant, sustainable overlay. Dimensionally stable. High print fidelity. Miter-foldable. No VOC's. Available 23gsm thru 56gsm; white and beige.
AMERICAN RENOLI' Swedesboro, New Jersey LaPorte, Indiana	T CORPORATION RENOLIT	•						•	•			•		•	Exterior Film	3D laminates, PVC, PET and PP decorative films for pressing wrapping and thermoforming. Horizontal grades. Extensive stocking with cut roll program. Solids, prints, metallic and high gloss. Popular TFM/HPL matching program.
ARCLIN Tacoma, Washington	E-Gen		•		•		•			•	•			•	Glue films, backers	Arclin's E-Gen designated decorative overlays are available for TFM, HPL, CPL, flooring and industrial surfacing applications. Available with GREENGUARD, Children and Schools, and FSC Chain of Custody Certification.
ARJO WIGGINS USA Stamford, Connecticut	A, INC.													•	Base paper manufacturer (saturating and pre-impregnated) for the printing, saturating and laminating industry	
BAUSCHLINNEMAN Greensboro, North Carolina Myrtle Beach, South Carolina	TecoFoil, TecoLine, TecoTop, TecoLam		•	•		•								•	Pre-applied hotmelt adhesive	Flat surface and profile wrap laminates, high abrasive resistant surfaces, recoatable surfaces, melamine edgebanding for straight and softformed edges, slitting services.
CDM DÉCOR PAPER Drummondville, Quebec	S INC. AquaSeal™, Foilspec™, Microspec™			•		•			•					•	Pre-applied hotmelt adhesive	AquaSEAL <sup>TM</sup> : Water, stain and abrasion resistant, dimensionally stable, resists shrink/creep, formaldehyde free. Electron beam cured decorative foils and light basis weight papers.
CHIYODA AMERICA Morgantown, Pennsylvania	, INC.			•		•				•		•				Zen Finish. North American printing and design services. Experienced in matching design and color across product mix for maximum end use opportunities. Solid Color Light Weight (30gm) paper.
COVERIGHT SURFACE Blythewood, South Carolina Curitiba Brazil Cobourg, Ontario					•					•	•		•	•	Broad range of technical films. PG backers, glue films, Coated Glass Mat, Decorative prints for surfaces	High Wear Melamine, impact resistant melamine. Silveright anti-bacterial surface treatment now available for TFM Decorative prints and can be ordered in sheet or roll form, HPL, Laminate flooring surfaces and other building products.
FORMICA CORPORA Cincinnati, Ohio	Formica High Pressure Laminates, Formica Solid Surfacing, DecoMetal Metal Laminates, Formica Veneer Premium Wood Surfacing, Chemtop2				•					•				•	Solid surfacing, metal and wood laminates	Innovative High Pressure Laminate finishes: Etchings, Honed, Naturelle, MicroDot, Riverwash; Radiance; fire and chemical resistant laminates, compact phenolic panels.
INTERPRINT, INC. Pittsfield, Massachusetts				•						•						Decorative printing, in-house laser engraving, design and repro services.
KAPSTONE CHARLE North Charleston, South Caro														•	Producers of DuraSorb® saturating kraft paper for use as core paper for HPL, CPL, and compact laminates as well as overlays for construction grade applications.	

LAMIGRAF, S.A. Barcelona, Spain Bonen, Germany										•					Decorative and solid color printed papers for TFM, HPL and laminate flooring markets	Decorative printing of saturating papers up to 2700mm wide, along with full digital design and engraving services.
MUNKSJO PAPER Fitchburg, Massachusetts														•	Base paper manufacturer for the printing, saturating & laminating industry	
OLON INDUSTRIES IN Geneva, Illinois	NC. (Decoratives Division) Olon Decorative laminates	•	•					•		•		•	,	•	Olon Thermally Fused Continuous Decorative Laminates	Continuous TF laminates for wrapping and edgebanding applications. Designs to complement Arclin, Coveright, Flakeboard, Formica, Nevamar, Panval, Tafisa and Wilsonart. High abrasion resistant wrapping grade laminates for flooring laminate designs. Saturated products with polyester resins, such as décor cellulose paper, fiberglass and backers. Available with antimicrobial protection.
Auburn, Pennsylvania Jeanette, Pennsylvania	S, INC. OMNOVA Laminates, surf(x) 3D Laminates, EFX 3D Laminates, radiance Flat Laminates, duraMAX Flat Laminates	•		•		•		•	•	•	•			•	EFX 3-D Laminates (non-PVC), pre-applied adhesive, broad range of technical films, acrylic laminates	North American manufacturer with short lead times, leading print designs, small minimum orders, extensive stock program and a range of performance coatings. Variety of constructions with matching designs across constructions (Harmony Program) provides the best application of laminate based on cost and functional requirements.
Auburn, Maine Hampton, South Carolina	Prowrap® Polyester and Melamine  Panolam® TFM, Pluswood® TFM		•	•	•	•		•				•				Custom print capabilities in TFM and HPL. Custom print capabilities in TFM and HPL. ProWrap® Polyester and Melamine in standard and high-wear laminates in a variety of textures. Custom print capabilities in TFM and HPL.
RIKEN U.S.A.	ranoiani irivi, riuswoou irivi		_			Ľ		$\dashv$								Custom print capabilities in Trivi and Tire.
Burlington, New Jersey	Integra, Tre Nuovo, FINO, Rivestar	•						•			•	•				Printing, top coats, non PVC, UV top coats, 3D thermofoil, high gloss thermofoil.
SCHATTDECOR St. Louis, Missouri				•						•						
SUDDEKOR, LLC Agawam, Massachusetts East Longmeadow, Massachus Biscoe, North Carolina	D. Fin, D. Film, D. Release setts			•						•						Design service and in-house engraving offering prompt, proprietary service. Impregnation of high-clarity overlays, decorative prints, and backer papers, in either roll or sheet form, at two North American locations. New line of D.Fin® finish foils and D.Release® release papers engineered to visually and technically coordinate with Süddekor products.
SURFACE SOURCE IN Randolph, New Jersey	ITERNATIONAL Klöckner Pentaplast, Pentadecor®, Basic Line, Matte Line, Gloss Line, kpExtreme <sup>TM</sup> , EGR, Stylelite®, Zenolite®, Acrylic sheets, 2D Acrylics	•		•				•	•		•			•	Phenolic Backed 3D Laminates Peel n stick 3D laminates, ABS - Edge banding	Stocking distributor with same day shipping and a on-staff technical department. HPL/TFM matching program. Slitting services available. PVC & PET High Gloss and solid color 3DL program. Industry leading printed designs with a wide range of embossing's from, ultra-smooth to deep texture. Special surfaces available for healthcare and fixture & display markets.
TECHNOCELL DEKOR Pulaski, New York	ł													•	Base paper manufacturer (saturating and pre-impregnated) for the printing, saturating and laminating industry	
TOPPAN INTERAMER McDonough, Georgia	RICA INC.			•						•				•	Non PVC film (printed)	
U.S. COATING COMP. Lexington, South Carolina	ANY			•										•	Paintable/glueable papers and backing	Electron beam cured decorative foils; pigmented coatings applied to specialty papers, basis weights from 40gsm to 100 gsm.
	ATIONAL Wilsonart Laminate, Wilsonart HD High Definition Laminate, Chemsurf Chemical-Resistant Laminate				•		•							•	Wilsonart Solid Surface, Decorative Metals, and Adhesives.	AEON™ Enhanced Performance; Digital and Silk-Screened Custom Laminate; Performance Types: Chemical Resistant, Fire-Rated, Marker Board, Chalkboard, High Wear Laminates.
ZAMMA CORPORATI Orange, Virginia	ON		•	•						•				•	Frame and profile wrapping, floor transitions, mouldings.	Laminates and continuous pressure laminates for flat surfaces and profile wrapping in various surface finishes. High abrasive resistant surfaces including flooring grade. Edgebanding and custom treating solutions up to 1,400 mm (55") wide.

\$\frac{\partial}{\partial}\$ surface \( \partial \partial

INSTREAM LICENSED FACILITY
) ADDED UREA-FORMALDEHYDE)*
NATES
TIVE FOILS
ANSFER FOIL
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**AMINATORS** 

**BRAND NAME** 

Melawood products

Duraflake

**UltraPine®** 

**UltraPine®** 

Superior SW MDF

Fibrex®. Rezflake

**FUNDER** 

MADERAS CONGLOMERADAS S.A. DE C.V.

**OLON INDUSTRIES INC. (COMPONENTS DIVISION)** 

**Decorative Laminates** 

Olon Creative Products

Olon Components

Olon Components

Duralam, Duramel, Duracore

Superior MDF, Superior Plus MDF,

MACOPELL, MACOMELL, MACOPLAY

**AMERICAN LAMINATES, INCORPORATED** 

COMPANY

AND LOCATION

Riverbank, California

Clarion, Pennsylvania

Chino, California

St. Casimir, Quebec

Trumann, Arkansas

Chihuahua, Mexico

FLAKEBOARD

Albany, Oregon

Bennettsville, South Carolina

St. Stephen, New Brunswick

FLORIDA PLYWOODS, INC.

FUNDER AMERICA, INC. Hope, Arkansas; Mocksville, F

**LAMINATE TECHNOLOGIES** 

MJB WOOD GROUP, INC.

North Carolina; Sebring, Florida

KML CORPORATION Tacoma, Washington; Stockton, California

Sault Ste. Marie, Ontario

Simsboro, Louisiana

Greenville, Florida

Tiffin, Ohio

Gallatin, Tennessee Diboll, Texas

Tlalnepantla, Mexico

Cedar Hill, Texas

Geneva, Illinois

Georgetown, Ontario

Washington, Indiana

Jefferson, Indiana

**CLARION BOARDS, INC.** 

**CLOSETMAID COMPANIES** 

**COLUMBIA FOREST PRODUCTS** 

**DURAPLAY DE PARRAL, SA DE CV** 

	EPP DOWNSTREAM LICE	NAUF (NO ADDED UREA-	3-D LAMINATES	DECORATIVE FOILS	HEAT TRANSFER FOIL	HIGH PRESSURE LAMINA	LIGHT BASIS WEIGHT PA	HDO	LIC	STER	POLYPROPYLENE	SATURATED PAPER	ALLY FUSED MEL	ILM	WOOD VENEER			•
FIED OD	о адэ	NAUF (	3-D LAI	DECOR	HEAT T	d НЫН	LIGHT	MDO / HDO	PHENOLIC	POLYESTER	POLYPI	SATUR	THERMALLY	VINYL FILM	WOOD	SPECIAL TREATMENTS, FEATURES AND CAPABILITIES	SUBSTRATES OFFERED	PB, MDF OR HB PRODUCER
	•	•											•			Offering premium melamine panels with high specification industrial particleboard and MDF. 60 colors in stock. High inventory including shelving, edge banding and line-boring. Fast service to distributors in Western USA.	EPP PB, MDF, NAF PB, MDF	No
)													•			E-I-R (Embossed-in-Register) Capable.	MDF	Yes
												•		•		Custom components, cut-to-size and CNC routing.	PB, MDF, HB	No
		•		•			•							•	•	Hardwood Plywood. FSC Capable. Hardwood Plywood. Capable of laminating 5' wide panels. FSC Capable. Coating Available.	PB, MDF, HB, Plywood PB, MDF, HB, Plywood	No No
				•			•						•		•	Mix loads capabilities with raw PB, Mende, softwood and hardwood plywood, CTS, bullnose and furniture parts.	PB, MDF, Mende, Veneer Core	Yes
	•			•			•						•			Mix ship capabilities with raw MDF, melamine laminated MDF and particleboard. Can produce MDF/HDF, particleboard, mende with paint, print, melamine, paper/foils, CTS and perforated board from one source. Specialty products also include melamine lamination on thin MDF (Fibrex®), moisture resistant, fire-rated and no added urea-formaldehyde resin (Vesta) particleboard and MDF.	PB, MDF Fire-rated PB, PB, MDF, Moisture Resistant PB, MDF PR, MDF, Fibrex®	Yes Yes Yes Yes
							•							•	•	Cut-to-size, bullnose edge, drawer sides, shelving, end panels, tops & bottoms. Particleboard manufactured in-house; homogeneous.	PB, MDF, Veneer Core	Yes
Ç	•	•				•						•	•			Multiple surface textures & glosses, complete fabrication/ component capability and multiple sizes.	PB, MDF	No
						•							•			Top quality TFM panels with decorative overlays from Coveright, Arclin, Wilsonart, Formica and Tafisa. Variety of plate finishes available including embossed diamond finish. Slotwall panels, edgebanding/shelving, custom components and line boring. High pressure laminate bonded panels.		No
	•	•	•	•	•	•	•	:		•	•	•	•	•		Three fully integrated manufacturing facilities featuring continuous and HPL laminating plus full fabrication capabilities. Double sided continuous laminators capable of laminating papers, vinyl's, polyester and polypropylene. HPL panels available in many sizes and from all major HPL manufactures. Full fabricating capabilities at all locations including cut-to-size, edge banding, drilling, dadoing, toe notching, mite folding and routing for custom components.	All locations: PB, MDF, HB Hardwood Plywood, Veneer Core	No

Cut to size, LP in one / two faces, Thickness up to one inch, Mix PB/

Custom component fabricator. Cut-to-size, edgebanding, CNC routing

Decorative profile wrapped cabinet stiles and rails with thermally

components, v-grooved, blank, mitrefold and KD drawer systems.

fused polyester, vinyl and lightweight papers. Vinyl wrapped drawer

MDF, Manufacturer of flush doors skins.

Baltic birch drawer sides.

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and boring. National warehouse distribution.

PB, MDF

PB, MDF, HB,

Plywood

All locations:

MDF, Solid Wood,

Metal, Backers.

Fiberglass,

Plastic

Yes

No

No

COMPOSITE PANEL ASSOCIATION

PANEL SPECIALISTS, Temple, Texas	INC.							•			•						•	Custom Component parts and OEM manufacturing. Manufactures Wall Systems, Casework, Marine Panels, and Panel Board. Services include laminating, edgebanding, cut-sizing, drilling, and machining.	PB, MDF, HB, Thermax	No
PANOLAM INDUSTRI Albany, Oregon Huntsville, Ontario Norcross, Georgia Oshkosh, Wisconsin	Panolam® TFM, Pluswood® TFM	FSC, SFI/SCA FSC, SFI/SCA FSC, SFI/SCA FSC, SFI/SCA	• • •	•		•			•						• • •	• • •	• • •	Six laminating plants located throughout North America (Albany, OR; Auburn, ME; Hampton, SC; Huntsville, ON; Norcross, GA; Oshkosh, WI).	All locations: PB, MDF, Hardwood Plywood	Yes Yes Yes Yes
PASQUIER PANEL PR Sumner, Washington	ODUCTS							•	•							•		Custom laminating and cutting –shelving and drawer parts – edgebanding, CNC routing and boring, moulding, profile wrapping and RTA packaging to precise custom specifications.	PB, MDF, HB, Plywood	No
PATRICK INDUSTRIES Elkhart, Indiana	5, INC.		•	•	•	•	•	•	•		•		•			•		Eight laminating plants located throughout the US (Elkhart, IN; Mt. Joy, PA; Decatur, AL; Phoenix, AZ; Waco, TX; Woodburn, OR; Fontana, CA). Drawer sides, wrapped mouldings, cut-to-size, HPL panels, edgebanding and custom components, and membrane pressed doors.	PB, MDF, HB, Luan and Decorative Hardwood, Plywood	No
PPM PANELS MEXIC Tijuana, Mexico	O MEXICO, S.A. DE C.V. Best Board														•		•		PB	Yes
REXCEL SA DE CV Chihuahua, Mexico	Panelart										•				•			In-house impregnation, mix loads capabilities with raw PB, Bullnose, Stair Tread and CTS.	РВ	Yes
ROSEBURG Dillard, Oregon Missoula, Montana	Duramine TFM, Hardwood Plywood, UltraFinish-Paper & Vinyl Overlays, RediPly, Melagard, Redishelf, SkyBlend™ Duramine TFM, Melagard, Redishelf, SkyBlend™	FSC	•	•		•			•	•	•		•	•	•	•	•	Mixed shipments of flat panel, CTS, edge-treated matching surfaces from this integrated producer of custom designs, Wilsonart, Formica, Arclin, Coveright and others.	PB, MDF, VC, HB, SkyBlend™ and others	Yes Yes
Oxford, Mississippi Orangeburg, South Carolina	Duramine TFM, SkyBlend™ Duramine TFM, SkyBlend™	FSC FSC	•	•											•			Mixed shipments of flat panel, from this integrated producer of custom designs, Wilsonart, Formica, Arclin, Coveright and others.	PB, MDF, SkyBlend™ and others	No No
ROUCKE, INC. Denver, Colorado		FSC		•	•			•							•		•	Full service panel processing from cut-to-size to CNC machining. Flat or 3-D processing of rigid thermal foil to match TFM & HPL. Coveright, Arclin, Formica and Wilsonart TFM papers. All brands high pressure laminate bonded panels. Bulk or custom packaging available.	PB, MDF, Plywood, NAF, NAUF PB & MDF FR PB & MDF	No
SHIOLENO INDUSTRI Arlington, Texas	<b>ES, INC.</b> Rainbow Panels			•				•							•		•	Specialist in short run batches of TFM and HPL panels. Quick to Ship Program. Most major brands for TFM/HPL matches, including PVC custom edging to match. Full service manufacturing facility including: Cut to size, EB, CNC Routing & Drilling and UV Coatings. Fully integrated production for Fixtures, Shelving, Cabinets, Closets Systems and Drawer components.	PB, MDF, HB, Fire-rated, NAF	No
STEVENS INDUSTRIE Teutopolis, Illinois	<b>S, INC.</b> Stevens TFM, Stevens HPL, StevensWood™, Stevens Shelf™		•					•							•		•	Thermofused Melamine Panels: Special wood look and feel textures (StevensWood), Wilsonart, Coveright, Pionite and Formica patterns. High Pressure Laminate Panels: All major brands including Wilsonart, Pionite, Formica and Nevamar. Component Fabrication: Cut-to-size, EB, CNC routing, contour edging, postforming (HPL and TFM) closet parts, cabinet parts, fixture components and shelving.	PB, MDF, Plywood, Fire-rated PB, MDF, Moisture-resistant PB, MDF, NAF (Green) PB, MDF	No
TAFISA CANADA INC Lac-Mégantic, Quebec	Tafilam	FSC	•	•											•			Tafilam color range offered with various complementary color matching products such as high pressure laminates, PVC edgebanding, polyester wrapped mouldings, thermovinyl films and five piece doors.	PB, MDF, NAF PB	Yes
TIMBER PRODUCTS (White City, Oregon	COMPANY Spectraboard, Spectracore, ColorLam, TufDec, Polyboard, Decraboard	FSC/SFI		•					•	•		•		•	•	•	•	Cut-to-size, shelving, drilling, hardwood veneer one-side and sublimination grade polyester.	PB, MDF, Plywood	Yes
UNIBOARD Moncure, North Carolina Sayabec, Quebec Val-d'Or, Quebec	Uniboard TFM Uniboard TFM Unibord TFM	FSC FSC FSC	•	•											•			Thermofused melamine panels. Matching products such as high pressure laminates.PVC edgebanding, mouldings and RTF. All surfaces available on NU Green particleboard — no urea formaldehyde added. Multiple surface textures / glosses and multiple sizes.	PB, NU Green MDF, HDF	Yes
VISULAM DIVISION DE Lachute, Quebec	PRODUITS FORESTIER AFA INC.			•			•		•						•	•		Top quality TFM panels with decorative overlays, multiple surface textures & glosses, complete fabrication/component capability and multiple sizes, slotwall panels, edgebanding/shelving, custom components and cut-to-size, bullnose edge, drawer sides, shelving,end panels, tops & bottoms.	PB, MDF	No

<sup>\*</sup> These companies and facilities offer products made with "No added urea-formaldehyde" (NAUF) panel products. NAUF panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

www.pbmdf.

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COATERS			EPP DOWNSTREAM LICEN	NAUF (NO ADDED UREA-F	COATING	POWDER COATING	(5			
COMPANY AND LOCATION	BRAND NAME	CERTIFIED WOOD	EPP DOV	NAUF (NC	LIQUID C	POWDER	PRINTING	SPECIAL TREATMENTS, FEATURES, CAPABILITIES AND SERVICES	SUBSTRATES OFFERED	PB,MDF, OR HB PRODUCER
AMERICAN ADHESIVE COATING Lawrence, Massachusetts	S LLC				•			Manufacturer of hot melt adhesives for particleboard and MDF laminations to paper up to five feet wide.		No
BAUSCHLINNEMANN NA Greensboro, North Carolina Myrtle Beach, South Carolina	TecoFoil, TecoLine, TecoTop, TecoLam				•			Pre-applied hotmelt adhesive.		No
CDM DÉCOR PAPERS INC. Drummondville, Quebec					•			Pre-applied hotmelt adhesive.		No
CLOSETMAID COMPANIES Chino, California						•		Wood powder coating, custom components, cut-to-size, CNC routing.	PB, MDF, HB, Lauan	No
COLUMBIA FOREST PRODUCTS Chatham, Virginia Hearst, Ontario Klamath Falls, Oregon Old Fort, North Carolina Trumann, Arkansas		FSC FSC FSC FSC		•	•			Hardwood Plywood. Hardwood Plywood. Hardwood Plywood. Primer Finish, Hardwood Plywood, Cut-to-Size Available, Beaded Panels. Hardwood Plywood and Laminating, Beaded Panels.	PB, MDF, HB, Plywood PB, MDF, HB, Plywood PB, MDF, HB, Plywood PB, MDF, HB, Plywood PB, MDF, HB, Plywood	No No No No
FLAKEBOARD St. Stephen, New Brunswick	Rezcote		•	•	•		•	Standard acrylic and UV top coat, unlimited solid colors, wood grain print.	PB, MDF, Fibrex®	Yes
FUNDER AMERICA, INC. Mocksville, North Carolina			•			•		Wood powder coating, custom components, cut-to-size, CNC routing.	PB, MDF	No
ROSEBURG Dillard, Oregon	UltraFinish-UV Cured Paints & Finishes, SkyBlend™	FSC		•			•	UV fill and topcoat, wood grain print, PB, MDF, VC, acrylic solid colors with custom color program, prefinished shelving and edge banding.	PB, MDF, SkyBlend™, and others	Yes
Missoula, Montana	UltraFinish-UV Cured Paint & Finishes, SkyBlend™		•	•	•		•	UV fill and topcoat, wood grain print, PB, MDF, VC, acrylic solid colors with custom color program, prefinished shelving and edge banding.	PB, MDF, SkyBlend™, and others	Yes

TREAM LICENSED FACILITY
DDED UREA-FORMALDEHYDE)\*

<sup>\*</sup> These companies and facilities offer products made with "No added urea-formaldehyde" (NAUF) panel products. NAUF panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

### COMPOSITE PANEL ASSOCIATION

in the industry. North American as well as Global production

and distribution network.

MANURA	CTURERS/	COATING	COATING					z G
COMPANY AND LOCATION	BRAND NAME	LIQUID CC	POWDER	PRINTING	SPECIAL TREATMENTS, FEATURES, CAPABILITIES AND SERVICES	SUBSTRATES OFFERED	PB,MDF, OR HB PRODUCER	3
AKZO NOBEL COATINGS, INC. High Point, North Carolina	Chemcraft®	•			Industrial wood finishes that provide decorative and protective qualities for wood, MDF, wood composites and wood-based products. AkzoNobel specializes in Building Products Interior and Exterior, Cabinetry, Contract Furniture, Distribution, Flooring, Furniture, Windows and Doors, and more. We pride ourselves in exceptional Sales, Customer Service and Technical Support		No	Z C +
AMERICAN ADHESIVE COATIN Lawrence, Massachusetts	IGS LLC	•			Manufacturer of hot melt adhesives for particleboard and MDF laminations to paper up to five feet wide.		No	C   0
THE VALSPAR CORPORATION High Point, North Carolina		•	•		Decorative and protective coatings for wood, metal and plastic in the industrial markets, interior and exterior decorative paints and aerosols for architectural use, coatings and inks for rigid packaging containers, automotive and fleet refinish products, floor coatings and specialty polymers, composites and colorants.		No	せせい
TIGER DRYLAC POWDER COAT Reading, Pennsylvania	INGS				Environmentally friendly powder coatings for wood (MDF) as well as metals. Largest selection of colors and finishes		No	0

### **OVERLAY MANUFACTURERS**

### **OVERLAY**

### **AET FILMS**

15 Read's Way New Castle, Delaware 19720 (302) 326-5500 Fax (302) 326-5505 syndecor@aetinc.com www.syndecor.com

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403 Heron Drive, Suite C Swedesboro, NJ 08085 (610) 944-1413 Fax (610) 944-1414 jim.barnett@renolit.com www.laminatefinder.com

### **ARCLIN**

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### **ARJO WIGGINS USA, INC.**

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### CHIYODA AMERICA, INC.

Thousand Oaks Corporate Center P.O. Box 470 Thousand Oaks Blvd. Morgantown, PA 19543-0470 mvarn@chiyodaamerica.com (610) 286-3100 Fax (610) 286-3216 www.chiyodaamerica.com

### **COVERIGHT SURFACES AMERICAS**

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### SÜDDEKOR, LLC

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### SURFACE SOURCE INTERNATIONAL

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### **TECHNOCELL DEKOR**

179 County Route 2A Pulaski, New York 13142 (315) 298-8388 Fax (315) 298-8822 cjkisela@schoeller.com www.technocell-dekor.de

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### **U.S. COATING COMPANY**

465 Industrial Drive Lexington, South Carolina 29072 (803) 957-3377 Fax (803) 957-3357 mmoore@uscoating.com www.uscoating.com

### **WILSONART INTERNATIONAL**

2400 Wilson Place Temple, Texas 76504 (254) 207-7000 Fax (254) 207-3209 smartline@wilsonart.com www.wilsonart.com

### ZAMMA CORPORATION

Laminates Division 14468 Litchfield Drive Orange, Virginia 22960 (540) 672-5200 Fax (540) 672-9200 plspielman@zamma.com www.zamma.com

### **LAMINATORS**

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### **CLARION BOARDS. INC.**

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Ontario and Western Canada Sales 6205 Airport Road, Bldg A, Suite 300 Mississauga, Ontario L4V 1E3 (905) 673-5743 Fax (905) 673-0175 www.uniboard.com

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### COATERS/COATING MANUFACTURERS

### **COATERS**

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### PARTICLEBOAR

Control   Column	PARTIC	PARTICLE BOARD COMPANY								USTI			UNDERLAYMENT (PBU)	MFD HOME DECKING D-2, D-3	DOOR CORE LD-1, LD-2	COMPOSITE PANEL	ASSOCIATIO	N //	
La Grande, Oregan		BRAND NAME	WOOD SPECIES		EPP CERTIFIED	NAUF (NO	CARB EXEMPT (ULEF / NAF)**	0- <b>M</b>	M-1	S-M	M-2	M-3i	FLOOR U	MFD HOP	DOOR CC	AND TREATMENTS	PRESS SIZE (FT.)		RANGE
Rameth Falls, Oregon   Collins Pine Purticleboard, Free Form   Western Pine   FSC   • • • • • • • • • • • C CS MR S   5x24   38-1-1/4   42-47		Boise Select, Boise Evergreen, Anchor™		FSC	•	•				•	•	•				BE C CS EF HD LD MR S ST	5x18, 4x24	3/8 – 1-1/4	41 – 50
Paral, Chihushua   Durapley Supremo, Duramel, Duracore, Duralam   Pine   Paral, Chihushua   Pine			Western Pine	FSC	•	•			•	•	•					C CS MR S	5x24	3/8 – 1-1/4	42 – 47
Dauglas Fir, Hemlock   Price		Duraplay Supremo, Duramel,	Pine		•				•		•	•	•					1/8 – 1-1/8	40 – 55
Greenville, Florida  Southern Yellow Pine  Aspen, Basswood, Northern Hardwoods  Marshfield, Wisconsin  Uni-Cor ST, Uni-Cor ST Lite, Uni-Cor FR Aspen, Basswood, Northern Hardwoods  FSC  Northern Hardwoods  Maderas Conglomeradas S.A. de C.V. Talnepantla, Mexico  Maderas Sintéticos de México, S.A. de C.V. (MASISA) Durango, Mexico  Placa Masisa, Mor Masisa, Melamina, Masisa  Melamina, Masisa  Nelmanda NEWPRO Blonde  Pine, Spruce  PanoLAM INDUSTRIES INTERNATIONAL, INC. Huntsville, Ontario  Panolam, Pionite, Conolite  Canadian Wood Mixture  Canadian Wood Mixture  PSC  CS DC SR FR LB LD  Typ W  At X Continuous 8 X Continuous 1/12 - 5/16 8 CS PD W  CS FO LP LD M  Ava. 5x8, 8x8 3/8 - 1-3/8 35 - 50  CFR LP M MR  Sx18, 8xContinuous 1/4 - 1 - 1/2 42 - 45  PLUMMER FOREST PRODUCTS Put Marker FOR	Albany, Oregon Bennettsville, South Carolina Simsboro, Louisiana	UltraPine®, UltraPine® Plus, Vesta UltraPine®, UltraPine® Plus, Vesta	Pine Pine	FSC FSC	•	•			•	•	•	•	•	•	•	C CS DC LD M MR S C CS DC LD M MR S	10xContinuous 10xContinuous	9/32 – 1-1/2 1/4– 1-1/2	41 - 46 41 - 46
Marshfield, Wisconsin Uni-Cor ST, Uni-Cor ST Lite, Uni-Cor FR Aspen, Basswood, Northern Hardwoods FSC  • • • • • • • CS DC SR FR LB LD  7x9 1-1/8 - 2-1/4 28 - 37   Maderas Conglomeradas S.A. de C.V. Tialnepantla, Mexico MACOPAN  Pine / Softwood  Pine / Softwood  Pine / Softwood  Duranguense Pine Durango, Mexico Placa Masisa, MDF Masisa, Melamina, Masisa  NORTHERN ENGINEERED WOOD PRODUCTS, INC. Smithers, British Columbia NEWPRO Blonde Pine, Spruce Pine, Spruce Pine, Spruce  • • • • • • • • • • • • • • • • • • •		NC.	Southern Yellow Pine								•					BE CS PA S V W	5x12, 5x24	5/16 - 5/8	50
Tialnepantia, Mexico MACOPAN Pine / Softwood • • CS LP P W 8X Continuous 1/12 - 5/16 46-49  Maderas Sintéticos de México, S.A. de C.V. (MASISA) Durango, Mexico Placa Masisa, MDF Masisa, Melamina, Melamina, Melamina, Melamina, Melamina, Melamina, Melamina, Melamina				FSC		•	•								•	CS DC SR FR LB LD	7x9	1-1/8 – 2-1/4	28 – 37
Duranguense Pine  NORTHERN ENGINEERED WOOD PRODUCTS, INC. Smithers, British Columbia NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde  NEWPRO Blonde  NEWPRO Blonde  Pine, Spruce  NEWPRO Blonde			Pine / Softwood									•				CS LP P W		1/12 - 5/16	46-49
Smithers, British Columbia NEWPRO Blonde Pine, Spruce • • • • • • • • • • • • • • • • • • •		Placa Masisa, MDF Masisa,	Duranguense Pine								•				•	CS FO LP LD M	4x8, 5x8, 8x8	3/8 – 1-3/8	35 – 50
Huntsville, Ontario Panolam, Pionite, Conolite Canadian Wood Mixture • • • • • • • • • • • • • • • • • • •			Pine, Spruce		•	•				•	•					M	8x48	1/4 – 1	38 – 50
Post Falls, Idaho EnStron, EnStron Plus, Terramica Western Softwoods FSC / SCS • • • • • • • CS MR 4x8 1/4 – 1-1/8 42 – 48  PPM PACIFIC PANELS MEXICO, S.A. DE C.V.			Canadian Wood Mixture		•	•						•				C FR LP M MR	5x18, 8xContinuous	1/4 – 1-1/2	42 – 45
			Western Softwoods	FSC / SCS	•	•	•	•	•	•	•	•	•			CS MR	4x8	1/4 – 1-1/8	42 – 48
			Pine (Some Recycled)		•						•					C CS FO LP LD M MR P S V W	4x40	3/8 – 1-3/8	42 – 47

REXCEL S.A. DE C.V. Chihuahua, Chihuahua Zitacuaro, Michoacan		Ponderosa Pine Wood Mixture								•		•			BE C CS FO LP M S ST CS FO LP M	8xContinuous 8x20 Multi-Opening	3/8 - 1-1/8 3/8 - 1-1/4	40 – 50 40 – 50
DOCEDUDG																		
ROSEBURG Dillard, Oregon	UltraBlend™, SkyBlend™	Fir, Pine Blend	FSC	•				•		•		•		•	B BE C CS DC EF ET F FO M MR	5x18, 8x24	3/8 – 1-1/2	30 – 48
Louisville, Mississippi Missoula, Montana	UltraBlend™ UltraBlend™, SkyBlend™	Southern Pine Western Pine, White Fir	FSC	•				•	:	•		•		•	P PA PF PR S ST T V W  B BE C CS DC EF ET F M P PF  PR S ST T	5x18 5x24, 8xContinuous	3/8 – 1-1/8 7/32 – 1-1/2	45 – 52 40 – 49
Russellville, South Carolina Taylorsville, Mississippi Vienna, Georgia	UltraBlend™, SkyBlend™ UltraBlend™, SkyBlend™ UltraBlend™	Southern Pine Southern Pine Southern Pine	FSC FSC FSC	•				•		•		•		•	C DC BE C MR S TG	5x24 5x24 4x24	3/8 - 1-3/4 3/8 - 1-3/4 3/8 - 1-1/8	42 – 52 42 – 52 45 – 52
									H									
SIERRAPINE Adel, Georgia Martell, California	ENCORE™, ENCORE™ MR Ampine™, ENCORE™	Southern Pine Western Pine	FSC FSC	•				•		•		•		•	C CS DC HD LB LD MR PF PR S BE C CS DC EF HD LB LD LP MR PF PR S	5x18	3/8 – 1-7/8	32 – 55 32 – 55
Springfield, Oregon	ENCORE™, ENCORE™ FR, ENCORE™ MR	Western Softwoods	FSC	•	•			•		•	•	•		•	BE C CS DC EF FR HD LB LD LP MR S ST	5x24 5x24, 4x16	3/8 – 1-3/16 3/8 – 1-3/4	32 – 55
TAFISA CANADA INC. Lac-Megantic, Quebec	Tafipan	Spruce, Pine, Fir, Maple, Birch, Aspen		•				•		•					C LD M	9x and 10xContinuous	1/4 – 1-1/2	38 – 44
TEMPLE-INLAND																		
Diboll, Texas	Temstock	Southern Pine		•	•	•	•		•	•	•	•		•	BE C CS EF HD LD MR S	4x24	1/4 – 1-1/8	41 – 52
Hope, Arkansas	Temstock	Southern Pine		•	•		•	•	•	•	•	•		•	C DC LD MR	9x25	3/8 – 1-1/8	41 – 52
Monroeville, Alabama	Temstock	Southern Pine		•			•	•	•	•	•	•		•	FR LD MR	4x24	1/4 – 1-1/8	41 – 52
Thomson, Georgia	Temstock	Southern Pine		•			•	•	•	•	•	•		•	LD MR	4x24	1/4 – 1-1/8	41 – 52
TIMBER PRODUCTS CO	OMPANY																	
Medford, Oregon		Fir, Pine		•	•		•	•	•	•	•	•		•	CS DC FO LP LB M PA PF S V W	4x16	3/8 – 1-11/16	30 – 47
UNIBOARD		On the sea Bire.											Г					
Moncure, North Carolina	Uniboard PB	Southern Pine, Soft Hardwood	FSC	•				•		•				•	C DC LD LF LP M	9x24 (7 multi-platen)	1/2 – 1-1/8	38 – 46
Sayabec, Quebec	Uniboard PB	Softwood, Hardwood	FSC	•		•		•		•				•	C DC LD LP M MR	8x114 and 10xContinous	1/4 – 1-3/4	38 – 42
Val-d'Or, Quebec	Uniboard PB	Softwood, Hardwood	FSC	•	•	•	•	•	•	•	•				LD LP M	8x20 (10 multi-platen)	1/2 – 1-1/8	38 – 42
WEBB FURNITURE EN	TERPRISES, INC.																	
Galax, Virginia	Webb Particleboard	Pine		•	•	•		•	•	•				•	C CS DC LB LD	5x12	7/16 – 1-1/2	30 – 48

Special Items and Treatments: Base Coat (B), Bullnose Edge (BE), Countertop (C), Concrete Form (CF) Cut to Size (CS), Door Core (DC), Door Stiles and Rails (SR), Edge Fill (EF), Edge Tape (ET), Fill (F), Fire Retardant (FR), Flush Door Skins (FD), Foil (FO), High Density (HD), Hot Melt Wax (H), Laminate Flooring Substrate (LF), Laminated Products (LP), Lockblocks (LB), Low Density (LD), Melamine (M), Mende (MN), Moisture Resistant (MR), Moulding (MO), Moulded Door Skins (MDS), Paint (P), Perforated (PE), Prefinished (PF), Print (PR), Shelving (S), Smooth Siding (SS), Stair Tread (ST), Textured Siding (TS), Topcoat (T), Tongue and Groove (TG), Turning and Moulding (TM), Vinyl (V), Wood Veneer (W)

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	JM DENS BOARD	ITY		CERTIFIED	NAUF (NO ADDED UREA-FORMALDEHYDE)*	CARB EXEMPT (ULEF / NAF)**	DENSITY	3D DENSITY	VSITY	MOISTURE RESISTANT	COMPOSITE PANEL AS	SOCIATION	//	
COMPANY AND MILL LOCATION	BRAND NAME	WOOD SPECIES	CERTIFIED WOOD	EPP CER	NAUF (NC	CARBEX	LOW DEN	STANDARD	HIGH DENSITY	MOISTUF	SPECIAL ITEMS AND TREATMENTS (SEE LEGEND BELOW)	PRESS SIZE (FT.)	THICKNESS RANGE (IN.)	DENSITY RANGE (LBS/FT³)
CLARION BOARDS, II Clarion, Pennsylvania	NC. Standard Premium, Flooring Premium, Standard Premium High Density	Hardwoods Northern Softwoods	FSC	•	•	•	•	•	•	•	HD LD LF LP M MO MR	10xContinuous	3/16 – 1-1/8	38 – 57
<b>DEL-TIN FIBER, LLC</b> El Dorado, Arkansas	Solidium, Solidium Free	Southern Pine			•	•		•		•	CS LF LD MO MR S	9xContinuous	3/16 – 1	40 – 60
Eugene, Oregon  Malvern, Arkansas Sault Ste. Marie, Ontario	Premier®, Premier® Plus, Premier® HD, Premier® MR, Vesta Premier®, Premier® Plus, Premier® FR, Premier® MR, Vesta, elite™, Evo Premier®, Premier® Plus, Premier® MR, Vesta Superior MDF, Superior Plus MDF, Superior SW, Superior Lite, Vesta Fibrex®, Fibrex Vesta	Pine  Douglas Fir, Hemlock  Pine  Spruce, Pine, Fir  Mixed Hardwoods	FSC FSC FSC		•		•	•			CS FR HD LD  C-MDF FR HD LD  CS HD S LP LD M PF  B CS F FR FO HD LF M MR	5x18  4x16  5x18, 5x24  10xContinuous  5xContinuous,	3/8 - 2 1/4 - 1-1/4 3/8 - 1-1/2 3/16 - 1-1/2 1/16 - 5/16	39 - 55 32 - 55 41 - 46 40 - 48 55 - 62
GEORGIA-PACIFIC W Monticello, Georgia	·	Southern Pine		•				•			P PA PE  B CS F FD FO MN P PA PE PF PR T	5xContinuous  4xContinuous	1/10 – 1/4	50 - 56
KRONOSPAN LLC Eastaboga, Alabama	Krono-light, Krono-med, Krono-DR Krono-dur, Krono-dur plus	Southern Pine, Light Hardwood					•	•			CS HD LF LD MR	10xContinuous	1/8 – 1-1/2	32 – 62
<b>LANGBOARD, INC.</b> Willacoochee, Georgia	Langboard MDF, Elite®	Southern Yellow Pine		•				•			BE CS DC MO S ST TM	5x18	3/8 – 1-1/2	41 – 52
MADERAS CONGLON Tlalnepantla, Mexico	MERADAS S.A. DE C.V. MACOCELL	Pine						•			CS LP P W	4 X Continuous 7 X Continuous	1/12 - 7/32	48-51
PAN PACIFIC PRODUCE Broken Bow, Oklahoma	CTS, INC. Megaboard	100% Pine			•		•	•	•		DC SR HD LD	8x20	3/4 – 4	22 – 65

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PLUM CREEK MDF, Columbia Falls, Montana	INC.  Super Refined MDF2®, Thin HDF,  Glacier Green™ and Glacier Clear™	Western Softwoods	SFI / SCS	•	•		•	•	•	•	CS FD HD LD LF MR	5x18, 10xContinuous	1/16 – 1-1/2	40 – 60
SIERRAPINE Medford, Oregon Rocklin, California	ARREIS, Medex, Medite, Medite II Medite FR, Medite 3D, Permacore Rock-Top	Western Softwoods Western Pine	FSC FSC	•	•	•	•	•	•	•	CS DC EXT FR HD LD LP MR MO PF PR S TM W CS FD LD MN MO P PF PR S SR T	5x18 8xContinuous	1/4 – 1-1/2 2mm – 7mm	40 – 55 45 – 50
TEMPLE-INLAND Mt. Jewett, Pennsylvania	ULTRASTOCK	Mixed Hardwoods	FSC	•		•	•	•		•	BE CS HD LD LF MO MR S	9x25	7/32 – 1-5/16	40 – 55
UNIBOARD Moncure, North Carolina Mont-Laurier, Quebec	Uniboard MDF Uniboard MDF	Southern Pine Softwood, Hardwood	FSC FSC	•	•	•	•	•	•		HD LD M MO HD LD MO	10xContinuous 9xContinuous	5.6 – 9.8mm 9.53 – 28.58	33 – 57
UNILIN US MDF Mt. Gilead, North Carolina		Southern Yellow Pine		•				•			CS FD HD LF MR PR	9xContinuous	1/16 – 3/8	45 – 62
WEST FRASER MILL Quesnel, British Columbia White Court, Alberta	S LTD.  WestPine MDF, EcoGold™  Ranger Board	Spruce, Pine, Fir Spruce, Pine, Fir		•	•	•	•	•			HD LF LD HD LF LD	10xContinuous 6x24	3mm - 3/4 3/8 - 1-1/2	41 – 60 41 – 60

Special Items and Treatments: Base Coat (B), Bullnose Edge (BE), Countertop (C), Concrete Form (CF), Colored MDF (C-MDF), Cut to Size (CS), Door Core (DC), Door Stiles and Rails (SR), Edge Fill (EF), Edge Tape (ET), Fill (F), Fire Retardant (FR), Flush Door Skins (FD), Foil (FO), High Density (HD), Hot Melt Wax (H), Laminate Flooring Substrate (LF), Laminated Products (LP), Lockblocks (LB), Low Density (LD), Melamine (M), Mende (MN), Moisture Resistant (MR), Moulding (MO), Moulded Door Skins (MDS), Paint (P), Paper (PA), Perforated (PE), Prefinished (PF), Print (PR), Shelving (S), Smooth Siding (SS), Stair Tread (ST), Textured Siding (TS), Topcoat (T), Tongue and Groove (TG), Turning and Moulding (TM), Vinyl (V), Wood Veneer (W)

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<sup>\*\*</sup> CARB exempt (NAF/ULEF) manufacturers offer composite wood product categories that have no added formaldehyde (NAF) and/or ultra-low emitting formaldehyde (ULEF), and have been exempted from third party certification requirements of the California Air Resources Board (CARB) ATCM 93120.

# ARDBOARD

### HARDBOARD

				CERTIFIED	ADD	ED (S2	ED (S1	e.	ERED	<b>≱</b>	IN/FA	2	PANE							
COMPANY AND MILL LOCATION B	RAND NAME	WOOD SPECIES	CERTIFIED WOOD	EPP CERI	NAUF (NO	TWO-SIDED	ONE-SIDED (S1	TEMPERED	UN-TEMPERED	INDUSTRIAL	DOOR SKIN/FA	TILEBOARD	INTERIOR PANE	SIDING	TRIM	SPECIAL ITEMS AND TREATMENTS (SEE LEGEND BELOW)	PRESS SIZE (FT.)	THICKNESS RANGE (IN.)	DENSITY RANGE (LBS/FT³)	L
COLLINS PRODUCTS	, LLC																			
Klamath Falls, Oregon	TruWood Siding & Trim	Western Softwoods	FSC /SCS		•	•	•		•				•	•	•	B BE CF CS LP MR P PM SS TS TG UP	4x16	7/16 - 5/4	47	ユ ロ ロ ス
CMI/CRAFTMASTER	MANUFACTURING, INC.																			ū
Towanda, Pennsylvania	CraftMaster molded door designs	Hardwoods	SCS		•		•	•			•					MDS	5x7, 5x14	1/8	60	C
	Extira panels	Hardwoods	SCS		•	•			•	•					•	MR UP	4x16	1/2 – 1-1/4	45 - 49	
	MiraTEC trim	Hardwoods	SCS		•	•			•						•	MR PM	4x16	4/4, 5/4	47	
GEORGIA-PACIFIC W	OOD PRODUCTS LLC																			<u></u>
Duluth, Minnesota	SuperWood	Aspen,																		U
<b>24.41.</b> ,	очрогиосч	Mixed Hardwoods	SFI		•		•	•	•	•	•		•			B CS GD F P PE PF PR T	4x16, 5-1/2x16	1/16 – 9/32	60 - 65	-
Phillips, Wisconsin	Jubilee, Lionite, UltraStrate	Aspen,																		
		Mixed Hardwoods	SFI		•	•		•	•	•		•	•			B CS F P PE PF PR T	4x8	1/10 – 1/4	62 - 66	- Z
LOUISIANA-PACIFIC	COPPORATION																			<b>&gt;</b>
East River, Nova Scotia	Canexel	Hardwood	ISO-9001 SFI											•		PF TS	7x16, 4x24	3/8 – 7/16	58 - 65	7
Roaring River, North Carolina		Mixed Hardwoods	SFI		•		•		•					•	•	PF PM SS TS UP	4x16, 4x18	7/16 – 1/2	47-52	
SACOPAN, INC.																			-	   
Sacre-Coeur, Quebec	SACOPAN	SPF.																		3
odoro oocur, quebec	UNUUI AIN	Sawmill Residuals														MDS	65x90	1/8	60 - 65	N
																				-
STIMSON LUMBER O	OMPANY																			-
Forest Grove, Oregon	Stimson Hardboard	Douglas Fir	SFI	•					•							B CS HD LD M P PE PF PM TS	4x16	1/10 – 5/8	50 - 70	
,	Duratrim	]													•					

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**JED UREA-FORMALDEHYDE)\*** 

Special Items and Treatments: Base Coat (B), Bullnose Edge (BE), Countertop (C), Concrete Form (CF) Cut to Size (CS), Door Core (DC), Door Stiles and Rails (SR), Edge Fill (EF), Edge Tape (ET), Fill (F), Fire Retardant (FR), Flush Door Skins (FD), Foil (FO), Garage Door Panels (GD), High Density (HD), Hot Melt Wax (H), Laminate Flooring Substrate (LF), Laminated Products (LP), Lockblocks (LB), Low Density (LD), Melamine (M), Mende (MN), Moisture Resistant (MR), Moulding (MO), Moulded Door Skins (MDS), Paint (P), Paper (PA), Perforated (PE), Prefinished (PF), Primed (PM), Print (PR), Shelving (S), Smooth Siding (SS), Stair Tread (ST), Textured Siding (TS), Topcoat (T), Tongue and Groove (TG), Turning and Moulding (TM), Unprimed (UP), Vinyl (V), Wood Veneer (W)

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### **North American Composite Panel Manufacturers**

### 2 MANITOBA 44 ALBERTA BRITIS 44 CMI/CraftMaster Manufacturing, Inc. Collins Products, LLC SASKATCHEWAN Calgary 6. Decorative Panels International, Inc. Vancouver. ONTARIO Seattle, 9. Duraplay de Parral, S.A. de C.V. Thunder Bay WASHINGTON 29 N. DAK • MONTANA 11. Florida Plywoods, Inc. Bismarch MINNESOTA 12. Georgia-Pacific Wood Products LLC SOUTH DAKOTA Sharidan 15. Industrias Emman, S.A. de C.V. Mitwaukee, Detroit WYOMING New York Philadelphia Des Moines Salt Lake 19. Louisiana-Pacific Corporation City Kansas UTAH 20. Maderas Conglomeradas, S.A. de C.V. (MACOSA) COLORADO KANSAS 21. Maderas y Sintéticos de México, S.A. de C.V. (MASISA) St. George Wichita. 22. Marshfield DoorSystems, Inc. CALIFORNI 23. Masonite International Corporation Las Vegas OKLAHOMA 24. Northern Engineered Wood Products, Inc. Santa Fe 25. Overhead Door Corporation Los Angeles ARIZONA **NEW MEXICO** San Diego 26. Pan Pacific Products, Inc. 27. Panolam Industries International Inc. 28. Plum Creek MDF. Inc. Jacksonville 29. Plummer Forest Products 30. Ponderplay, S.A. de C.V. 31. PPM Pacific Panels Mexico, S.A. de C.V. San Tampa. Hidalgo del Parral Monclova: 36. Stimson Lumber Company Saltillo MEXICO 38. Taosa Paneles S.A. de C.V. **CPA Particleboard Members** CPA Medium Density Fiberboard Members 40. Timber Products Company CPA Hardboard and Engineered Wood Siding/Trim Members Non-Member Particleboard 43. Webb Furniture Enterprises, Inc. 44. West Fraser Mills Ltd. Non-Member MDF, Hardboard and Engineered Wood Siding/Trim



LEGEND

1. Boise Cascade, LLC

2. Clarion Boards, Inc.

Dakota Panel

10. Flakeboard

DeFehr Furniture Del-Tin Fiber, LLC

13. Giles & Kendall, Inc.

14. Hambro Group

16. JELD-WEN, Inc.

17. Kronospan LLC

18. Langboard, Inc.

32. Rexcel S.A. de C.V. 33. Roseburg 34. Sacopan Inc.

37. Tafisa Canada Inc.

39. Temple-Inland

42. Unilin US MDF

41. Uniboard

35. SierraPine

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	CPL (CONTINUOUS PRESSED LAMINATE)
	DECORATIVE FOILS
	HEAT TRANSFER FOIL
	HIGH PRESSURE LAMINATES
	LIGHT BASIS WEIGHT PAPER
	PHENOLIC
	POLYESTER
	POLYPROPYLENE
	SATURATED PAPER
	THERMALLY FUSED MELAMINE
	VINYL FILM
	WOOD VENEER
	OTHER (SEE NEXT COLUMN)

### COMPOSITE PANEL ASSOCIATI

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sionally stable. High print fidelity. thru 56gsm; white and beige.	ACTU
lms for pressing des. Extensive , metallic and high gloss.	しまきせい
ys are available for TFM, HPL, CPL, s. Available with GREENGUARD, stody Certification.	2011
nh abrasive resistant Igebanding for ices.	
istant, dimensionally stable, actron beam cured decorative	
sign services. Experienced ct mix for maximum end use n) paper.	
mine. Silveright anti-bacterial corative prints and can be flooring surfaces and other	
s: Etchings, Honed, Naturelle, emical resistant laminates,	
ng, design and repro services.	

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COMPANY AND LOCATION	BRAND NAME	3-D LAMINA	CPL (CONTI	DECORATIV	HEAT TRAN	HIGH PRES	LIGHT BASI	PHENOLIC	POLYESTER	POLYPROP	THERMALL	VINYL FILM	WOOD VENI	OTHER (SE	OTHER PRODUCT TYPES	SPECIAL TREATMENTS, FEATURES AND CAPABILITIES
<b>AET FILMS</b> New Castle, Delaware	SynDECOR®									•					SynDECOR ®, a performance polymer-based decorative overlay	Water resistant, sustainable overlay. Dimensionally stable. High print fidelity. Miter-foldable. No VOC's. Available 23gsm thru 56gsm; white and beige.
AMERICAN RENOLIT Swedesboro, New Jersey LaPorte, Indiana	CORPORATION RENOLIT	•							•	•		•		•	Exterior Film	3D laminates, PVC, PET and PP decorative films for pressing wrapping and thermoforming. Horizontal grades. Extensive stocking with cut roll program. Solids, prints, metallic and high gloss. Popular TFM/HPL matching program.
ARCLIN Tacoma, Washington	E-Gen					•		•		•	•			•	Glue films, backers	Arclin's E-Gen designated decorative overlays are available for TFM, HPL, CPL, flooring and industrial surfacing applications. Available with GREENGUARD, Children and Schools, and FSC Chain of Custody Certification.
ARJO WIGGINS USA Stamford, Connecticut	, INC.													•	Base paper manufacturer (saturating and pre-impregnated) for the printing, saturating and laminating industry	
BAUSCHLINNEMANI Greensboro, North Carolina Myrtle Beach, South Carolina	N NA TecoFoil, TecoLine, TecoTop, TecoLam			•			•							•	Pre-applied hotmelt adhesive	Flat surface and profile wrap laminates, high abrasive resistant surfaces, recoatable surfaces, melamine edgebanding for straight and softformed edges, slitting services.
CDM DÉCOR PAPERS Drummondville, Quebec	S INC. AquaSeal™, Foilspec™, Microspec™			•			•			•				•	Pre-applied hotmelt adhesive	AquaSEAL <sup>TM</sup> : Water, stain and abrasion resistant, dimensionally stable, resists shrink/creep, formaldehyde free. Electron beam cured decorative foils and light basis weight papers.
CHIYODA AMERICA Morgantown, Pennsylvania	, INC.			•			•			•						Zen Finish. North American printing and design services. Experienced in matching design and color across product mix for maximum end use opportunities. Solid Color Light Weight (30gm) paper.
COVERIGHT SURFACE Blythewood, South Carolina Curitiba Brazil Cobourg, Ontario						•					•		•	•	Broad range of technical films. PG backers, glue films, Coated Glass Mat, Decorative prints for surfaces	High Wear Melamine, impact resistant melamine. Silveright anti-bacterial surface treatment now available for TFM Decorative prints and can be ordered in sheet or roll form, HPL, Laminate flooring surfaces and other building products.
FORMICA CORPORA Cincinnati, Ohio	TION Formica High Pressure Laminates, Formica Solid Surfacing, DecoMetal Metal Laminates, Formica Veneer Premium Wood Surfacing, Chemtop2					•				•				•	Solid surfacing, metal and wood laminates	Innovative High Pressure Laminate finishes: Etchings, Honed, Naturelle, MicroDot, Riverwash; Radiance; fire and chemical resistant laminates, compact phenolic panels.
INTERPRINT, INC. Pittsfield, Massachusetts				•			•									Decorative printing, in-house laser engraving, design and repro services.
KAPSTONE CHARLES North Charleston, South Carol														•	Producers of DuraSorb® saturating kraft paper for use as core paper for HPL, CPL, and compact laminates as well as overlays for construction grade applications.	

LAMIGRAF, S.A. Barcelona, Spain Bonen, Germany									•					Decorative and solid color printed papers for TFM, HPL and laminate flooring markets	Decorative printing of saturating papers up to 2700mm wide, along with full digital design and engraving services.
MUNKSJO PAPER Fitchburg, Massachusetts													•	Base paper manufacturer for the printing, saturating & laminating industry	
OLON INDUSTRIES INC. (Decoratives Division) Geneva, Illinois Olon Decorative laminates	•	•					•		•	•		•	•	Olon Thermally Fused Continuous Decorative Laminates	Continuous TF laminates for wrapping and edgebanding applications. Designs to complement Arclin, Coveright, Flakeboard, Formica, Nevamar, Panval, Tafisa and Wilsonart. High abrasion resistant wrapping grade laminates for flooring laminate designs. Saturated products with polyester resins, such as décor cellulose paper, fiberglass and backers. Available with antimicrobial protection.
OMNOVA SOLUTIONS, INC. Fairlawn, Ohio OMNOVA Laminates, surf(x) Auburn, Pennsylvania 3D Laminates, EFX 3D Laminates, Jeanette, Pennsylvania radiance Flat Laminates, Monroe, North Carolina duraMAX Flat Laminates	•		•		•		•	•	•		•		•	EFX 3-D Laminates (non-PVC), pre-applied adhesive, broad range of technical films, acrylic laminates	North American manufacturer with short lead times, leading print designs, small minimum orders, extensive stock program and a range of performance coatings. Variety of constructions with matching designs across constructions (Harmony Program) provides the best application of laminate based on cost and functional requirements.
PANOLAM INDUSTRIES INTERNATIONAL, INC. Auburn, Maine Pionite® decorative laminate Hampton, South Carolina Nevamar® decorative laminate Morristown, Tennessee ProWrap® Polyester and Melamine  Oshkosh. Wisconsin Panolam® TFM. Pluswood® TFM		•	•	•	•		•			•	•	•			Custom print capabilities in TFM and HPL. Custom print capabilities in TFM and HPL. ProWrap® Polyester and Melamine in standard and high-wear laminates in a variety of textures. Custom print capabilities in TFM and HPL.
RIKEN U.S.A. Burlington, New Jersey Integra, Tre Nuovo, FINO, Rivestar	•						•								Printing, top coats, non PVC, UV top coats, 3D thermofoil, high gloss thermofoil.
SCHATTDECOR St. Louis, Missouri			•												
SUDDEKOR, LLC Agawam, Massachusetts D. Fin, D. Film, D. Release East Longmeadow, Massachusetts Biscoe, North Carolina			•		•				•	•					Design service and in-house engraving offering prompt, proprietary service. Impregnation of high-clarity overlays, decorative prints, and backer papers, in either roll or sheet form, at two North American locations. New line of D.Fin® finish foils and D.Release® release papers engineered to visually and technically coordinate with Süddekor products.
SURFACE SOURCE INTERNATIONAL  Randolph, New Jersey  Klöckner Pentaplast, Pentadecor®, Basic Line, Matte Line, Gloss Line, kpExtreme™, EGR, Stylelite®, Zenolite®, Acrylic sheets, 2D Acrylics	•		•				•	•			•		•	Phenolic Backed 3D Laminates Peel n stick 3D laminates, ABS - Edge banding	Stocking distributor with same day shipping and a on-staff technical department. HPL/TFM matching program. Slitting services available. PVC & PET High Gloss and solid color 3DL program. Industry leading printed designs with a wide range of embossing's from, ultra-smooth to deep texture. Special surfaces available for healthcare and fixture & display markets.
TECHNOCELL DEKOR Pulaski, New York													•	Base paper manufacturer (saturating and pre-impregnated) for the printing, saturating and laminating industry	
TOPPAN INTERAMERICA INC. McDonough, Georgia			•						•				•	Non PVC film (printed)	
U.S. COATING COMPANY Lexington, South Carolina			•										•	Paintable/glueable papers and backing	Electron beam cured decorative foils; pigmented coatings applied to specialty papers, basis weights from 40gsm to 100 gsm.
WILSONART INTERNATIONAL Temple, Texas Wilsonart Laminate, Wilsonart HD High Definition Laminate, Chemsurf Chemical-Resistant Laminate				•		•			•	•			•	Wilsonart Solid Surface, Decorative Metals, and Adhesives.	AEON™ Enhanced Performance; Digital and Silk-Screened Custom Laminate; Performance Types: Chemical Resistant, Fire-Rated, Marker Board, Chalkboard, High Wear Laminates.
ZAMMA CORPORATION Orange, Virginia		•	•						•	•			•	Frame and profile wrapping, floor transitions, mouldings.	Laminates and continuous pressure laminates for flat surfaces and profile wrapping in various surface finishes. High abrasive resistant surfaces including flooring grade. Edgebanding and custom treating solutions up to 1,400 mm (55") wide.

\$\frace \text{\panel BUYERS GUIDE 2011} \\ \text{WWW.pbmdf.c}\$

AIM LICENSED FACILITY	O UREA-FORMALDEHYDE)*		)IL	LAMINATES	IGHT PAPER				ED MELAMINE	
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### COMPOSITE PANEL ASSOCIATION

LAMINATORS		DOWNSTREAM LICE	NAUF (NO ADDED UREA-	INATES	DECORATIVE FOILS	HEAT TRANSFER FOIL	HIGH PRESSURE LAMINA	LIGHT BASIS WEIGHT PA	00 5	<u> </u>	EB	POLYPROPYLENE	SATURATED PAPER THEBMALLY FILSED MEI		EN FIRE		
COMPANY AND LOCATION BRAND NAME	CERTIFIED WOOD	EPP DOV	NAUF (NG	3-D LAMINATES	DECORA	HEAT TR	HIGH PR	LIGHT B/	MDO / HDO	PHENOLIC	POLYESTER	POLYPRO	SATURATED	VINYL FII	WOOD VENEER	SPECIAL TREATMENTS, SUBSTRATES	PB, MDF OR HB PRODUCER
AMERICAN LAMINATES, INCORPORATED Riverbank, California	FSC	•	•										•			Offering premium melamine panels with high specification industrial particleboard and MDF. 60 colors in stock. High inventory including shelving, edge banding and line-boring. Fast service to distributors in Western USA.	No
CLARION BOARDS, INC. Clarion, Pennsylvania	FSC												•			E-I-R (Embossed-in-Register) Capable. MDF	Yes
CLOSETMAID COMPANIES Chino, California												,				Custom components, cut-to-size and CNC routing.  PB, MDF, HB	No
COLUMBIA FOREST PRODUCTS St. Casimir, Quebec Melawood products Trumann, Arkansas	FSC FSC		•		•		•	•						•	•	Hardwood Plywood. FSC Capable.  Hardwood Plywood. Capable of laminating 5' wide panels.  FSC Capable. Coating Available.  PB, MDF, HB, Plywood  PB, MDF, HB, Plywood	No No
DURAPLAY DE PARRAL, SA DE CV Chihuahua, Mexico Duralam, Duramel, Duracore					•		•	•	•				•		•	Mix loads capabilities with raw PB, Mende, softwood and hardwood plywood, CTS, bullnose and furniture parts.  PB, MDF, Mende, Veneer Core	Yes
FLAKEBOARD Albany, Oregon Bennettsville, South Carolina Sault Ste. Marie, Ontario Superior MDF, Superior Plus MDF, Superior SW MDF	FSC FSC												•			Mix ship capabilities with raw MDF, melamine laminated MDF and particleboard. Can produce MDF/HDF, particleboard, mende with paint, print, melamine, paper/foils, CTS and perforated board from one source.  Specialty products also include melamine lamination on thin MDF  Fire-rated PB, PB,	Yes Yes Yes
Simsboro, Louisiana UltraPine®  St. Stephen, New Brunswick Fibrex®, Rezflake		•						•					•			(Fibrex®), moisture resistant, fire-rated and no added urea-formaldehyde resin (Vesta) particleboard and MDF.  MDF, Moisture Resistant PB, MDF PR, MDF, Fibrex®	Yes Yes
FLORIDA PLYWOODS, INC. Greenville, Florida								•							•	Cut-to-size, bullnose edge, drawer sides, shelving, end panels, tops & bottoms. Particleboard manufactured in-house; homogeneous. PB, MDF, Veneer Core	Yes
FUNDER AMERICA, INC. Hope, Arkansas; Mocksville, FUNDER North Carolina; Sebring, Florida	FSC	•	•				•									Multiple surface textures & glosses, complete fabrication/ component capability and multiple sizes.  PB, MDF	No
KML CORPORATION Tacoma, Washington; Stockton, California							•						•			Top quality TFM panels with decorative overlays from Coveright, Arclin, Wilsonart, Formica and Tafisa. Variety of plate finishes available including embossed diamond finish. Slotwall panels, edgebanding/shelving, custom components and line boring. High pressure laminate bonded panels.  PB, MDF, Veneer Core, NAF, FSC, Fire Retardant, Moisture resistant	No
LAMINATE TECHNOLOGIES Tiffin, Ohio Gallatin, Tennessee Diboll, Texas	FSC FSC FSC	• • •	• • •	•	• • •	•	•	•	•		•	•	•	•		Three fully integrated manufacturing facilities featuring continuous and HPL laminating plus full fabrication capabilities. Double sided continuous laminators capable of laminating papers, vinyl's, polyester and polypropylene. HPL panels available in many sizes and from all major HPL manufactures. Full fabricating capabilities at all locations including cut-to-size, edge banding, drilling, dadoing, toe notching, mite folding and routing for custom components.	No
MADERAS CONGLOMERADAS S.A. DE C.V. Tlalnepantla, Mexico MACOPELL, MACOMELL, MACOPLAY					•	•	•	•							•	Cut to size, LP in one / two faces, Thickness up to one inch, Mix PB/MDF, Manufacturer of flush doors skins.	Yes
MJB WOOD GROUP, INC. Cedar Hill, Texas				•		•		•								Custom component fabricator. Cut-to-size, edgebanding, CNC routing and boring. National warehouse distribution.	No
OLON INDUSTRIES INC. (COMPONENTS DIVISION) Geneva, Illinois Decorative Laminates Georgetown, Ontario Olon Components Jefferson, Indiana Olon Creative Products Washington, Indiana Olon Components	FSC FSC FSC FSC	•			•		•	•	•		:				•	Decorative profile wrapped cabinet stiles and rails with thermally fused polyester, vinyl and lightweight papers. Vinyl wrapped drawer components, v-grooved, blank, mitrefold and KD drawer systems.  Baltic birch drawer sides.  All locations: MDF, Solid Wood, Metal, Backers, Fiberglass, Plastic	No

PANEL SPECIALISTS, Temple, Texas	INC.							•			•						•	Custom Component parts and OEM manufacturing. Manufactures Wall Systems, Casework, Marine Panels, and Panel Board. Services include laminating, edgebanding, cut-sizing, drilling, and machining.	PB, MDF, HB, Thermax	No
PANOLAM INDUSTRI Albany, Oregon Huntsville, Ontario Norcross, Georgia Oshkosh, Wisconsin	Panolam® TFM, Pluswood® TFM	FSC, SFI/SCA FSC, SFI/SCA FSC, SFI/SCA FSC, SFI/SCA	• • •	•		•			•						• • •	• • •	• • •	Six laminating plants located throughout North America (Albany, OR; Auburn, ME; Hampton, SC; Huntsville, ON; Norcross, GA; Oshkosh, WI).	All locations: PB, MDF, Hardwood Plywood	Yes Yes Yes Yes
PASQUIER PANEL PR Sumner, Washington	ODUCTS							•	•							•		Custom laminating and cutting –shelving and drawer parts – edgebanding, CNC routing and boring, moulding, profile wrapping and RTA packaging to precise custom specifications.	PB, MDF, HB, Plywood	No
PATRICK INDUSTRIES Elkhart, Indiana	5, INC.		•	•	•	•	•	•	•		•		•			•		Eight laminating plants located throughout the US (Elkhart, IN; Mt. Joy, PA; Decatur, AL; Phoenix, AZ; Waco, TX; Woodburn, OR; Fontana, CA). Drawer sides, wrapped mouldings, cut-to-size, HPL panels, edgebanding and custom components, and membrane pressed doors.	PB, MDF, HB, Luan and Decorative Hardwood, Plywood	No
PPM PANELS MEXIC Tijuana, Mexico	O MEXICO, S.A. DE C.V. Best Board														•		•		PB	Yes
REXCEL SA DE CV Chihuahua, Mexico	Panelart										•				•			In-house impregnation, mix loads capabilities with raw PB, Bullnose, Stair Tread and CTS.	РВ	Yes
ROSEBURG Dillard, Oregon Missoula, Montana	Duramine TFM, Hardwood Plywood, UltraFinish-Paper & Vinyl Overlays, RediPly, Melagard, Redishelf, SkyBlend™ Duramine TFM, Melagard, Redishelf, SkyBlend™	FSC	•	•		•			•	•	•		•	•	•	•	•	Mixed shipments of flat panel, CTS, edge-treated matching surfaces from this integrated producer of custom designs, Wilsonart, Formica, Arclin, Coveright and others.	PB, MDF, VC, HB, SkyBlend™ and others	Yes Yes
Oxford, Mississippi Orangeburg, South Carolina	Duramine TFM, SkyBlend™ Duramine TFM, SkyBlend™	FSC FSC	•	•											•			Mixed shipments of flat panel, from this integrated producer of custom designs, Wilsonart, Formica, Arclin, Coveright and others.	PB, MDF, SkyBlend™ and others	No No
ROUCKE, INC. Denver, Colorado		FSC		•	•			•							•		•	Full service panel processing from cut-to-size to CNC machining. Flat or 3-D processing of rigid thermal foil to match TFM & HPL. Coveright, Arclin, Formica and Wilsonart TFM papers. All brands high pressure laminate bonded panels. Bulk or custom packaging available.	PB, MDF, Plywood, NAF, NAUF PB & MDF FR PB & MDF	No
SHIOLENO INDUSTRI Arlington, Texas	<b>ES, INC.</b> Rainbow Panels			•				•							•		•	Specialist in short run batches of TFM and HPL panels. Quick to Ship Program. Most major brands for TFM/HPL matches, including PVC custom edging to match. Full service manufacturing facility including: Cut to size, EB, CNC Routing & Drilling and UV Coatings. Fully integrated production for Fixtures, Shelving, Cabinets, Closets Systems and Drawer components.	PB, MDF, HB, Fire-rated, NAF	No
STEVENS INDUSTRIE Teutopolis, Illinois	<b>S, INC.</b> Stevens TFM, Stevens HPL, StevensWood™, Stevens Shelf™		•					•							•		•	Thermofused Melamine Panels: Special wood look and feel textures (StevensWood), Wilsonart, Coveright, Pionite and Formica patterns. High Pressure Laminate Panels: All major brands including Wilsonart, Pionite, Formica and Nevamar. Component Fabrication: Cut-to-size, EB, CNC routing, contour edging, postforming (HPL and TFM) closet parts, cabinet parts, fixture components and shelving.	PB, MDF, Plywood, Fire-rated PB, MDF, Moisture-resistant PB, MDF, NAF (Green) PB, MDF	No
TAFISA CANADA INC Lac-Mégantic, Quebec	Tafilam	FSC	•	•											•			Tafilam color range offered with various complementary color matching products such as high pressure laminates, PVC edgebanding, polyester wrapped mouldings, thermovinyl films and five piece doors.	PB, MDF, NAF PB	Yes
TIMBER PRODUCTS (White City, Oregon	COMPANY Spectraboard, Spectracore, ColorLam, TufDec, Polyboard, Decraboard	FSC/SFI		•					•	•		•		•	•	•	•	Cut-to-size, shelving, drilling, hardwood veneer one-side and sublimination grade polyester.	PB, MDF, Plywood	Yes
UNIBOARD Moncure, North Carolina Sayabec, Quebec Val-d'Or, Quebec	Uniboard TFM Uniboard TFM Unibord TFM	FSC FSC FSC	•	•											•			Thermofused melamine panels. Matching products such as high pressure laminates.PVC edgebanding, mouldings and RTF. All surfaces available on NU Green particleboard — no urea formaldehyde added. Multiple surface textures / glosses and multiple sizes.	PB, NU Green MDF, HDF	Yes
VISULAM DIVISION DE Lachute, Quebec	PRODUITS FORESTIER AFA INC.			•			•		•						•	•		Top quality TFM panels with decorative overlays, multiple surface textures & glosses, complete fabrication/component capability and multiple sizes, slotwall panels, edgebanding/shelving, custom components and cut-to-size, bullnose edge, drawer sides, shelving,end panels, tops & bottoms.	PB, MDF	No

<sup>\*</sup> These companies and facilities offer products made with "No added urea-formaldehyde" (NAUF) panel products. NAUF panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

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COATERS			EPP DOWNSTREAM LICENSED FACILITY	O ADDED UREA-FORMALDEHYDE)*	COATING	POWDER COATING	g	COMPOSITE PANEL ASSOC	IATION	
COMPANY AND LOCATION	BRAND NAME	CERTIFIED WOOD	EPP DO	NAUF (NO	LIQUID	POWDER	PRINTING	SPECIAL TREATMENTS, FEATURES, CAPABILITIES AND SERVICES	SUBSTRATES OFFERED	PB,MDF, OR HB PRODUCER
AMERICAN ADHESIVE COATING Lawrence, Massachusetts	S LLC				•			Manufacturer of hot melt adhesives for particleboard and MDF laminations to paper up to five feet wide.		No
BAUSCHLINNEMANN NA Greensboro, North Carolina Myrtle Beach, South Carolina	TecoFoil, TecoLine, TecoTop, TecoLam				•			Pre-applied hotmelt adhesive.		No
CDM DÉCOR PAPERS INC. Drummondville, Quebec					•			Pre-applied hotmelt adhesive.		No
CLOSETMAID COMPANIES Chino, California						•		Wood powder coating, custom components, cut-to-size, CNC routing.	PB, MDF, HB, Lauan	No
COLUMBIA FOREST PRODUCTS Chatham, Virginia Hearst, Ontario Klamath Falls, Oregon		FSC FSC FSC FSC		•	•			Hardwood Plywood. Hardwood Plywood. Hardwood Plywood. Partwood Plywood.	PB, MDF, HB, Plywood PB, MDF, HB, Plywood PB, MDF, HB, Plywood	No No No
Old Fort, North Carolina Trumann, Arkansas		FSC		•	•			Primer Finish, Hardwood Plywood, Cut-to-Size Available, Beaded Panels. Hardwood Plywood and Laminating, Beaded Panels.	PB, MDF, HB, Plywood PB, MDF, HB, Plywood	No
FLAKEBOARD St. Stephen, New Brunswick	Rezcote		•	•	•		•	Standard acrylic and UV top coat, unlimited solid colors, wood grain print.	PB, MDF, Fibrex®	Yes
FUNDER AMERICA, INC. Mocksville, North Carolina			•			•		Wood powder coating, custom components, cut-to-size, CNC routing.	PB, MDF	No
ROSEBURG Dillard, Oregon	UltraFinish-UV Cured Paints & Finishes, SkyBlend™	FSC	•	•	•		•	UV fill and topcoat, wood grain print, PB, MDF, VC, acrylic solid colors with custom color program, prefinished shelving and edge banding.	PB, MDF, SkyBlend™, and others	Yes
Missoula, Montana	UltraFinish-UV Cured Paint & Finishes, SkyBlend™		•	•	•		•	UV fill and topcoat, wood grain print, PB, MDF, VC, acrylic solid colors with custom color program, prefinished shelving and edge banding.	PB, MDF, SkyBlend™, and others	Yes

<sup>\*</sup> These companies and facilities offer products made with "No added urea-formaldehyde" (NAUF) panel products. NAUF panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

Decorative and protective coatings for wood, metal and plastic

in the industrial markets, interior and exterior decorative paints

floor coatings and specialty polymers, composites and colorants.

and aerosols for architectural use, coatings and inks for rigid packaging containers, automotive and fleet refinish products,

Environmentally friendly powder coatings for wood (MDF)

as well as metals. Largest selection of colors and finishes in the industry. North American as well as Global production

and distribution network.

POWDER COATING

PRINTING

AMERICAN ADHESIVE COATINGS LLC	
Laurence Massachusette	

### THE VALSPAR CORPORATION

High Point, North Carolina

Lawrence, Massachusetts

<b>TIGER</b>	DRYLA	<b>POWDER</b>	<b>COATINGS</b>

Reading, Pennsylvania

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No

No

1	
	CPL (CONTINUOUS PRESSED LAMINATE)
	DECORATIVE FOILS
	HEAT TRANSFER FOIL
	HIGH PRESSURE LAMINATES
	LIGHT BASIS WEIGHT PAPER
	PHENOLIC
	POLYESTER
	POLYPROPYLENE
	SATURATED PAPER
	THERMALLY FUSED MELAMINE
	VINYL FILM
	WOOD VENEER
	OTHER (SEE NEXT COLUMN)

### COMPOSITE PANEL ASSOCIATI

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sionally stable. High print fidelity. thru 56gsm; white and beige.	ACTU
lms for pressing des. Extensive , metallic and high gloss.	しまきせい
ys are available for TFM, HPL, CPL, s. Available with GREENGUARD, stody Certification.	2011
nh abrasive resistant Igebanding for ices.	
istant, dimensionally stable, actron beam cured decorative	
sign services. Experienced ct mix for maximum end use n) paper.	
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s: Etchings, Honed, Naturelle, emical resistant laminates,	
ng, design and repro services.	

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COMPANY AND LOCATION	BRAND NAME	3-D LAMINA	CPL (CONTI	DECORATIV	HEAT TRAN	HIGH PRES	LIGHT BASI	PHENOLIC	POLYESTER	POLYPROP	THERMALL	VINYL FILM	WOOD VENI	OTHER (SE	OTHER PRODUCT TYPES	SPECIAL TREATMENTS, FEATURES AND CAPABILITIES	
<b>AET FILMS</b> New Castle, Delaware	SynDECOR®									•					SynDECOR ®, a performance polymer-based decorative overlay	Water resistant, sustainable overlay. Dimensionally stable. High print fidelity. Miter-foldable. No VOC's. Available 23gsm thru 56gsm; white and beige.	
AMERICAN RENOLIT Swedesboro, New Jersey LaPorte, Indiana	CORPORATION RENOLIT	•							•	•		•		•	Exterior Film	3D laminates, PVC, PET and PP decorative films for pressing wrapping and thermoforming. Horizontal grades. Extensive stocking with cut roll program. Solids, prints, metallic and high gloss. Popular TFM/HPL matching program.	
ARCLIN Tacoma, Washington	E-Gen		•			•		•		•	•			•	Glue films, backers	Arclin's E-Gen designated decorative overlays are available for TFM, HPL, CPL, flooring and industrial surfacing applications. Available with GREENGUARD, Children and Schools, and FSC Chain of Custody Certification.	
ARJO WIGGINS USA Stamford, Connecticut	, INC.													•	Base paper manufacturer (saturating and pre-impregnated) for the printing, saturating and laminating industry		
BAUSCHLINNEMANI Greensboro, North Carolina Myrtle Beach, South Carolina	N NA TecoFoil, TecoLine, TecoTop, TecoLam			•			•							•	Pre-applied hotmelt adhesive	Flat surface and profile wrap laminates, high abrasive resistant surfaces, recoatable surfaces, melamine edgebanding for straight and softformed edges, slitting services.	
CDM DÉCOR PAPERS Drummondville, Quebec	S INC. AquaSeal™, Foilspec™, Microspec™			•			•			•				•	Pre-applied hotmelt adhesive	AquaSEAL <sup>TM</sup> : Water, stain and abrasion resistant, dimensionally stable, resists shrink/creep, formaldehyde free. Electron beam cured decorative foils and light basis weight papers.	
CHIYODA AMERICA Morgantown, Pennsylvania	, INC.			•			•			•						Zen Finish. North American printing and design services. Experienced in matching design and color across product mix for maximum end use opportunities. Solid Color Light Weight (30gm) paper.	
COVERIGHT SURFACE Blythewood, South Carolina Curitiba Brazil Cobourg, Ontario						•					•		•	•	Broad range of technical films. PG backers, glue films, Coated Glass Mat, Decorative prints for surfaces	High Wear Melamine, impact resistant melamine. Silveright anti-bacterial surface treatment now available for TFM Decorative prints and can be ordered in sheet or roll form, HPL, Laminate flooring surfaces and other building products.	
FORMICA CORPORA Cincinnati, Ohio	TION Formica High Pressure Laminates, Formica Solid Surfacing, DecoMetal Metal Laminates, Formica Veneer Premium Wood Surfacing, Chemtop2					•				•				•	Solid surfacing, metal and wood laminates	Innovative High Pressure Laminate finishes: Etchings, Honed, Naturelle, MicroDot, Riverwash; Radiance; fire and chemical resistant laminates, compact phenolic panels.	
INTERPRINT, INC. Pittsfield, Massachusetts				•			•									Decorative printing, in-house laser engraving, design and repro services.	
KAPSTONE CHARLES North Charleston, South Carol														•	Producers of DuraSorb® saturating kraft paper for use as core paper for HPL, CPL, and compact laminates as well as overlays for construction grade applications.		

LAMIGRAF, S.A. Barcelona, Spain Bonen, Germany									•					Decorative and solid color printed papers for TFM, HPL and laminate flooring markets	Decorative printing of saturating papers up to 2700mm wide, along with full digital design and engraving services.
MUNKSJO PAPER Fitchburg, Massachusetts													•	Base paper manufacturer for the printing, saturating & laminating industry	
OLON INDUSTRIES INC. (Decoratives Division) Geneva, Illinois Olon Decorative laminates	•	•					•		•	•	•	•	•	Olon Thermally Fused Continuous Decorative Laminates	Continuous TF laminates for wrapping and edgebanding applications. Designs to complement Arclin, Coveright, Flakeboard, Formica, Nevamar, Panval, Tafisa and Wilsonart. High abrasion resistant wrapping grade laminates for flooring laminate designs. Saturated products with polyester resins, such as décor cellulose paper, fiberglass and backers. Available with antimicrobial protection.
OMNOVA SOLUTIONS, INC. Fairlawn, Ohio OMNOVA Laminates, surf(x) Auburn, Pennsylvania 3D Laminates, EFX 3D Laminates, Jeanette, Pennsylvania radiance Flat Laminates, Monroe, North Carolina duraMAX Flat Laminates	•		•		•		•	•	•	•	•		•	EFX 3-D Laminates (non-PVC), pre-applied adhesive, broad range of technical films, acrylic laminates	North American manufacturer with short lead times, leading print designs, small minimum orders, extensive stock program and a range of performance coatings. Variety of constructions with matching designs across constructions (Harmony Program) provides the best application of laminate based on cost and functional requirements.
PANOLAM INDUSTRIES INTERNATIONAL, INC. Auburn, Maine Pionite® decorative laminate Hampton, South Carolina Nevamar® decorative laminate Morristown, Tennessee ProWrap® Polyester and Melamine  Oshkosh. Wisconsin Panolam® TFM. Pluswood® TFM		•	•	•	•		•			•	•	•			Custom print capabilities in TFM and HPL. Custom print capabilities in TFM and HPL. ProWrap® Polyester and Melamine in standard and high-wear laminates in a variety of textures. Custom print capabilities in TFM and HPL.
RIKEN U.S.A. Burlington, New Jersey Integra, Tre Nuovo, FINO, Rivestar	•						•				•				Printing, top coats, non PVC, UV top coats, 3D thermofoil, high gloss thermofoil.
SCHATTDECOR St. Louis, Missouri			•												
SUDDEKOR, LLC Agawam, Massachusetts D. Fin, D. Film, D. Release East Longmeadow, Massachusetts Biscoe, North Carolina			•		•				•						Design service and in-house engraving offering prompt, proprietary service. Impregnation of high-clarity overlays, decorative prints, and backer papers, in either roll or sheet form, at two North American locations. New line of D.Fin® finish foils and D.Release® release papers engineered to visually and technically coordinate with Süddekor products.
SURFACE SOURCE INTERNATIONAL  Randolph, New Jersey  Klöckner Pentaplast, Pentadecor®, Basic Line, Matte Line, Gloss Line, kpExtreme™, EGR, Stylelite®, Zenolite®, Acrylic sheets, 2D Acrylics	•		•				•	•		•	•		•	Phenolic Backed 3D Laminates Peel n stick 3D laminates, ABS - Edge banding	Stocking distributor with same day shipping and a on-staff technical department. HPL/TFM matching program. Slitting services available. PVC & PET High Gloss and solid color 3DL program. Industry leading printed designs with a wide range of embossing's from, ultra-smooth to deep texture. Special surfaces available for healthcare and fixture & display markets.
TECHNOCELL DEKOR Pulaski, New York													•	Base paper manufacturer (saturating and pre-impregnated) for the printing, saturating and laminating industry	
TOPPAN INTERAMERICA INC. McDonough, Georgia			•						•				•	Non PVC film (printed)	
U.S. COATING COMPANY Lexington, South Carolina			•										•	Paintable/glueable papers and backing	Electron beam cured decorative foils; pigmented coatings applied to specialty papers, basis weights from 40gsm to 100 gsm.
WILSONART INTERNATIONAL Temple, Texas Wilsonart Laminate, Wilsonart HD High Definition Laminate, Chemsurf Chemical-Resistant Laminate				•		•			•	,			•	Wilsonart Solid Surface, Decorative Metals, and Adhesives.	AEON™ Enhanced Performance; Digital and Silk-Screened Custom Laminate; Performance Types: Chemical Resistant, Fire-Rated, Marker Board, Chalkboard, High Wear Laminates.
ZAMMA CORPORATION Orange, Virginia		•	•						•				•	Frame and profile wrapping, floor transitions, mouldings.	Laminates and continuous pressure laminates for flat surfaces and profile wrapping in various surface finishes. High abrasive resistant surfaces including flooring grade. Edgebanding and custom treating solutions up to 1,400 mm (55") wide.

\$\frace \text{\panel BUYERS GUIDE 2011} \\ \text{www.pbmdf.cc}\$

AIM LICENSED FACILITY	O UREA-FORMALDEHYDE)*		)IL	LAMINATES	IGHT PAPER				ED MELAMINE	
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# COMPOSITE PANEL ASSOCIATION

LAMINATORS		DOWNSTREAM LICE	NAUF (NO ADDED UREA-	INATES	DECORATIVE FOILS	HEAT TRANSFER FOIL	HIGH PRESSURE LAMINA	LIGHT BASIS WEIGHT PA	00 5	<u> </u>	EB	POLYPROPYLENE	SATURATED PAPER THEBMALLY FILSED MEI		EN FIRE		
COMPANY AND LOCATION BRAND NAME	CERTIFIED WOOD	EPP DOV	NAUF (N	3-D LAMINATES	DECORA	HEAT TR	HIGH PR	LIGHT B	MDO / HDO	PHENOLIC	POLYESTER	POLYPRO	SATURATED	VINYL FI	WOOD VENEER	SPECIAL TREATMENTS, SUBSTRATES	PB, MDF OR HB PRODUCER
AMERICAN LAMINATES, INCORPORATED Riverbank, California	FSC	•	•										•			Offering premium melamine panels with high specification industrial particleboard and MDF. 60 colors in stock. High inventory including shelving, edge banding and line-boring. Fast service to distributors in Western USA.	No
CLARION BOARDS, INC. Clarion, Pennsylvania	FSC												•			E-I-R (Embossed-in-Register) Capable. MDF	Yes
CLOSETMAID COMPANIES Chino, California												,				Custom components, cut-to-size and CNC routing.  PB, MDF, HB	No
COLUMBIA FOREST PRODUCTS St. Casimir, Quebec Melawood products Trumann, Arkansas	FSC FSC		•		•		•	•						•	•	Hardwood Plywood. FSC Capable.  Hardwood Plywood. Capable of laminating 5' wide panels.  FSC Capable. Coating Available.  PB, MDF, HB, Plywood  PB, MDF, HB, Plywood	No No
DURAPLAY DE PARRAL, SA DE CV Chihuahua, Mexico Duralam, Duramel, Duracore					•		•	•	•				•		•	Mix loads capabilities with raw PB, Mende, softwood and hardwood plywood, CTS, bullnose and furniture parts.  PB, MDF, Mende, Veneer Core	Yes
FLAKEBOARD Albany, Oregon Bennettsville, South Carolina Sault Ste. Marie, Ontario Superior MDF, Superior Plus MDF, Superior SW MDF	FSC FSC												•			Mix ship capabilities with raw MDF, melamine laminated MDF and particleboard. Can produce MDF/HDF, particleboard, mende with paint, print, melamine, paper/foils, CTS and perforated board from one source.  Specialty products also include melamine lamination on thin MDF  Fire-rated PB, PB,	Yes Yes Yes
Simsboro, Louisiana UltraPine®  St. Stephen, New Brunswick Fibrex®, Rezflake		•						•					•			(Fibrex®), moisture resistant, fire-rated and no added urea-formaldehyde resin (Vesta) particleboard and MDF.  MDF, Moisture Resistant PB, MDF PR, MDF, Fibrex®	Yes Yes
FLORIDA PLYWOODS, INC. Greenville, Florida								•							•	Cut-to-size, bullnose edge, drawer sides, shelving, end panels, tops & bottoms. Particleboard manufactured in-house; homogeneous. PB, MDF, Veneer Core	Yes
FUNDER AMERICA, INC. Hope, Arkansas; Mocksville, FUNDER North Carolina; Sebring, Florida	FSC	•	•				•									Multiple surface textures & glosses, complete fabrication/ component capability and multiple sizes.  PB, MDF	No
KML CORPORATION Tacoma, Washington; Stockton, California							•						•			Top quality TFM panels with decorative overlays from Coveright, Arclin, Wilsonart, Formica and Tafisa. Variety of plate finishes available including embossed diamond finish. Slotwall panels, edgebanding/shelving, custom components and line boring. High pressure laminate bonded panels.  PB, MDF, Veneer Core, NAF, FSC, Fire Retardant, Moisture resistant	No
LAMINATE TECHNOLOGIES Tiffin, Ohio Gallatin, Tennessee Diboll, Texas	FSC FSC FSC	• • •	• • •	•	• • •	•	•	•	•		•	•	•	•		Three fully integrated manufacturing facilities featuring continuous and HPL laminating plus full fabrication capabilities. Double sided continuous laminators capable of laminating papers, vinyl's, polyester and polypropylene. HPL panels available in many sizes and from all major HPL manufactures. Full fabricating capabilities at all locations including cut-to-size, edge banding, drilling, dadoing, toe notching, mite folding and routing for custom components.	No
MADERAS CONGLOMERADAS S.A. DE C.V. Tlalnepantla, Mexico MACOPELL, MACOMELL, MACOPLAY					•	•	•	•							•	Cut to size, LP in one / two faces, Thickness up to one inch, Mix PB/MDF, Manufacturer of flush doors skins.	Yes
MJB WOOD GROUP, INC. Cedar Hill, Texas				•		•		•								Custom component fabricator. Cut-to-size, edgebanding, CNC routing and boring. National warehouse distribution.	No
OLON INDUSTRIES INC. (COMPONENTS DIVISION) Geneva, Illinois Decorative Laminates Georgetown, Ontario Olon Components Jefferson, Indiana Olon Creative Products Washington, Indiana Olon Components	FSC FSC FSC FSC	•			•		•	•	•		:				•	Decorative profile wrapped cabinet stiles and rails with thermally fused polyester, vinyl and lightweight papers. Vinyl wrapped drawer components, v-grooved, blank, mitrefold and KD drawer systems.  Baltic birch drawer sides.  All locations: MDF, Solid Wood, Metal, Backers, Fiberglass, Plastic	No

PANEL SPECIALISTS, Temple, Texas	INC.							•			•						•	Custom Component parts and OEM manufacturing. Manufactures Wall Systems, Casework, Marine Panels, and Panel Board. Services include laminating, edgebanding, cut-sizing, drilling, and machining.	PB, MDF, HB, Thermax	No
PANOLAM INDUSTRI Albany, Oregon Huntsville, Ontario Norcross, Georgia Oshkosh, Wisconsin	ES INTERNATIONAL, INC. Panolam® TFM, Pluswood® TFM Panolam® TFM, Pluswood® TFM Panolam® TFM, Pluswood® TFM Panolam® TFM, Pluswood® TFM	FSC, SFI/SCA FSC, SFI/SCA FSC, SFI/SCA FSC, SFI/SCA		•					•						• • •	• • •	• • • •	Six laminating plants located throughout North America (Albany, OR; Auburn, ME; Hampton, SC; Huntsville, ON; Norcross, GA; Oshkosh, WI).	All locations: PB, MDF, Hardwood Plywood	Yes Yes Yes Yes
PASQUIER PANEL PR Sumner, Washington	ODUCTS							•	•							•		Custom laminating and cutting –shelving and drawer parts – edgebanding, CNC routing and boring, moulding, profile wrapping and RTA packaging to precise custom specifications.	PB, MDF, HB, Plywood	No
PATRICK INDUSTRIES Elkhart, Indiana	5, INC.		•	•	•	•	•	•	•		•		•			•		Eight laminating plants located throughout the US (Elkhart, IN; Mt. Joy, PA; Decatur, AL; Phoenix, AZ; Waco, TX; Woodburn, OR; Fontana, CA). Drawer sides, wrapped mouldings, cut-to-size, HPL panels, edgebanding and custom components, and membrane pressed doors.	PB, MDF, HB, Luan and Decorative Hardwood, Plywood	No
PPM PANELS MEXICO	O MEXICO, S.A. DE C.V. Best Board														•		•		PB	Yes
REXCEL SA DE CV Chihuahua, Mexico	Panelart										•				•			In-house impregnation, mix loads capabilities with raw PB, Bullnose, Stair Tread and CTS.	РВ	Yes
ROSEBURG Dillard, Oregon Missoula, Montana	Duramine TFM, Hardwood Plywood, UltraFinish-Paper & Vinyl Overlays, RediPly, Melagard, Redishelf, SkyBlend™ Duramine TFM, Melagard, Redishelf, SkyBlend™	FSC	•	•		•			•	•	•		•	•	•	•	•	Mixed shipments of flat panel, CTS, edge-treated matching surfaces from this integrated producer of custom designs, Wilsonart, Formica, Arclin, Coveright and others.	PB, MDF, VC, HB, SkyBlend™ and others	Yes Yes
Oxford, Mississippi Orangeburg, South Carolina	Duramine TFM, SkyBlend™ Duramine TFM, SkyBlend™	FSC FSC	•	•											•			Mixed shipments of flat panel, from this integrated producer of custom designs, Wilsonart, Formica, Arclin, Coveright and others.	PB, MDF, SkyBlend™ and others	No No
ROUCKE, INC. Denver, Colorado		FSC		•	•			•							•		•	Full service panel processing from cut-to-size to CNC machining. Flat or 3-D processing of rigid thermal foil to match TFM & HPL. Coveright, Arclin, Formica and Wilsonart TFM papers. All brands high pressure laminate bonded panels. Bulk or custom packaging available.	PB, MDF, Plywood, NAF, NAUF PB & MDF FR PB & MDF	No
SHIOLENO INDUSTRI Arlington, Texas	ES, INC. Rainbow Panels			•				•							•		•	Specialist in short run batches of TFM and HPL panels. Quick to Ship Program. Most major brands for TFM/HPL matches, including PVC custom edging to match. Full service manufacturing facility including: Cut to size, EB, CNC Routing & Drilling and UV Coatings. Fully integrated production for Fixtures, Shelving, Cabinets, Closets Systems and Drawer components.	PB, MDF, HB, Fire-rated, NAF	No
STEVENS INDUSTRIE Teutopolis, Illinois	<b>S, INC.</b> Stevens TFM, Stevens HPL, StevensWood™, Stevens Shelf™		•					•							•		•	Thermofused Melamine Panels: Special wood look and feel textures (StevensWood), Wilsonart, Coveright, Pionite and Formica patterns. High Pressure Laminate Panels: All major brands including Wilsonart, Pionite, Formica and Nevamar. Component Fabrication: Cut-to-size, EB, CNC routing, contour edging, postforming (HPL and TFM) closet parts, cabinet parts, fixture components and shelving.	PB, MDF, Plywood, Fire-rated PB, MDF, Moisture-resistant PB, MDF, NAF (Green) PB, MDF	No
TAFISA CANADA INC Lac-Mégantic, Quebec	Tafilam	FSC	•	•											•			Tafilam color range offered with various complementary color matching products such as high pressure laminates, PVC edgebanding, polyester wrapped mouldings, thermovinyl films and five piece doors.	PB, MDF, NAF PB	Yes
TIMBER PRODUCTS ( White City, Oregon	COMPANY Spectraboard, Spectracore, ColorLam, TufDec, Polyboard, Decraboard	FSC/SFI		•		•			•	•		•		•	•	•	•	Cut-to-size, shelving, drilling, hardwood veneer one-side and sublimination grade polyester.	PB, MDF, Plywood	Yes
UNIBOARD Moncure, North Carolina Sayabec, Quebec Val-d'Or, Quebec	Uniboard TFM Uniboard TFM Unibord TFM	FSC FSC FSC	• • •	•											•			Thermofused melamine panels. Matching products such as high pressure laminates.PVC edgebanding, mouldings and RTF. All surfaces available on NU Green particleboard — no urea formaldehyde added. Multiple surface textures / glosses and multiple sizes.	PB, NU Green MDF, HDF	Yes
VISULAM DIVISION DE Lachute, Quebec	PRODUITS FORESTIER AFA INC.			•			•		•						•	•		Top quality TFM panels with decorative overlays, multiple surface textures & glosses, complete fabrication/component capability and multiple sizes, slotwall panels, edgebanding/shelving, custom components and cut-to-size, bullnose edge, drawer sides, shelving,end panels, tops & bottoms.	PB, MDF	No

<sup>\*</sup> These companies and facilities offer products made with "No added urea-formaldehyde" (NAUF) panel products. NAUF panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

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COATERS			EPP DOWNSTREAM LICENSED FACILITY	O ADDED UREA-FORMALDEHYDE)*	COATING	POWDER COATING	9	COMPOSITE PANEL ASSOCI	IATION	
COMPANY AND LOCATION	BRAND NAME	CERTIFIED WOOD	EPP DO	NAUF (NO	LIQUID	POWDER	PRINTING	SPECIAL TREATMENTS, FEATURES, CAPABILITIES AND SERVICES	SUBSTRATES OFFERED	PB,MDF, OR HB PRODUCER
AMERICAN ADHESIVE COATING Lawrence, Massachusetts	S LLC				•			Manufacturer of hot melt adhesives for particleboard and MDF laminations to paper up to five feet wide.		No
BAUSCHLINNEMANN NA Greensboro, North Carolina Myrtle Beach, South Carolina	TecoFoil, TecoLine, TecoTop, TecoLam				•			Pre-applied hotmelt adhesive.		No
CDM DÉCOR PAPERS INC. Drummondville, Quebec					•			Pre-applied hotmelt adhesive.		No
CLOSETMAID COMPANIES Chino, California						•		Wood powder coating, custom components, cut-to-size, CNC routing.	PB, MDF, HB, Lauan	No
COLUMBIA FOREST PRODUCTS Chatham, Virginia Hearst, Ontario Klamath Falls, Oregon Old Fort, North Carolina		FSC FSC FSC FSC		•	•			Hardwood Plywood.  Hardwood Plywood.  Hardwood Plywood.  Primer Finish Hardwood Plywood Cut to Size Available.	PB, MDF, HB, Plywood PB, MDF, HB, Plywood PB, MDF, HB, Plywood	No No No
Trumann, Arkansas		FSC		•	•			Primer Finish, Hardwood Plywood, Cut-to-Size Available, Beaded Panels. Hardwood Plywood and Laminating, Beaded Panels.	PB, MDF, HB, Plywood PB, MDF, HB, Plywood	No
FLAKEBOARD St. Stephen, New Brunswick	Rezcote		•	•	•		•	Standard acrylic and UV top coat, unlimited solid colors, wood grain print.	PB, MDF, Fibrex®	Yes
FUNDER AMERICA, INC. Mocksville, North Carolina			•			•		Wood powder coating, custom components, cut-to-size, CNC routing.	PB, MDF	No
ROSEBURG Dillard, Oregon	UltraFinish-UV Cured Paints & Finishes, SkyBlend™	FSC	•	•	•		•	UV fill and topcoat, wood grain print, PB, MDF, VC, acrylic solid colors with custom color program, prefinished shelving and edge banding.	PB, MDF, SkyBlend™, and others	Yes
Missoula, Montana	UltraFinish-UV Cured Paint & Finishes, SkyBlend™		•	•	•		•	UV fill and topcoat, wood grain print, PB, MDF, VC, acrylic solid colors with custom color program, prefinished shelving and edge banding.	PB, MDF, SkyBlend™, and others	Yes

<sup>\*</sup> These companies and facilities offer products made with "No added urea-formaldehyde" (NAUF) panel products. NAUF panel products may be eligible for low-emitting materials credit under LEED for Commercial Interiors and LEED for New Construction and Major Renovations.

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Laurence Massachusette	

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Lawrence, Massachusetts

<b>TIGER</b>	DRYLA	<b>POWDER</b>	<b>COATINGS</b>

Reading, Pennsylvania

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No

No

# PARTICLEBOARD

### **PARTICLEBOARD**

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Western US Sales PO Box 428 Albany, Oregon 97321 (888) 650-6302 Fax (541) 928-4116 customer.service@flakeboard.com www.flakeboard.com

Eastern US Sales 515 River Crossing Drive, Suite 110 Fort Mill, South Carolina 29715-7900 (877) 273-7680 Fax (800) 808-1454 customer.service@flakeboard.com www.flakeboard.com

### FLORIDA PLYWOODS, INC.

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### MADERAS Y SINTÉTICOS DE MÉXICO, S.A. DE C.V. (MASISA)

Jaime Balmes 8, Piso 2-202 Mexico, DF 11510 +52 (55) 9138-2300 Fax +52 (55) 9138-2308 jose.catalanleiva@masisa.com www.masisa.com

# NORTHERN ENGINEERED WOOD PRODUCTS, INC.

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# PANOLAM INDUSTRIES INTERNATIONAL, INC.

Muskoka Road 3, Box 7500 Huntsville, Ontario P1H 2J7 (800) 672-6652 Fax (708) 789-6658 www.panolam.com

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### REXCEL S.A. DE C.V.

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### **ROSEBURG**

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Southeastern Sales 12000 Findley Road, Suite 320 Johns Creek, Georgia 30097 (866) 387-2646 Fax (678) 474-1258 jimbu@rfpco.com www.Roseburg.com

### SIERRAPINE

Western Sales 3010 Lava Ridge Court, Suite 220 Roseville, California 95661 (800) 676-3339 Fax (916) 772-3415 info@sierrapine.com www.sierrapine.com

Eastern Sales 801 Cook Street Adel, Georgia 31620-3438 (888) 633-7477 Fax (229) 896-7695 info@sierrapine.com www.sierrapine.com

### TAFISA CANADA INC

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### **TIMBER PRODUCTS COMPANY**

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Ontario and Western Canada Sales 6205 Airport Road, Bldg A, Suite 300 Mississauga, Ontario L4V 1E3 (905) 673-5743 Fax (905) 673-0175 www.uniboard.com

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### **DEL-TIN FIBER, LLC**

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Western US Sales PO Box 428 Albany, Oregon 97321 (888) 650-6302 Fax (541) 928-4116 customer.service@flakeboard.com www.flakeboard.com

Eastern US Sales 515 River Crossing Drive, Suite 110 Fort Mill, South Carolina 29715-7900 (877) 273-7680 Fax (800) 808-1454 customer.service@flakeboard.com www.flakeboard.com

# GEORGIA-PACIFIC WOOD PRODUCTS LLC

PO Box 105605

Atlanta, Georgia 30348 (800) 727-9452 Fax (404) 924-3170 www.gp.com

### **KRONOSPAN LLC**

9320 AL Hwy. 202 Eastaboga, Alabama 36260 (256) 741-8755 Fax (256) 741-8757 mdfsales@kronoflooring.com www.kronospanusa.com

### LANGBOARD, INC.

548 Langboard Road Willacoochee, Georgia 31650 (912) 534-5959 Fax (912) 534-5904 dbeaty@eufaula.rr.com www.langboard.com

### MADERAS CONGLOMERADAS S.A. DE C.V.

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### PAN PACIFIC PRODUCTS, INC.

Route 4, Box 371, Highway 3 Broken Bow, Oklahoma 74728 (580) 584-6247 Fax (580) 584-6230 waynes@panpacificproducts.com www.panpacificproducts.com

### PLUM CREEK MDF. INC.

265 Meadow Lake Blvd. Columbia Falls, Montana 59912 (800) 548-3099 Fax (406) 892-6870 will.warberg@plumcreek.com www.plumcreek.com

### **SIERRAPINE**

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SPECIFYING SURFACES

Selecting the proper surface material for any project will depend on the type of environment it will be used in, the demands those environments will place on the surfaces and the desired performance characteristics over time. These points should be considered when selecting the proper surface materials in retail, hospitality, education, healthcare or corporate environments. In nearly all cases, a variety of different surface materials will be used within the same space. And it will be critical that those surfaces match each other precisely. Industry innovation, technologically advanced manufacturing processes and cooperation among producers have significantly advanced the "surface material matching programs" as a solution to this challenge. Designers can confidently specify multiple surface materials knowing that each will match in harmony within the space.

The healthcare environment shown here is an example of the use of multiple surface materials, each specifically selected for design and performance.



### PRODUCTS USED

- EDGEBANDING is often made from the same material found on the surface of the panel. Melamine or polyester edgebanding made with décor paper guarantees an exact match. However, considering the abuse in healthcare environments and the demand for performance, 1-2 mm PVC edgebanding is a better specification here. It can withstand a direct blow without cracking or chipping.
- 2 TFM (thermally fused melamine), decorative foils, PVC sheet or even HPL could be used on the vertical surfaces of the back wall and the cabinet doors. Considering that vertical surfaces take less abuse than horizontal surfaces, TFM might be the best spec for this application.
- HIGH PRESSURE LAMINATE (HPL) is an excellent specification for horizontal surfaces and counters in healthcare. It is easily cleaned and very durable. Less obvious is the use of HPL on the vertical surface of the serving cart. Movable devices tend to receive high levels of abuse, so HPL is a good spec here.
- 4 LAMINATE FLOORING is very popular today in many environments. In healthcare HPL laminate floors are an excellent choice for cleanability, impact-resistance and an ability to withstand the weight of hospital beds.
- **3** 3DL (three dimensional laminated film overlays) are the perfect choice for the horizontal surfaces on the serving cart. The design of the tray's elevated edges calls for a laminate that can be applied in three dimensions. 3DL overlays can be PVC, polyester or other engineered thermoplastic sheet laminated to the contoured tray under heat and pressure in a membrane or vacuum press. The application of 3DL eliminates the possibility of contaminates collecting in the panel's seams. It is a very cleanable surface that withstands harsh cleaning agents.

Beneath each and every surface material choice in this hospital room is a composite panel product. Particleboard and medium density fiberboard (MDF) are highly engineered, environmentally friendly and the materials of choice for architects, designers and fabricators.

# GLOSSARY OF TERMS

### **ADHESIVE**

A substance capable of holding materials together by surface attachment. The term is used to cover the bonding of sheet material and is synonymous with glue.

### **BACKER**

A non-decorative overlay used on the back of composite panel constructions to protect the substrate from changes in humidity and to balance the panel construction.

### **BALANCED CONSTRUCTION**

A laminated composite panel construction that typically has a similar overlay on both surfaces, which reduces or eliminates warp when subjected to moisture changes.

### **BASIS WEIGHT**

Most often used to characterize the weight of paper products; in the decorative overlay industry the basis weight is defined as the weight in pounds (or grams) per square feet (or square meter) of paper.

### **BIAXIALLY ORIENTED FILM**

Film in which molecules are oriented in two directions within the transverse direction (TD) and machine direction (MD) of the film.

### **CALENDERED**

Polymer is passed through heated rolls, moving at varying rates, to reduce the film thickness.

### COATER

A company that paints, prints, primes or otherwise pre-finishes panel substrates with liquid or powder paint finishes.

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### **COATING MANUFACTURER**

A company that produces and/or supplies an industrial decorative paint, print or prime coating.

### **EMBOSSING**

A process by which the surface of the panel product is given a relief effect. This can be accomplished with a pressure roll or a patterned caul plate in a hot press.

### **EPOXY**

A two-component thermosetting adhesive typically used for laminating medium and heavy gauge vinyls. Epoxy adhesives are generally blended 1:1 (resin to hardener) by volume and are rollcoated either to the backside of the vinyl web or to the board surface.

### **HOT MELT**

A thermoplastic adhesive that is 100% solid and applied molten to form a bond upon cooling. Hot melts differ from conventional liquid adhesives because they set by cooling rather than by absorption or evaporation of water or solvent.

### **LAMINATOR**

A company that applies an overlay to a panel substrate or other blank material, typically through the use of a bonding system.

A thickness measurement, typically used for vinyls and papers. One mil = 0.001"

### **OVERLAY MANUFACTURER**

A company that produces and/or supplies a decorative overlay. The manufacturer may add value to the overlay by, for example, applying a topcoat.

### POLYURETHANE DISPERSIONS

Polyurethane dispersions are used for the membrane pressing of vinyl films and veneers to a MDF core. They can be used in conjunction with a hardener for higher heat resistance if required. Polyurethane dispersions are typically sprayapplied to the MDF and then air-dried before mating with the vinyl film or veneer in the press.

### **RESIN CONTENT**

In the decorative overlay industry, the resin content is the percentage of resin in the saturated paper in relation to the total weight of the saturated paper.

### **SOLVENT-BORNE ADHESIVES**

An adhesive containing polymeric materials dissolved in volatile organic solvents to which other components can be added to obtain certain desired performance properties, such as higher heat resistance. This type of adhesive is typically used on a hot line laminator where it is applied to the board or film surface, dried and then heat-activated prior to a hot roll laminating station. They are non-grain raising and exhibit good coatability, high heat resistance and excellent bond strengths.

### **SUBSTRATE**

A material that provides the surface onto which an adhesive or coating is spread.

### **TELEGRAPHING**

Transfer of substrate surface defects through the thickness of the overlay material.

### **THERMOPLASTIC**

Resins or adhesives that harden at room temperature and re-soften upon exposure to heat.

### **THERMOSETTING**

Resins or adhesives that cure at room temperature or in the hot press by chemical reaction to form rigid bonds that are not re-softened by subsequent exposure to heat (cross-links).

### **VOLATILES CONTENT**

Weight loss of a saturated paper when heated to bone-dry, expressed as a percentage of the weight of the saturated paper.

### WATER-BORNE ADHESIVES

Formulated synthetic polymer (usually polyvinyl acetate or ethylene vinyl acetate). These products are generally used for paper laminating where the adhesive is applied to the web and/or panel surface and tacks up through one or more heated rolls that combine paper to panel.

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