# Vardhman Composites India



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#### Works:

Vardhman Composites India Pvt. Ltd. Vardhman Industrial Estate, Roorkee, Haridwar-247667 (Uttrakhand, India)

1st company providing customised WPC solutions alternate to Wood & Aluminium.

Feels Like Wood Looks Like Wood It is Not Wood It is Better Then Wood



# Global Product - Global Acceptance

Feels Like Wood | Looks Like Wood | It is Not Wood | It is Better Then Wood



Doors & Door Frames WFC Boards Architectural Products





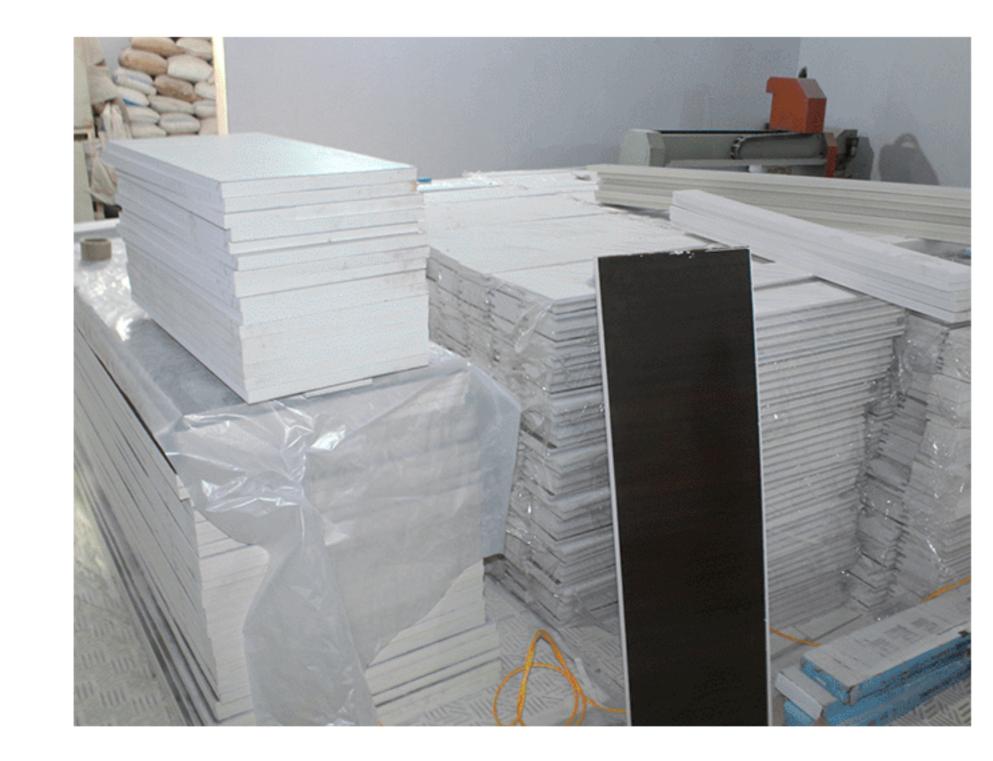
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After a big research & development for protecting "The Earth". Vardhman introduce a unique ECO FRIENDLY product into market which we will save the "Tree" as well as our. "Planet" This product is introduced with the Brand Nme of "BVW" in the market. This product is made by the special composition of additives and resins and best part of this products is, it is water proof, flame retardant and anti termite. This product is used very successfully in dry as well as in coastal area. It is the total substitute of wood & wood products like doors, flooring, decking, cladding, railing, fencing etc.

Vardhman Composites India, is spread over an area of more than 10,000 sq mts approx, and is equipped with the state of art compression moulding, extrusion lines, U.V printer machine, engraver, room temperature moulding, resin coating, filament winding, pultrusion, dough moulded components, sheet moulded components and vacuum moulding composite profile making machines European & other countries.





#### Strengths of Vardhman

- Unmatched experience in the field.
- Pioneers in composites
- · One of the oldest and largest in India
- Cost innovators and value engineering
- Strong research and development capability
- End to end solution In house designing and tooling facility
- Strong financial backing

In order to contribute towards protecting the "Mother Earth" & to save the environment and with a vision to provide high quality products eco - friendly & internationally acceptable Green Products Building / Construction segment, Vardhman after long research & development has now ventured in to manufacturing of innovative & 100% green product with brand name of "BVW".

Vardhman Composites India, which manufacturers "BVW" Range of green products is spread over an Area of more than 10000 Sq. mtrs. and is equipped with most modern state of Art manufacturing facility for manufacturing of various Eco Friendly Products such as Door, Door Frames, Wall Panels / Decking / Cladding, Flooring / Ceiling and Boards, material for Landscaping, Pergolas / Gazebos, Planters etc. for Building & Construction Industry.

- BVW offers a range of Eco Friendly Products with a mission to preserve our Planet. Theses are high quality Premium WPC Products, which provide complete replacement to Wooden Products.
- BVW products are made up of Resin Systems and special cellulose based fibers.
- BVW Products have greater durability & longevity than conventional wood based products.
- BVW is setting new environmental setup without comprising on the needs of Architects / Designers & the Clients / End Users.
- BVW has entire range of Ecofriendly products that strike balance between luxury, style, comfort and conservation of the environment.
- The entire ranges of Products manufactured by BVW are an excellent amalgamation technology & design.

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### BVW-Wood Fiber Composite

### WFC CHARACTERISTICS COMPARISON WITH WOOD

With its patented prescription developed by the team of experts, BVW offers a first-class high quality products in WFC industry with numerous advantages:

#### Dimension Stability Length and Width

It will not be out of shape after a long testing of 10 years and there is no crack under the test temperature between -40°C to 80°C.

#### Material Safety

- Low flame spread
- High slip resistance
- Excellent thermal properties
- Contains no toxic chemicals or preservatives
  - Environmental friendly
  - Can be recycled with 100% recyclable
    - No sting of wood

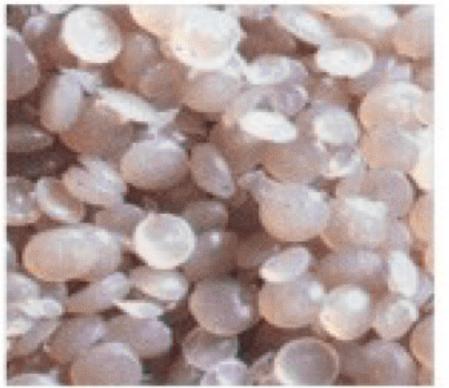
#### **High Strength**

- Outstanding screw and nail retention
  - High impact resistance
- Great Compressive-tensile-shear strength
- Modulus of elasticity: 20% greater than PVC, does not require reinforcement (in most applications)

#### Longevity

 Its lifespan is atleast 12-15 years in the outdoor weather condition







### The great advantage properties of our BVW material are as follows:

- 1. 100% easy recyclable, environmental friendly, saving forest resources
- 2. With the perfect look of natural wood but without the problems appeared on timber deckings
- 3. Resistant to moisture/water, less rotten, proven by 36 hours under salt water condition
- 4. Barefoot friendly, safe for human touching, antislip. less cracking and wrapping
- 5. Requires no painting, no glue, low cost of clean and maintenance
- 6. Weather resistant, suitable for both cold or hot climate
- 7. Well done of termites, insects, and moldy-proof
- 8. Available in different colors, easy to install

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#### **Material Stability**

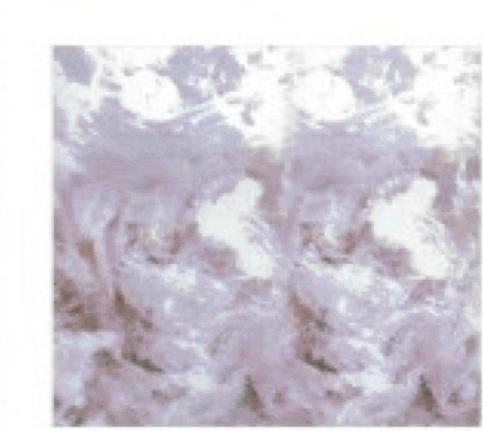
- Natural feel & wood touch
- Broad range of finishes and appearance
- Multicolor, and needn't to painting
  - Available for both sides

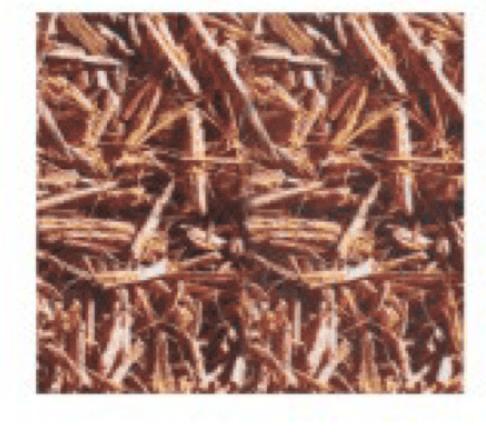
#### Install & Maintain Easily

- Easy to produce and easily fabricate
  - Easy to cut, fix and glue
    - Easy to plane
  - Easy to tenon, drill and nail
- Require less routine maintenance
- No need staining & water Sealant

#### Good Appearance & Nice Touch

- Natural feel & wood touch
- Broad range of finishes and appearance
- Multicolor, and needn't to painting
  - Available for both sides







### **Physical Characteristics**

- 1. Coefficient of linear expansion: 3.03\*10-5
- 2. Water absorption roughed surface (36 hours):0.2%
- 3. Tensile strength: 1740 psi
- 4. Elongation at break :3.0%
- 5. Flexural modulus:2820mpa
- 6. Compression modulus:502mpa
- 7. Unnotched Izod impact strength:80J/m

## Material Safety Data Sheets

Section 1: Product and Company Identification

Product:

Effect Date:

Ingestion:

Flash Point:

Manufacturer: VARDHMAN COMPOSITES INDIA

Update Date: Feb'2011

Section 2: Composition, Information on Ingredients Composition Amount Wood Fiber (Sawdust): 20-30% Resin/PE: 40-50% Harmless Chemical Component Name:

Additive:5%

Section 3: Hazards Identification

In normal use, the product is not hazardous. However, this product may be cut or finished in ways which produce wood dust fibers. Certain wood fibers are considered hazardous if the airborne concentration exceeds the OSHA or ACGIH exposure limits for long periods of time. Exposure to such fibers is considered unlikely with this product; all sawdust in the board is fully stabilized in the plastic

resin matrix.

Section 4: Emergency and First Aid Procedures

Inhalation: This material is not expected to present an inhalation hazard.

Flush sawdust or fines from eyes with water; if irritation occurs, obtain medical attention. This material is not expected to present a skin contact hazard.

No adverse affects expected from ingestion.

Section 5: Fire and Explosion Data

Greater than 698F.

Not Determined Upper Explosive Limit: Not Determined Lower Explosive Limit:

Estimated to be greater than 734F. Auto Ignition Temperature:

Dry Chemical, Water Fog, Foam, Carbon Dioxide. Special Fire Fighting Procedures: Dense smoke Extinguishing Media: emitted when burned without sufficient oxygen. Possible dust explosion if fines accumulate. Wear standard fire fighting attire (as for fighting a wood fire), including SCBA gear in enclosed areas. NEPA

Hazard ID: Health:0 Flammability:1 Reactivity:0

Section 6: Spills and Disposal Notification Procedures

Land Spill : Material should be swept up and discarded.

Clean up and discard or reuse. Water Spill :

Waste Disposal: Dispose of in accordance with local regulations. No special procedures required.

Section 7: Handling and Storage Handling

BVW is Lighter than normal wood. Lift carefully. Storage: Support every two feet on a flat surface.

Store away from strong oxidizing agents or combustible materials.

Section 8: Protective Measures

Ventilation: Use in well ventilated area. An approved respirator may be needed in areas with a high accumulation of fines. Respiratory Protection:

Wear safety glasses with side shields when sawing or installing. Eye protection: Skin protection:

No special precautions needed.

Section 9: Physical Data Appearance and Odor

Boiling Point: Insoluble Solubility in Water: Negligible Vapor Pressure: Freezing Point: Vapor Density:

Negligible Percent Volatile: Specific Gravity: 1.00-1.15 g/cm3

Section 10: Reactivity Stability

This material is stable.

Conditions to Avoid: Heat and flame Materials to Avoid: Strong oxidizing agents

Hazardous Polymerization: Will not occur. Combustion Products:

The following combustion products carbon dioxide, carbon monoxide, water vapor, trace may be generated:

VOC's, Formic Acid, Acetic Acid.

Section 11: Toxicological Data

Exposure Limit of Material Not established LD50 of Material Not established Carcinogenity of ` Material None (wood dusts are fully stabilized in the polymer matrix)

Section 12: Ecological Considerations

This material has not been tested for environmental effects.

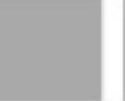
Section 13: Disposal Considerations

Dispose of as normal refuse.

Section 14: Transport Information

NEPA Hazard ID: Health: 0 Flammability: 1 Reactivity: 0

Section 15: Regulatory Information Contact Mail: info@bvw.in

















### BVW-Doors & Door Frames

### **BVW Composite Doors** Better Than Timber Doors

BVW Doors are the next big thing, particularly when compared to uPVC doors, although the two are often around a hardwood frame, the confused and could not be more different. Composite Doors are usually composed of an ultra high density foam core that is injected inside the hardwood frame. From here the foam hardens and creates an almost immovable barrier between inside and outside. Heavy impacts, droughts, even fire, are all kept in check by the magnificent cores in Composite Doors. In contrast PVC doors are typically weak constructions employing light styrofoam to produce a highly brittle and easily breakable system of panels. PVC is cheaply made, and therefore easily broken into.

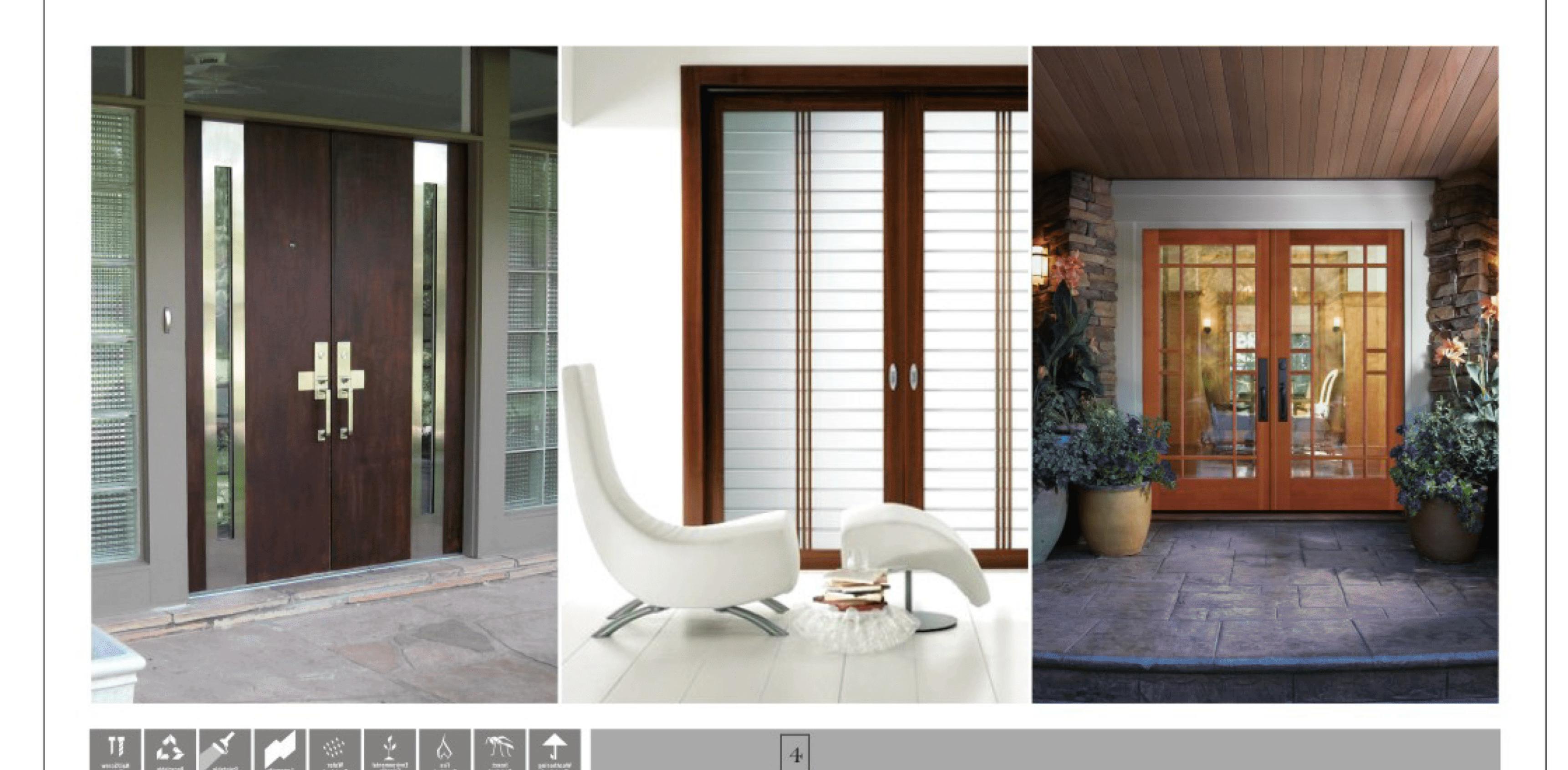
BVW Doors really are a wonder of industrial synergy. Usually built components of a composite door are the secret to it's fantastic performance. BVW Doors are available as hollow doors and solid doors.

The best BVW Doors now comes with textured wooden finish in various colors.. In many cases, this finish is designed not to fade or discolour. The execution of this finish varies of course. Ultimately, the best test to determine if they really do look and feel like wood is to touch one. These all the doors are 100% water Proof, 100% termite proof, 100% Fire Retardant and have much better properties them traditional wooden

doors..These doors can be cut, saw, nailed, paint like normal doors.

The beauty of these doors are that they come with beautiful matching Door Frames also in the same color as the doors. These doors are available in customized lengths and thickness according to the customer needs.

- · Door thickness available 30, 32 and
- Matching door frame and architrave option available
- · Raw door option available(can be painted and polished)
- · Any customised size of door can be made..
- Customised door frame of any size option available with matching architrave



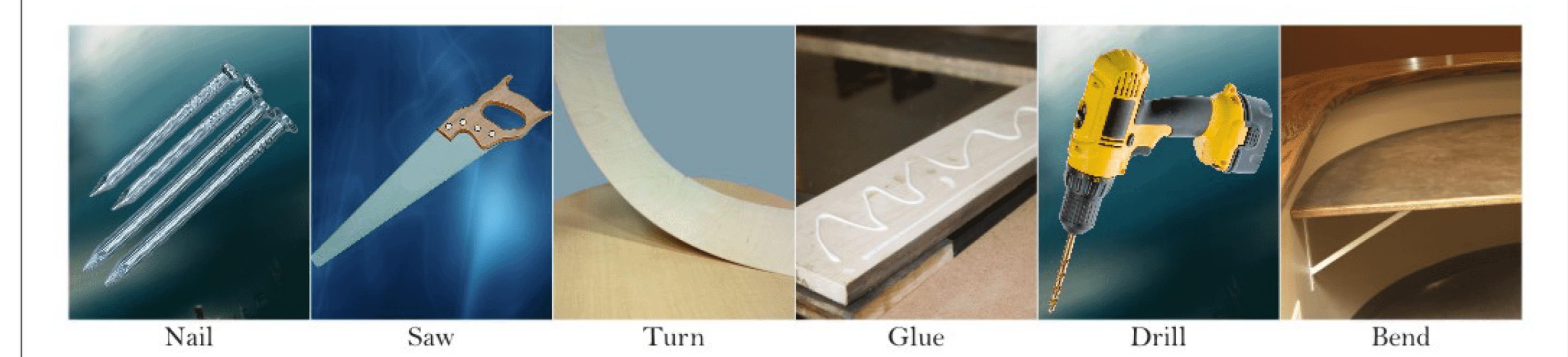








### BWW-Boards



#### WFC SHUTTERING BOARD

BVW has Introduced wood fiber composite shuttering boards that are real replacement of conventional wooden boards. BVW Shuttering Boards can be used more than 30 times saving you on time and money.

- Being Light weight they are suitable for high rise.
- Available in size 2440 X 1220 mm.
- Super smooth finish due to less number of joints.
- No warping, distortion or cracking.
- 100% water proof and hence can be recycled again & again.
- Saves time.
- Can be used minimum 30 times.
- BVW shuttering boards can be recycled.
- Available from 4mm 20mm thickness.

#### BVW CELUKA PLY

BVW celuka ply is one of the products of BVW composite series. Through special machinery and technology processing, the main material, non formaldehyde resin can be foamed and extruded into a special sheet with many advantages. This makes the material waterproof, flame-resistannt, UV stable, sound insulator, smooth and rigid. The hard & strong surface is chemical resistant, corrosion free and anti termite. BVW celuka ply manufacturing equipment is imported with state of the black. art technology. It can produce 8T sheets per day. BVW celuka ply can be used in cabinets, bookshelf, photo frame, window frame, floor, ceiling, printing picture toy etc. It is mostly used in building, construction, decorating, advertising and many other uses. Available from 4mm - 20mm thickness.

#### BVW CO-EXTRUDED SHEET

BVW Co-extruded sheet is a special kind of non - formaldehyde co-extruded sheet. It has light weight, but its surface is smoother, shinier, and harder than BVW celuka ply. It is a good material for advertising and other special uses. We can extrude glossy, matt, textured, embossed or any other design depending upon your requirement.

Available colours :- Ivory, white, blue, yellow, orange, red, green, grey, blue,

Available from 8mm - 20mm thickness.



\* Conditions Apply

#### CHARACTERISTICS / FEATURES

- Light weight, easy and convenient to store, transport and use.
- 2. Can be drilled, sawed, nailed, turned, glued, bent, printed, oiled, etc.
- 3. It has a uniformly fine & closed cell structure.
- 4. Hygienic, Rigid & Durable.
- Perfect chemical corrosion resistance, good resistance to UV & weathering.
- Fire retardant and self extinguishing.
- 7. Moisture-resistant, mildew proof, rot proof, with low water absorption.
- 8. Does not deform or fade for a very long time.
- 9. Absorbs and insulates sound and heat.
- 10. Can be easily protected by film on one or both sides.
- 11. It's smooth surface is suitable for silk-screen printing and laser engraving.

## BVW-Boards Specifications

#### MECHANICAL FEATURES

PROPERTY	UNIT	STANDARD	TEST RESULT (Based on 15mm)	VALUE
Static bending strength	Mpa	≥20	76	PASS
Surface Abrasion Resistance	g/100r	≤1	0.27	PASS
Hammer Drop Impact In Low Temperature	Piece	≥20	20.6	PASS
Situation After Being Heated		≤0.08	0.06	PASS
Dimensional Change After Being Heated	%	≤ 1	О	PASS
Dimensional Change After Being Heated and Cooled	%	NO Bubble, Crack or Spot	NO Bubble, Crack or Spot	PASS

#### PHYSICAL FEATURES

PROPERTY	TEST METHOD (ASTM D)	CONDITION	VALUE (Based on 15mm)	UNIT
Specific Gravity	ASTM D 792	76.2mm×25.4mm	0.65	g/cm3
Water Absorption	ASTM D 570	Drying: 50°C, 24 hrs; Immersion: 25°C, 24 hrs	0.27	%
Shore D Hardness	ASTM D 2240	Type D	78	D

#### THERMAL FEATURES

PROPERTY	TEST METHOD	CONDITION	(Based on 15mm)	UNIT
	ASTM D	Width:6.65mm; Depth:13.07mm Heating rate:120 °C/h Load:1.82MPa	61.4	°C
Heat Deflection Temperature	ASTM D648-07 Method B	Width:6.65mm; Depth:12.86mm Heating rate:120°C/h; Load:0.455MPa	70.9	°C
Heat Distortion Temperature (under load at 264 psi)	ASTM D 648		120	°C
Coefficient of linear Expansion	ASTM D 696		3.7×10 <sup>-</sup> 5	in/in/°F
Thermal Conductivity	ASTM D 177		0.06	W/m°K
Flamibility	GB/T 8624-1997 B1		Passed	
Horizontal burning	ASTM F635-06	Specimen: 127mm×12.6mm×12.74mm	Burning rate: 0mm/min	









































# BVW-Wood Fibre Composite Decking

In architecture, a deck is a flat surface capable of supporting weight, similar to a floor, but typically constructed outdoors, often elevated from the ground, and usually connected to a building. The term is a generalization of decks as found on ships.

BVW Decking" can be used in a number of ways - as part of garden landscaping, to extend living areas of houses, and as an alternative to stone based features such as patios.









## BWW-Flooring

### BVW Composite floors will become the future mainstream products

A new type of environmentally friendly wood- composite products, are waterproof, high environmental protection and are 100% fire retardant.

Wood Composite floors, by definition, is a combination of wood and composite material, both to maintain a sense of affinity of solid wood flooring, but also has good moisture resistance to water, acid, antifungal, anti-static, anti-insect properties. Using wood chips, straw, waste plastic and other waste products a series of wood composite materials are gradually entering the market of

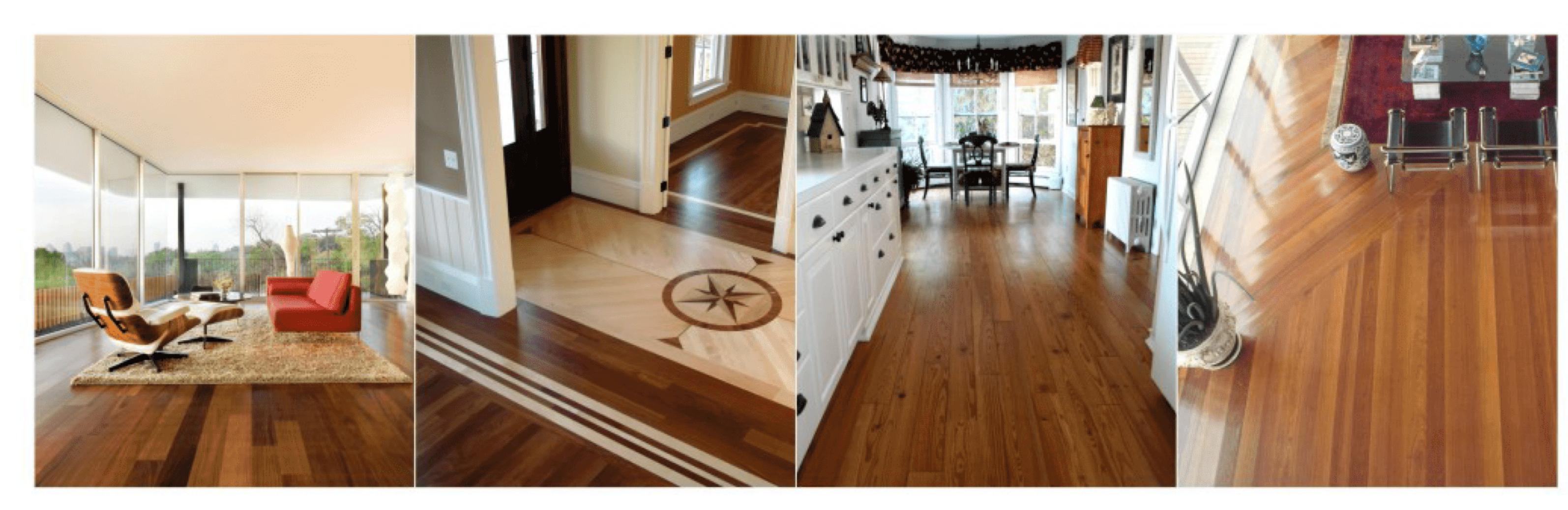
decoration, architecture and other fields. Wood flooring industry is a new direction for building materials, which are waterproof & of high environmental protection.

For consumers, wood flooring products are environmentally friendly, 100% water proof, 100% Fire Retardant, 100% Termite Proof, it not only can control the emissions of harmful substances, but also be able to do the role of ground water and

For designers, this new type of wood flooring materials, having natural

affinity for wood, and the model, is available in different colors options to meet the designer novelty and also comes with a unique feature of customized length of the plank according to the room size on bulk volumes.

For the decoration company it comes with a feature of easy installation, construction can bring significant savings in materials costs, labor costs and schedule costs.. All the wood composite floors comes with a feature of waterproof, moisture, corrosion, deformation characteristics.



### BVW Composite floors comes with these features:

#### Easy to Maintain

BVW is much easier to maintain than carpeting. Stains are far less common, as most spills can be easily mopped or wiped up without leaving behind any residue. In the past, wood composite was considered difficult to maintain, but new technology and new finishes made BVW one of the easiest options for your floors.

#### Affordable

BVW flooring is affordable for several reasons. First, the variety of hardwood styles, colors, and materials make it possible to create a few very affordable options for the budget conscious homeowner. Secondly, these floors hold their value well. They stand the test of

time both in durability and style, which means they need not to be replace the floor covering regularly . When hardwood starts to lose its shine, simply refinish it to restore it to a like-new look with BVW.

#### Real Estate Value

Because of the popularity of BVW and its durability, homes that have BVW floors get a better price on the real estate market than those that just have carpet. Even homes with carpet covering BVW can get a better price, as the new homeowner knows that a little refinishing will make those hidden floors shine again. Installing BVW flooring today will increase your home's value later when you are ready to sell.

#### Environmentally-Friendly

BVW flooring comes from a natural, renewable resource. Not only can more trees be grown to replace the floors, but your current floors can also be recycled one day. Some hardwoods actually come from recycled buildings, barns, or other sources. BVW floors do not collect allergens in the same way carpets do, making them an excellent option for those who struggle with indoor allergies.



















### BWW - Gazebo

Having a gazebo can easily add beauty and function to your backyard or outdoor area. This is why more and more homeowners are looking into having one constructed or set up for their homes. Here are some of the other benefits and uses of gazebos.

- 1. Gazebos allow you to enjoy the ambiance of your yard or garden without having to worry about being rained on or exposed to too much sunlight.
- 2. If you have young children, you could turn your gazebo into a playhouse.

- 3. If you are planning to have your wedding in your garden, investing in a gazebo could be a very practical
- 4. You could also turn your gazebo into a relaxing place where you could set up your whirlpool or hot
- 5. If you are into gardening and want a space where you could do your potting and planting, then a gazebo could be converted into your very own potting shed.
- 6. A gazebo could also offer a place

where you could do your exercise and fitness routines. Instead of exercising indoors, stretching and doing aerobic exercises could be more fun and exciting if you would doing it outdoors.

Today, there are a wide variety of gazebos that you can set up in your garden or yard. Make sure to carefully choose the material and structure of the gazebo according to your taste and needs. By having a gazebo, you would be able to appreciate the great outdoors and enjoy doing a variety of activities, regardless of the weather.



## BWW - Pergola

An outdoor pergola is commonly used as shading or covering in a certain outdoor living area of a home, or a passageway structure in a garden.

There are basically two types of Pergolas designs or styles, one which is free standing, and the other type being attach to a solid wall.

Designs of a pergola come in all sorts of shapes and sizes, and the most popularly used shape is rectangular. The structure of a pergola can be even curved, which is shaped like an arc. However, curved pergolas can be more

costly because more work is required. Free standing pergolas, on the other hand can offer homeowners the flexibility of being able to place them at any designated area, whether to cover a patio space, the pool or the garden. In addition of being a great outdoor decor feature, pergolas function really well as You'll also have to make sure that the hot, sunny days.

Attaching a pergola to your house is a great way to extend your house, giving you additional spaces that really spice up vines. the overall landscape design. There are

several important aspects that must be taken into account when attaching a pergola. Make sure that the pergola's height is being leveled to the windows height or a position that prevents the structure from being in the middle of your window.

shades that provide comfort and cover in view to the pergola while you're looking from inside of your house is good. When the pergola is completed, it can be decorated with plants, flowers and









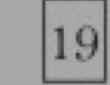
























### BVW - Planters

BVW planter will add a new decorative dimension to the outside of your home. They are easy to make and can be used to hold many different types of flowers that will spruce up the exterior of your house.



# BVW - Outdoor Cladding

BVW Cladding is a process where you place an overlay onto an external wall. BVW cladding wall can be used to protect the exterior walls from the elements in addition to providing decorative purposes.

The BVW cladding can be installed

onto concrete, brick or wood walls, and it can be used on commercial or domestic buildings. External BVW cladding is a sustainable resource that is becoming more and more popular due to its numerous benefits. You can use wood stain or paint to maintain

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the original color.

The BVW cladding can be cut horizontally, vertically or slanted depending on the building you are working on and what design you are going for.







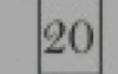












# BVW - Indoor Cladding

BVW composites indoor wall panel series is another product series for interior decoration. BVW composites indoor series can provide elegant application effect without other treatments at all. Compared to traditional materials, our indoor wall panels can not only be widely used in offices, Hotels, House decoration, but also be applied in some special places

such as indoor swimming pools, bathrooms and kitchens, becouse of the distinctive appearance of hieranchy and the water-proof performance.



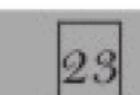
# BVW - Ceiling

BVW composites Ceiling has become an environmental substitution to real wood ceiling and aluminum ceiling recently. Compared to other traditional ceilings, BVW composites ceilings not only reserve the natural appearance and wood grain texture, but also have easy installation, good thermal insulation, excellent sound absorption

and fire resistance. BVW Composites believe that BVW Composites eco ceiling will be bestsellers to the world.

















# BVW-Products Range

Doors & Door Frames WFC Gazebo WFC Indoor Cladding

WFC Boards WFC Pergola WFC Ceilings

WFC Decking WFC Planters

WFC Flooring WFC Outdoor Cladding



BVW-Colours Shade Card

BVW Composites comes in various shades and colors with wooden and marble finish..Some of the shades to chose from are shown underneath and rest any shade can be developed or asked on demand as we have many other shades available for different profile applications and requirements.



## BVW - Eco Friendly Products

#### "BVW" Eco-Sensitive Philosophy

BVW is committed for setting a new standard environmental responsibility without compromising on the client's needs.

At "BVW" we believe in finding the right balance between luxury and conservation. This is done by monitoring our use of natural resource like wood and educating and enlightening our team member and also our clients to participate in the new eco friendly product/range of BVW door, floors, decking, railing, wall panels, pergolas, cladding etc.

Also we believe that style, comfort, time, business efficiency and service matters as much as the environment. And every effort at BVW goes a long way towards protecting the planet.

#### Advantages :

- 100% Recyclable
- Low Maintenance
- Thermally Stable than Plastic
- 100% Water Proof
- Engineered Profiles
- Tailored Products
- High Impact Strength
- Fire Retardant
- 100% Termite Proof
- Light Weight
- Durable in Salt Water Coastal
   Conditions
- Random Grains and Texture Finish

#### BVW Composite can use for:

#### **Building & Construction:**

Panels, Decking, Floors, Doors, Wall Panel etc.

#### Automotive:

Panels & Trim

#### Furniture:

Outdoor & Indoor Furniture, Fencing, Railing etc.

#### Infrastructure:

Signage, Landscaping, Ceiling, WPC Bords etc.

