Havwoods Material Guide: PurePanel® Pre-finished Veneered Panels

These guidelines are designed to complement the current British Standard or the relevant standards in the country of installation.

Safety must be paramount on every installation. All electrical equipment must be PAT tested and labelled and all cutting tools such as jigsaws, circular and bench saws must have guards fitted and cutting must be carried out on a suitable bench. You must also wear suitable work wear and remove or make safe any loose items such as jewellery. Safety is your responsibility.

CAUTION: When Lifting PurePanel®, a min. of 2 people are required due to the 43kg weight of each unit.

The following topics are covered by this document, for further information or for advice on any subject not covered here, please contact Havwoods:

Environmental Conditions
Material Description + Tolerances
Material Usage
Installation as Wall Panelling
HVAC heating/climate control
Protection

The PurePanel® Product has an outer 'A' and inner 'B' face. The outer face has a mix-matched veneer to give the same appearance as a solid timber panel. The inner face has a reconstituted veneer of the same species and finish as the outer face. Be sure to identify the correct faces before processing of the material. The inner and outer faces generally have a protective film of contrasting colours.

1. Mix-Matched Veneer Top 'A' Layer
2. 18mm TSCA VI MDF Core
3. Reconstituted Veneer Backing 'B' Layer

PurePanel Products are primarily designed for vertical surfaces and cannot be used for any high usage horizontal surfaces such as floors, tabletops, kitchen counters etc.

N.B: The final responsibility lies with the installer. It is the duty of the installer to inspect materials prior to installation and notify Havwoods of any potential material defects prior to installation. Installed materials are deemed to have been accepted.

Havwoods International, Carnforth Business Park, Oakwood Way, Carnforth, Lancashire, LA5 9FD
Tel: +44 (0)1524 737 000 **Fax: +44 (0)1524 737 001** **Email: info@havwoods.com**
www.havwoods.com

ENVIRONMENTAL CONDITIONS

The building must be watertight with all windows and doors fitted and all wet trades complete before taking delivery of materials and before any timber finish installation can take place.

Always check the ambient room temperature and humidity, which should be maintained at a constant level above 18°C (64°F) with a relative humidity between 45% - 65%RH prior to, during and for the whole life of the panels. Try to avoid extremes of low or high temperatures as this will negatively affect the stability of the panels.

For the storage of PureEdge® and PureVeneer®, the environment should be at an optimal 20°C and between 50-60%RH. Store away from sunlight and in original packaging.

Acclimatise the panels in the conditions they will be used for 1 week prior to usage. The panels should be maintained in their original packaging in this period. Only remove the materials from their packaging just before installation. The wood should be stored horizontally and face-to-face with the mix-matched veneers facing one another, out of direct sunlight, away from walls and radiators and on battens fully supporting the panels to prevent a build of heat on the bottom boards.

Acclimatising is used to balance the wood material with the environment in the installation area.

Keep the room temperature constant by using the heating set at minimum 15°C (59°F) or if there are problems with the permanent heating other forms of heating such as convector heaters can be used.

Do not use gas-type heaters as these will generate extra moisture in the air.

Infra-red type heaters do not generally warm the fabric of the room or the wood, they tend to only warm the person or item close to the heater.

Low humidity can cause the wood to shrink and high levels can cause expansion. Common causes of low humidity are using the heating at too high temperature, open fires and wood burners. High humidity is commonly caused by poor ventilation.

We recommend using a Digital Gauge**,** which can be purchased through Havwoods, to monitor the humidity and temperature level that can be easily adjusted by either placing moisture in the room (plants that are watered regularly or receptacles of water) or ventilating the room to reduce high levels of humidity. A humidifier/de-humidifier can also be used to control the atmosphere.

As a general rule, rooms/areas should be adequately ventilated to prevent a build of moisture in the environment. Care must also be given to rooms that are only heated when in use and with the heating switched fully off at other times. This can cause a build-up of humidity if the room is closed and not ventilated immediately after usage. The build of humidity / moisture will generally increase the moisture level of the wood. The next time the room is used, the heating can dry out the moisture in the surface of the wood, causing cupping.

Wood will naturally change in size during seasonal variations in temperature and humidity.
During summer the humidity is generally at its highest level, hence the wood joins should be reasonably tight together. During the winter, when heating is commonly used, the humidity levels are generally lower and can produce small gaps between the joins. This occurrence is not a manufacturing or installation fault.

MATERIAL DESCRIPTION + TOLERANCES

Havwoods PurePanel® is a pre-finished veneered panel coloured and finished with water-borne staining methods and UV cured acrylate PU-polymer lacquers. This gives the product a durable factory finish.
The Panels consist of an 18mm MDF core with a mix-matched 6mm veneer outer 'A' face and a reconstituted 6mm veneer 'B' face. The two faces are of the same species and finished using the same pigments and lacquers.

The same finish is available in PureEdge® edge banding to generate finished edges to panels. These are supplied on a 100m roll of 0.6mm veneer to be bonded mechanically or manually to the panel edge.

PureVeneer® sheets are the same 6mm mix-matched veneer bonded to a 0.4mm phenolic backing and can be utilised in the same way as an HPL laminate. PureVeneer® is used to cover surfaces in matching finishes to the panels e.g. doors, where a specific substrate is required and to cover existing surfaces.

Detailed Material Data Sheets are available for each product, the below is an overview of significant product features:

PurePanel® Dimensions:

Dimension	Measurement	Tolerance
Height	3050mm (10') [118.1"]	±2mm [±5/64"]
Width	1220mm (4') [48.0"]	±2mm [±5/64"]
Thickness	19mm [3/4"]	≤0.5mm [±1/64"]
Veneer Thickness	0.6mm [1/32"]	≤0.3mm (0.6mm prior to finishing process)
Deviation of Squareness	-	±2mm/m
Cup in width	-	2%
Flatness Deviation	-	3%
Moisture Content	-	5% - 9%
Gloss Level of Finish	-	10% (±3%)
Weight	43kg per Panel	

PureEdge® Banding Dimensions:

Dimension	Measurement	Tolerance
Roll Length	100m (328.1')	N/A
Width	24mm [15/16"]	N/A
Veneer Thickness	0.6mm [1/32"]	≤0.3mm (0.6mm prior to finishing process)
Moisture Content	-	5% - 9%
Gloss Level of Finish	-	10% (±3%)

PureVeneer® Dimensions:

Dimension	Measurement	Tolerance
Height	3050mm (10') [118.1"]	±2mm [±5/64"]
Width	1220mm (4') [48.0"]	±2mm [±5/64"]
Thickness	1mm [3/64"]	≤0.5mm [≤1/64"]
Veneer Thickness	0.6mm [1/32"]	≤0.3mm (0.6mm prior to finishing process)
Deviation of Squareness	-	±5mm/m
Cup in width	-	5%
Flatness Deviation	-	5%
Moisture Content	-	5% - 9%
Gloss Level of Finish	-	10% (±3%)

Havwoods International, Carnforth Business Park, Oakwood Way, Carnforth, Lancashire, LA5 9FD

Tel: +44 (0)1524 737 000 **Fax: +44 (0)1524 737 001** **Email: info@havwoods.com**

www.havwoods.com

MATERIAL USAGE

PurePanel®

Typical uses for the panels are as wall panelling, cabinetry (i.e. kitchens or in-built cabinets) and other vertical architectural surfaces.
Purepanel® can be processed in the same way as a laminated panel but has the benefit of a real wood veneer surface rather than a synthetic imitation.

PureEdge®

These edge-banding strips can be applied either mechanically through a hot-melt glue application via an edge-banding machine or manually using a contact adhesive.

Mechanical application should be undertaken as per the hot-melt adhesive manufacturer's instructions. Correcting pens are available in all PurePanel® colours to treat the join between edge band and panel where required.

Manual application is achieved by offering the PureEdge® strip to the side of the panel and trimming the edge band accordingly on the width. An appropriate contact adhesive is then used on both the panel edge and the backing of the edge band. Once applied to the panel edge, a softwood block and a rubber mallet are used to tap the two surfaces together and achieve the necessary bond. The length of the strip is then trimmed to the panel edge accordingly. Correcting pens are available in all PurePanel® colours to treat the join between edge band and panel where required.

PureVeneer®

PureVeneer® sheets are ideal for covering most common wood substrates e.g. Plywood, MDF, Chipboard. PureVeneer cannot be fixed to solid wood substrates.
Always cover both faces of the core material with PureVeneer® to ensure stability.
Curved surfaces can be covered with PureVeneer® up to a radius of 100mm.
Always carry PureVeneer® sheets between 2 people and be aware of sharp edges.

PureVeneer® can be bonded to the core material mechanically or manually:

Mechanical application is done with either a hot or cold mechanical press. A hot press must not exceed 70°C and the recommended adhesive types are PVAC or UF. Always follow the glue manufacturer's usage instructions.

Manual application is achieved using a contact adhesive. It is recommended to use the core material as a template and trim the veneer to size before bonding. Ensure all surfaces are free of contaminants such as grit and oils/grease before bonding. Use a suitable contact adhesive applied to the face of the core material and the back of the PureVeneer® and allow the required drying time before bonding together. It is recommended to use a double-handled roller to bond the layers together. Start from the centre and use pressure towards the edge to bond the two elements together, ensuring to apply equal pressure to the whole area. It is not recommended to use a mallet and tapping block, especially on larger sections.

INSTALLATION AS WALL PANELLING

PurePanel® can be secretly fixed or bonded to solid walls or battens. Any substrate must have suitable load-bearing capacity – panels weigh 42-45kg each. Battens should be adequately spaced that all joints between panels are fully supported.

Secret fixings are commonly achieved with Z-clips, half-lapped wood blocks or clip fixings (such as Button-Fix). All fixing methods should allow for the required movement action to install/remove panels.

If bonding to the wall, it is recommended to bond to plywood which has been securely fixed at a minimum of 300mm centres to the substrate prior to panel installation. Do not fix directly to plasterboard/drywall because the movement of the panels under environmental humidity changes cannot be accommodated. Havwoods recommend using Mardon MXA200 adhesive sausages for gun application.

Allow for perimeter expansion in the panels of 0.5mm per panel in all application methods e.g. 5 panels requiring 2.5mm perimeter expansion on all sides to any fixed detail.

Internal and external mitres can be bonded with PVA adhesive. Ensure that the exposed face is taped along the whole joint when glue is drying to prevent adhesive residues forming on the surface.
Correcting Pens are available in complementary colours for all PurePanel® colours.

Havwoods International, Carnforth Business Park, Oakwood Way, Carnforth, Lancashire, LA5 9FD

Tel: +44 (0)1524 737 000 **Fax: +44 (0)1524 737 001** **Email: info@havwoods.com**

www.havwoods.com

COMMISSIONING & USAGE of HEATING, VENTILATION and AIR CONDITIONING (HVAC) SYSTEMS

This relates specifically to the transition from construction-phase environmental conditions to normal operating conditions where Havwoods timber products are to be installed.

The concern relating to this project type is detailed in the expected Equilibrium Moisture Content (EMC) in the timber material as dictated by its environment:

Construction-Phase Environment Example
Temperature: 15°C
Ambient Relative Humidity (RH): 60%
EMC: 11.14%

Operational Environment Example
Temperature: 21°C
Ambient RH: 35%
EMC: 6.95%

Under the example transition above, the timber will lose over 4% of moisture content once the environmental control system is brought into operation. This equates to ~1% of dimensional contraction (typical 0.22% dimensional change per 1% change in EMC). If this transition is made too quickly, the timber will be subjected to a high level of stress and this can result in surface cracking, gaps between timber elements, distortion of timber elements and other undesired actions.

Because of this, there is a requirement to bring the heating/ac system into operation slowly in order to allow staged adaptation of the timber to the environment. This should be done as follows:

- Environmental conditions measured and recorded, and the temperature of the system set to that which is present in the environment at that time.
- The system should be allowed to operate at this temperature for at least 24 hours. RH should be monitored and recorded in the environment in this time.
- No more than 2°C increase in the system per 24-hour period with recordings to be made of RH.
- System brought up to operating temperature with each stage recorded and documented over several days with RH to also be recorded.
- An environmental measure should be in place (such as a LogTag temperature and humidity device) to monitor RH and provide an alert when RH levels fall below 35% so that plants or other moisture sources may be introduced.

The optimum performance of the timber will remain between 40-60% RH and between 18-22°C due to the 5%-9% moisture content at the time of manufacture. The above process is designed to prevent failure of the material under sudden exposure to altered environmental conditions.

Requirements for temporary heating (during the installation at construction phase) in colder months to be operational 24 hours a day remain. All efforts should be made to achieve temperatures of 18°C at the time of PurPanel® installation and until the project completion.

PROTECTION

PurePanel® is supplied with a pre-applied protective film which should remain in place, other than for cutting and processing, until all works are complete.

If additional protection is to be used, this should be of a breathable type. Any protection must not be taped to the finished surface of the PurePanel® but instead to the film protection or to other surrounding surfaces.

20/03/2020

Havwoods International, Carnforth Business Park, Oakwood Way, Carnforth, Lancashire, LA5 9FD

Tel: +44 (0)1524 737 000 **Fax: +44 (0)1524 737 001** **Email: info@havwoods.com**

www.havwoods.com