

# CEILING SYSTEMS

[ Between us, ideas become reality.™ ]

## Technical Data Sheet



## MADERA VECTOR

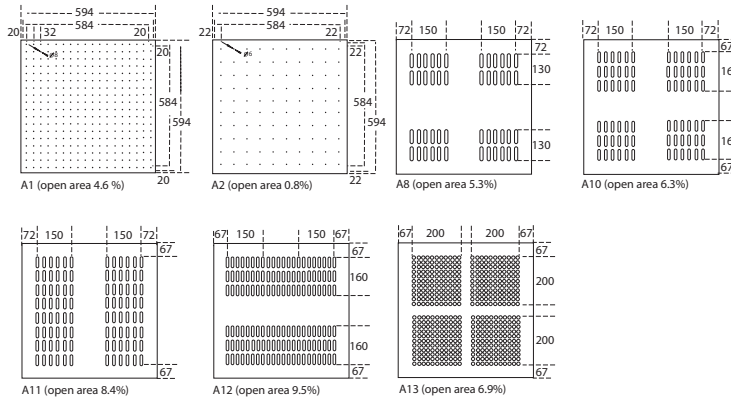
Semi-concealed system on exposed 24mm grid

**Material** Madera Veneers are made of laminated hardwood on medium density fibreboard (MDF). As they are natural products, consistency of colour and grain/structure cannot be guaranteed.  
Madera Laminates are made of paper laminates on medium density fibreboard (MDF).

**Finish** The surfaces are plain or perforated. Perforated tiles are supplied with a black acoustic fleece on the rear.  
All our Madera products are factory-finished with a special varnish which will not turn yellow when exposed to natural or artificial lighting.  
As any natural wood products, Madera Veneers could be subject to slight colour changes over time.  
Madera Laminates provide an excellent resistance to fading due to ultraviolet light exposure and colour will not deteriorate over time.

**Colour** Madera Veneers: US Cherry (UC), US Maple (UM), Beech (BH)  
Madera Laminates: Curly Maple (CM), Pear (PH), Lime Tree (LM)

### Perforations



All measurements are in millimetres.

### Light Reflectance

Madera Veneers	Madera Laminates
US Cherry (UC) 25%	Curly Maple (CM) 74%
US Maple (UM) 62%	Pear (PH) 36%
Beech (BH) 39%	Lime Tree (LM) 55%

Measured in accordance with ASTM E1347.

### Madera Vector Veneers 600 x 600 x 13mm

Perforation	Plain	A1 Ø8mm	A2 Ø6mm	A8	A10	A11	A12	A13
<b>US Cherry (UC)</b>	BP 2566 M UC	BP 2567 M UC	BP 2568 M UC	BP 2569 M UC	BP 2570 M UC	BP 2571 M UC	BP 2572 M UC	BP 2573 M UC
<b>US Maple (UM)</b>	BP 2566 M UM	BP 2567 M UM	BP 2568 M UM	BP 2569 M UM	BP 2570 M UM	BP 2571 M UM	BP 2572 M UM	BP 2573 M UM
<b>Beech (BH)</b>	BP 2566 M BH	BP 2567 M BH	BP 2568 M BH	BP 2569 M BH	BP 2570 M BH	BP 2571 M BH	BP 2572 M BH	BP 2573 M BH

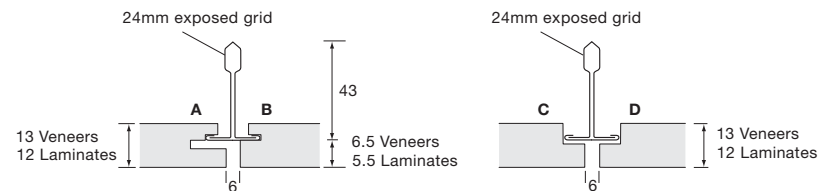
### Madera Vector Laminates 600 x 600 x 12mm

Perforation	Plain	A1 Ø8mm	A1 Ø6mm	A8	A10	A11	A12	A13
<b>Curly Maple (CM)</b>	BP 2558 M CM	BP 2559 M CM	BP 2560 M CM	BP 2561 M CM	BP 2562 M CM	BP 2563 M CM	BP 2564 M CM	BP 2565 M CM
<b>Pear (PH)</b>	BP 2558 M PH	BP 2559 M PH	BP 2560 M PH	BP 2561 M PH	BP 2562 M PH	BP 2563 M PH	BP 2564 M PH	BP 2565 M PH
<b>Lime Tree (LM)</b>	BP 2558 M LM	BP 2559 M LM	BP 2560 M LM	BP 2561 M LM	BP 2562 M LM	BP 2563 M LM	BP 2564 M LM	BP 2565 M LM

### General

Madera Vector tiles are designed to install on a conventional 24mm exposed tee grid. All full tiles can be removed and reinstalled from below without encroaching into the plenum area. Madera Vector edges provide a 90° straight reveal. Installed tiles conceal the tee flanges and create a continuous 6mm shadow reveal. Madera Vector tiles install with a minimum plenum clearance; lighting fixtures and air handling systems will determine the minimum plenum height for the installation.

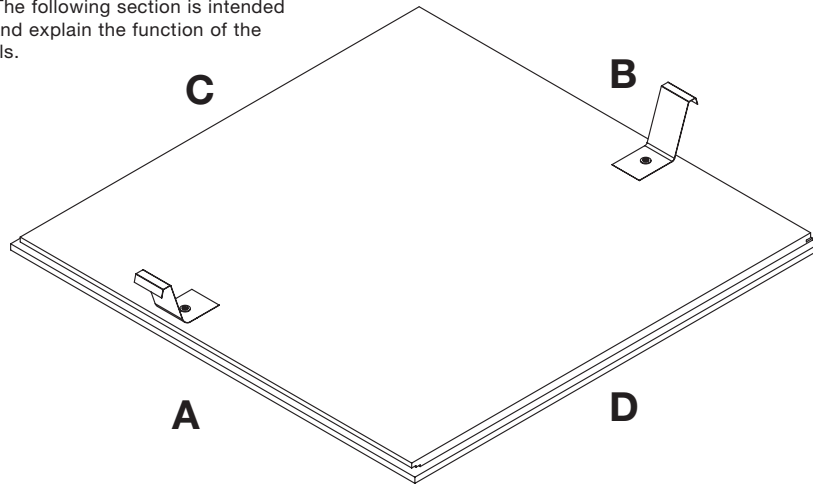
For best results it is recommended to install Madera Vector on Armstrong Trulok Prelude 24 XL<sup>2</sup> grid, with main runners installed every 600mm.



# MADERA VECTOR

## Tile Edges

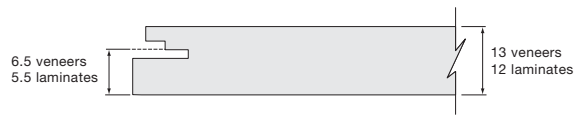
Madera Vector tiles feature unique edge detailing. The following section is intended to define and explain the function of the edge details.



### Access Kerf A

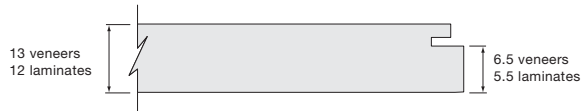
The tile edge designated as "A" has a stepped groove detail and is called the access kerf. This edge is the first to engage the suspension system.

Remember that the "A" edge is always installed first.



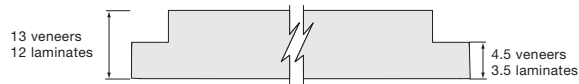
### Registration Kerf B

Edge "B" has a single kerf detail that supports the second side and centres the tile in the A - B direction. This edge is referred to as the registration kerf and is opposite edge "A".

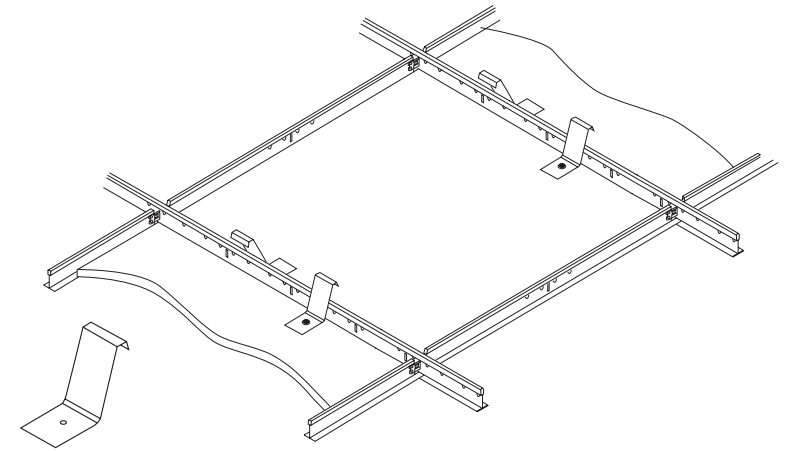


### Reverse Tegular Edges C and D

The two remaining tile edges are rebated to fit between the flanges of the grid system. These edges centre the tile in the C - D direction and are called reverse tegular edges.



All measurements are in millimetres.



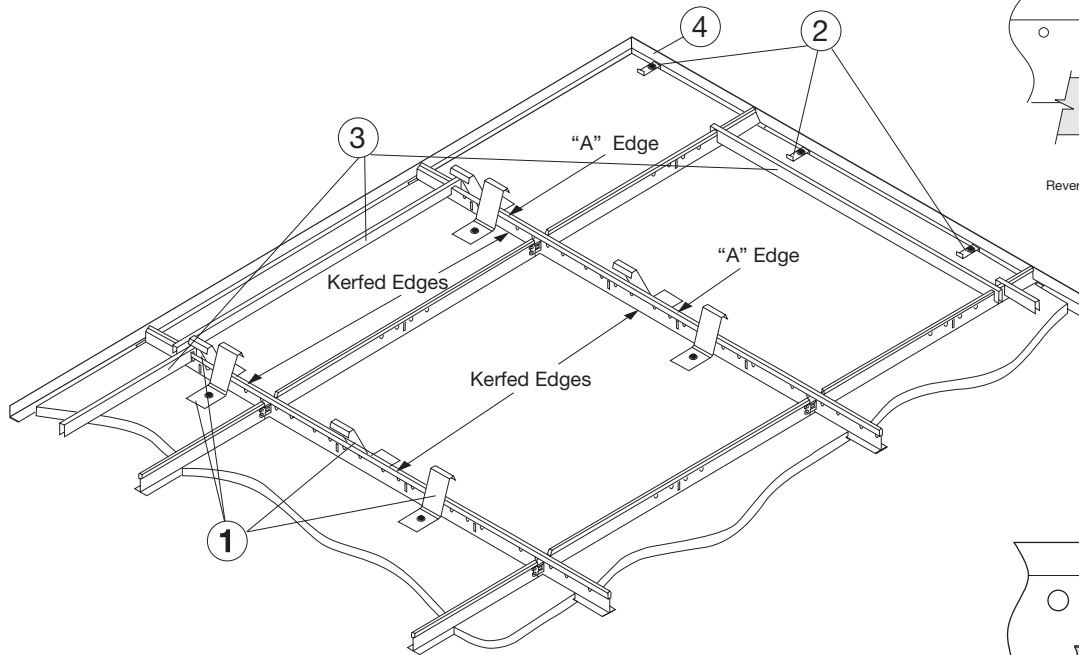
## Accessories

①			Madera Vector safety clip and screw (2 pieces per tile included in carton)
②			Madera Vector border clip (2 pieces per tile included in carton)
③			BP CA5733 A Spacer bar
④			BP T1924 HD Perimeter trim

## Perimeter Solutions

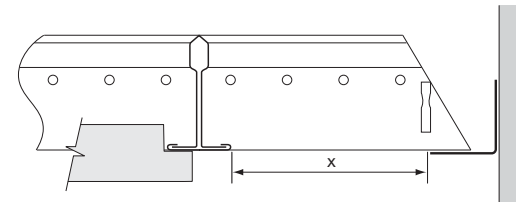
Perimeters must be detailed as described in the following section.

We recommend the use of plain tiles for the perimeter border.



### Spacer bar

Spacer bars ③ are recommended at the perimeters of all installations to help maintain proper tile alignment.

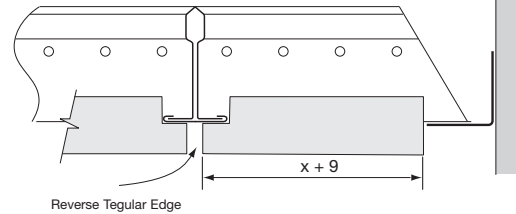


### Grid resting on trim

The border tiles are cut butt against the trim. The grain pattern on the tiles dictates that they can be rotated 180°, but not 90°. Cutting borders will require two different techniques, one to use when the kerfs are perpendicular to the wall and another when they are parallel.

### Kerfs perpendicular to the wall

Measure the size of the opening from the edge of the T-bar to the edge of the trim and add 9mm. Measure and mark the face side of the tile at both edges.



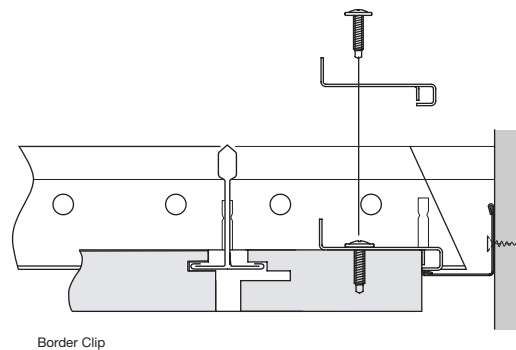
### Cutting and installing the border tile

Cut the tile using standard wood working tools and, where possible, a straight edge. A table saw is recommended for straight cuts and a band saw for curved cuts. In general, these practices will be typical of those employed in finish carpentry.

Install these borders just like full size tiles. Place the cut edge toward the wall and engage the "A" edge on the grid flange, rotate the "B" edge up into the grid opening and draw it back into place.

### Kerfs parallel to the wall

Measure the size of the opening from the edge of the T-bar to the edge of the trim and add 9mm. Measure and mark the face side of the tile at both edges. Mark and cut the tile so as to retain the "A" edge.

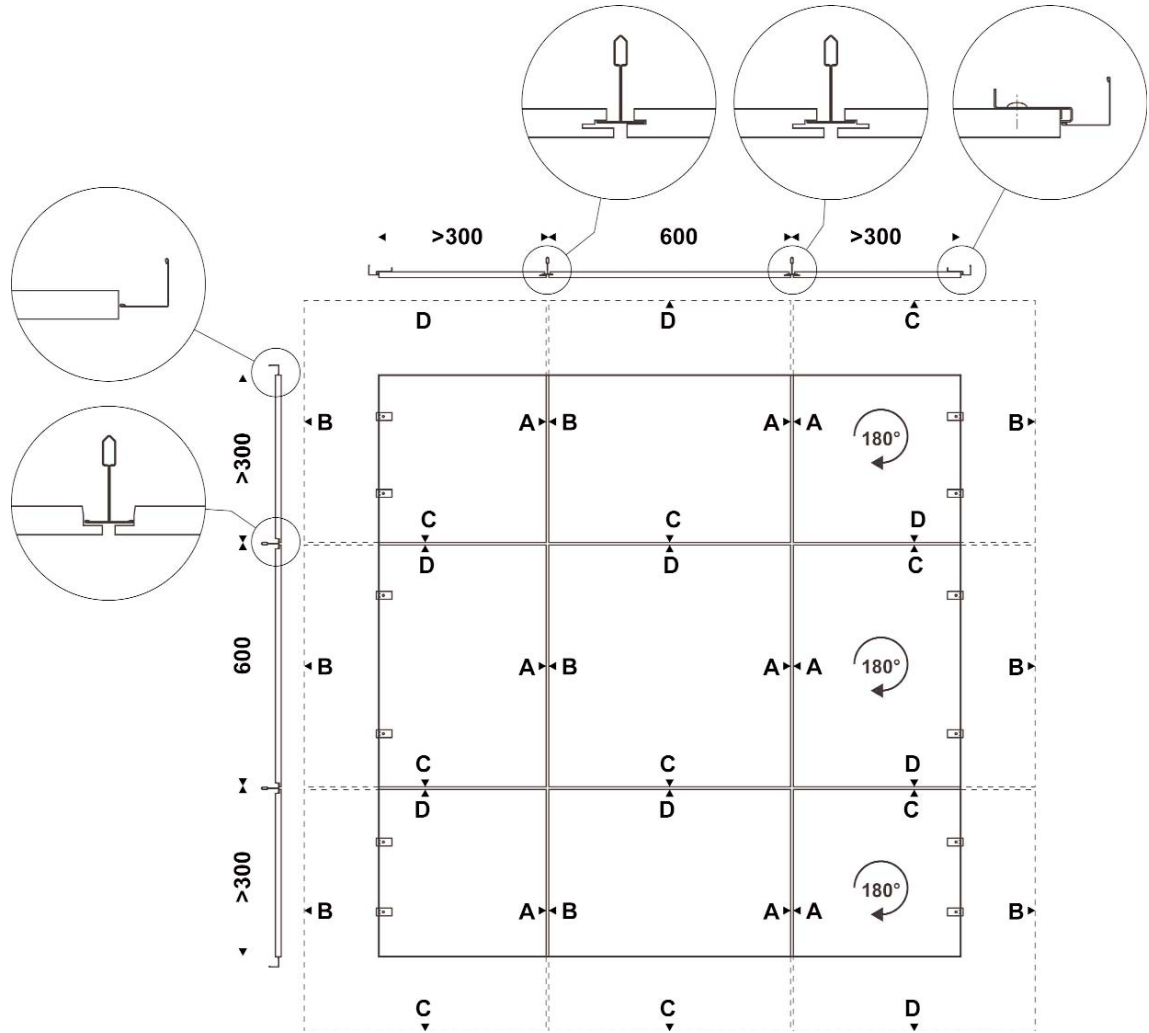


### Attach border clips

Apply two Madera Vector border clips (provided in the carton) to the cut edge of the tile as shown. Use a self-tapping screw in each clip.

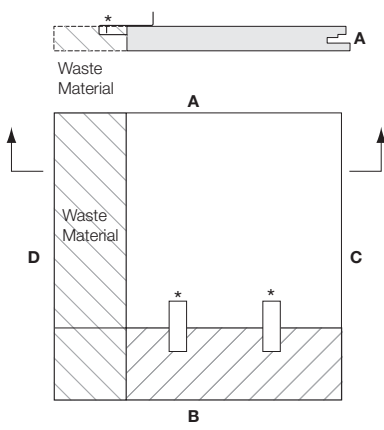
### Installing the tile

Engage the kerfed edge of the tile on the grid flange parallel to the wall. Rotate the cut edge up into the grid opening and draw the tile toward the wall until the border clips rest on the trim and the "A" edge drops into place.



**Cut Corner Tile**

Vector border clip\*

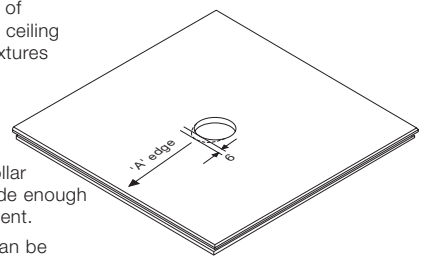


**Service Integration**

The face of the Madera Vector tile extends 6,5mm veneers, / 5,5mm laminates below the suspension system. The height of components that interface with the ceiling tiles, such as sprinklers and light fixtures should be detailed accordingly.

Holes cut for sprinkler heads and other services must be cut slightly oversized to allow the tile to move in the direction of the "A" edge. Collar trims for these devices must be wide enough to accommodate this 6mm movement.

If required on a job site, cut-outs can be factory made upon special request. Additionally, other veneers and laminates are available on a special order basis.

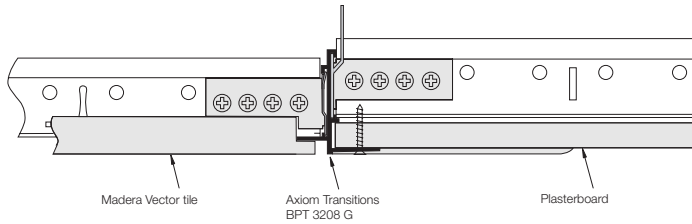


All measurements are in millimetres.



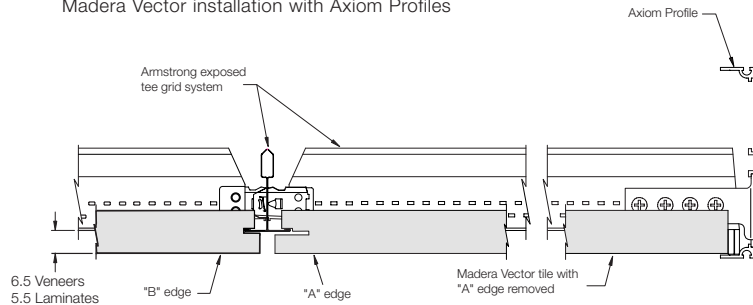
## Madera Vector perimeter detail (full tile)

Full tile Madera Vector installation with Axiom Transitions (BPT 3208 G) and flush plasterboard surround.



## Madera Vector perimeter detail

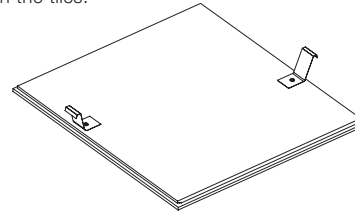
Madera Vector installation with Axiom Profiles



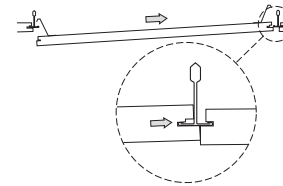
All measurements are in millimetres.

## How to install a Madera Vector panel

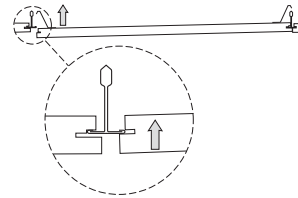
- 1 Screw the 2 safety clips in the pre-drilled pilot holes which are located along each kerfed edge of the tile. Safety clips with screws are supplied together with the tiles.



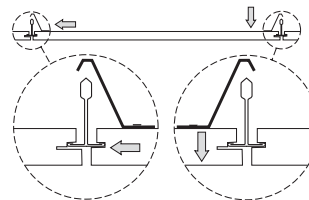
- 2 Place the deepest part of the double kerfed edge onto the grid flange.



- 3 Raise the opposite edge up into the grid opening.

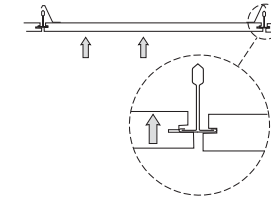


- 4 Slide the panel back onto the grid flange. Make sure that the first edge drops into position as shown.

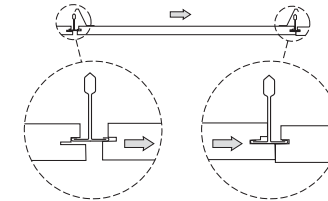


## How to remove a Madera Vector panel

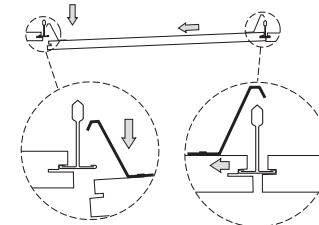
- 1 Push the panel up against the grid flange and find the one direction it will move.



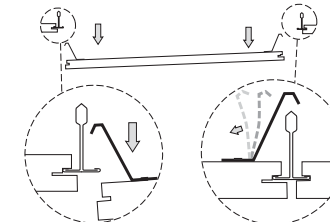
- 2 Slide the panel until it contacts the adjacent panel.




- 3 Lower the opposite edge out of the grid opening and slide the panel off the flange. Do not allow the panel to hinge or hang on the grid flange, as this may cause damage to the kerf.



- 4 Push upper part of safety clip to disengage the tile.



<b>Acoustic Performance</b>	<b>Sound absorption with acoustic fleece (<math>\alpha_w</math>)</b>	
	Perforation A2	0.15 (L)
	Perforation A1	0.45 (L)
	Estimated / indicative values	
	Perforation A8	0.30 – 0.35
	Perforation A10	0.35 – 0.40
	Perforation A11	0.40 – 0.45
	Perforation A12	0.45 – 0.50
Perforation A13	0.45 – 0.50	
<hr/>		
<b>Room-to-room sound attenuation (Dncw)</b>	Plain	42 dB
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<b>Tile Loading</b>	Spotlights, luminaires and other service fittings should not be supported directly onto the back of the tile. A pattress or other suitable method must be used to ensure that the fitting's load is transferred onto the grid, provided that the overall load does not exceed Armstrong's guidelines. Alternatively, direct independent suspension should be employed.	
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<b>Packaging</b>	In order to protect the surface of Madera Veneers, a piece of silk paper has been placed between the tiles. 2 safety clips with screws plus 2 Vector border clips per tile are provided in each carton (6 tiles / carton = 12 pieces of each clip and screws).	
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<b>Handling and Storage</b>	Site storage and handling to the place of installation is generally provided by the Building Contractor. Madera Vector tiles shall be stored in a dry interior location. The cartons shall be stored in a flat, horizontal position. The protectors between the tiles shall not be removed until installation. Do not store in unconditioned spaces with humidity greater than 70% or lower than 20%RH and temperatures lower than 10°C or greater than 30°C. Tiles must not be exposed to extreme temperatures.	
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<b>Recycled content</b>		

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PCA 2606

<b>Installation Recommendations</b>	Madera Vector tiles are interior finish products and are designed for installation to be carried out in closed, heated rooms, windows and doors in place, at temperatures between 10°C and 30°C. All plastering, concrete, terrazzo or any other wet work shall be completely dry. Before installation, it is recommended to open the cartons and to stack Madera Vector tiles flat during 3 to 8 days in the room of installation in order to stabilise the tiles in their future environment and conditions of use. Madera Vector Veneers are made of natural wood veneers, therefore consistency of colour and grain/structure cannot be guaranteed. We recommend to proceed as follows : 1. Display all tiles before installation. 2. Examine collectively to determine the most desirable arrangement. 3. Install the ceiling accordingly. When ordering Madera Vector Veneers allow for some extra tiles to accommodate visual variations.
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<b>Thermal Conductivity</b>	0.12 ( $\lambda$ ) W/mK
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<b>Humidity Resistance</b>	70% RH
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<b>Fire Reaction</b>	EEA B-s2,d0 Class 1 (BS 476: Part 7)
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<b>Weight</b>	10,5 kg/m <sup>2</sup> - Madera Veneers 10 kg/m <sup>2</sup> - Madera Laminate To support the weight of the panel, main runners should be installed every 600mm.
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<b>Field Cutting</b>	A table saw is recommended for straight cuts and a band saw for curved cuts. In general, these practices will be typical of those employed in finish carpentry. Protect the face of the tile from damage.

Please contact Armstrong Internal Technical Sales Group for further details.  
All product specifications are subject to modifications without prior notice.

