

ORCAL AXAL VECTOR

Semi-concealed system on exposed 24mm grid

This Technical Data Sheet is offered as an aid to the specification of our products and provides information on the tiles manufactured at our European production facilities.

Orcal tiles with Standard Perforation and Microperforation are available with factory applied black acoustic fleece, whilst Orcal tiles with Extra Microperforation are always supplied with factory applied black acoustic fleece.

Orcal tiles can also be made available to order with Premium B15 infill.

Please contact Armstrong Internal Technical Sales Group for further details.

mm	Plain	Standard Perforation	Microperforation	Extra Microperforation
600x600x24	BP 9418 M	BP 9419 M (1)	BP 9420 M (1)	BP 2118 M (2)
600x300x24	BP 2578 M	BP 2579 M (2)	BP 2580 M (2)	BP 2581 M (2)

In Q4 2008, extra modules will be available : 500x500, 625x625, 675x675 and 750x750. Please contact ITS for options and capabilities.

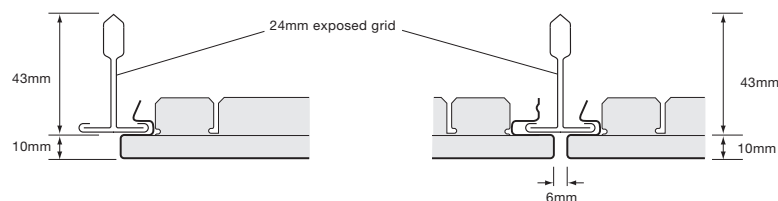
(1) Available with acoustic fleece or with 8mm x 100kg/m³ acoustic pad or Premium B15 or with no acoustic treatment

(2) Available with acoustic fleece or Premium B15 infill

General

Orcal Axal Vector is designed to install on a conventional 24mm exposed tee grid. All full tiles can be removed and reinstalled downwardly without movement up into the plenum area. Orcal Axal Vector edges provide a 90° straight reveal, 10mm in depth. Installed tiles conceal the tee flanges and create a continuous 6mm wide shadow reveal. Orcal Axal Vector installs 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 Axal Vector on Armstrong Trulok Prelude 24XL² grid.



Material	Tiles are manufactured from zinc coated mild steel. Steel gauge dependent on product size.		
Finish	Factory applied polyester powder coat, minimum thickness 55 microns.		
Colour	Standard:	RAL 9010 & 'Global White'	
	Semi-Standard:	RAL 9001, RAL 9002, RAL 9006, RAL 9007, RAL 9016	
	Other colours are available as special order items.		
Gloss	RAL 9010 :	20%	
	Global White :	20%	
	Semi-Standard :	30%	
	Measured in accordance with ISO 2813:2000, use 60° geometry.		

Light Reflectance	Pattern	RAL 9010	Global White
		Plain (unperforated)	87%
	Extra Microperforation with black fleece	85%	76%
	Microperforation with black fleece	71%	63%
	Standard Perforation with black fleece	75%	68%
Measured in accordance with ASTM 1477-98.			

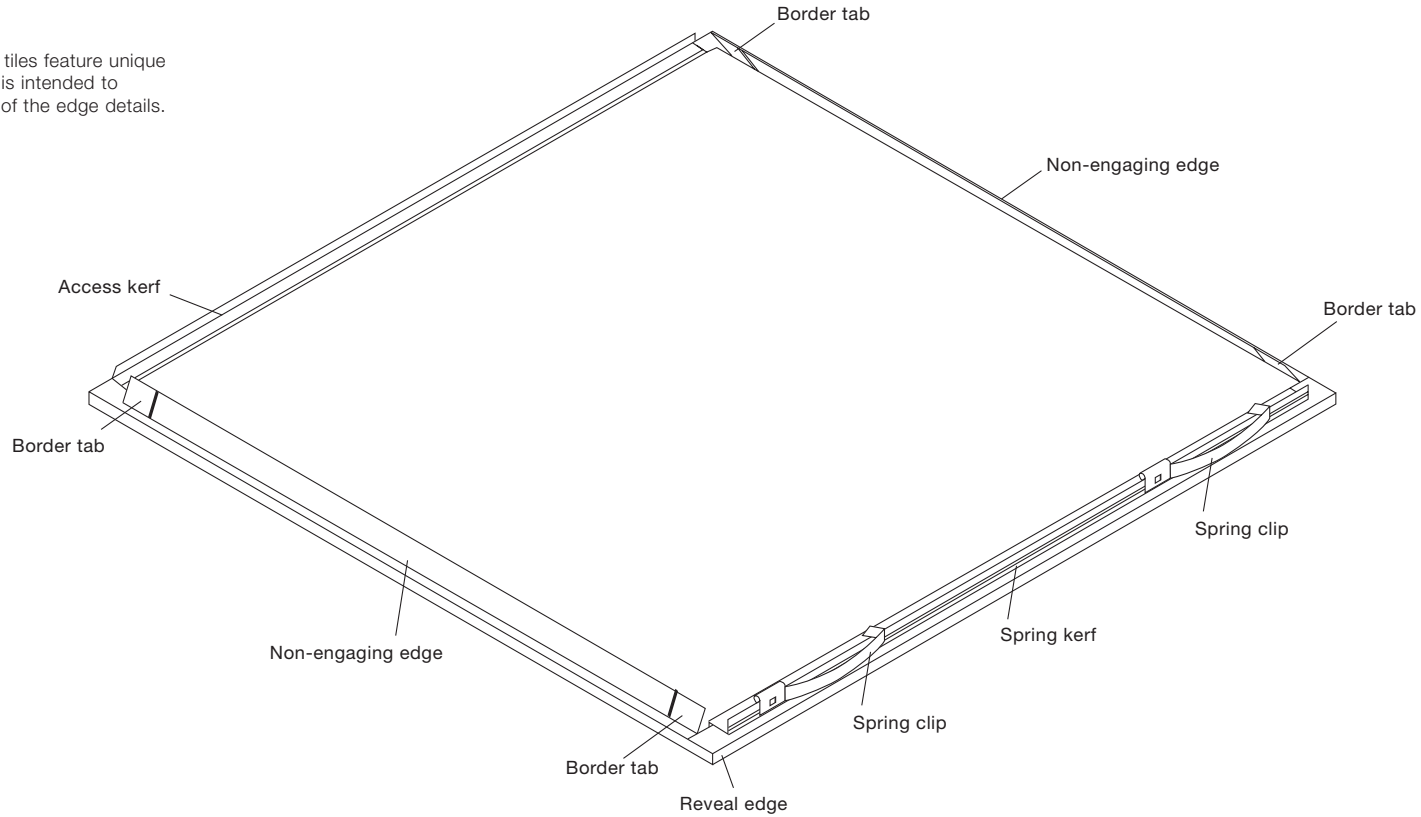
Perforations	Standard Perforation	Microperforation	Extra Microperforation
	2.5mm dia.holes 16% open area	1.5mm dia. holes 22% open area	0.7mm dia. holes 1% open area
Other perforations are available as special order items. Please contact ITS for options and capabilities.			

All measurements are in millimetres.

ORCAL AXAL VECTOR

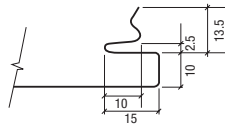
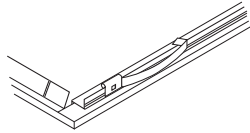
Tile Edges

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



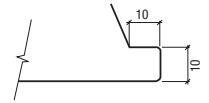
Spring Kerf

This edge is fitted with two steel spring clips that serve to hold the panel in position. This edge is the first to engage the suspension system.



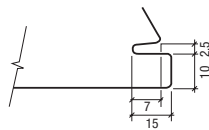
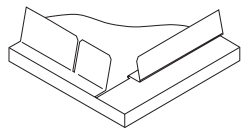
Spring Kerf

This edge is fitted with two steel spring clips that serve to hold the panel in position. This edge is the first to engage the suspension system.



Access Kerf

This edge has a simple kerf detail that serves to locate the panel on the grid flange when the springs push in this direction. This edge is opposite the spring kerf, and is the edge that is pressed to disengage a tile for the purpose of attaining access to the plenum.



All measurements are in millimetres.

Installation and Removal

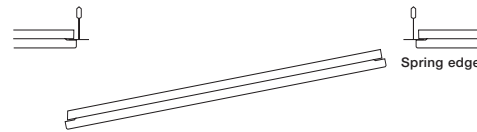
Orcal Axal Vector ceiling tiles are easily installed and removed from below the suspension system without the aid of tools or special equipment, allowing easy downward access to the plenum.

Installation

The Axal Vector tiles are installed in a simple three step process:

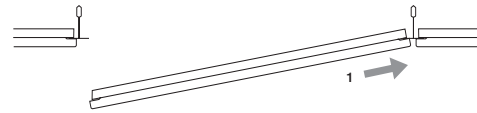
Step 1

Fully insert the spring kerf onto the exposed grid flange.
(Engaging this edge on the main runner or 600mm cross tee is recommended)



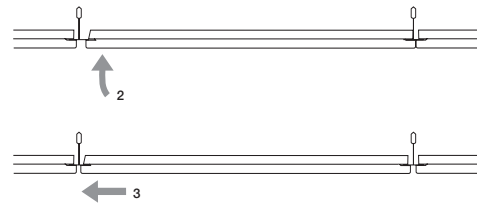
Step 2

Raise the tile into the grid module until horizontal.



Step 3

Slide the tile in the direction of the access kerf to fully position and centre the tile in the grid.



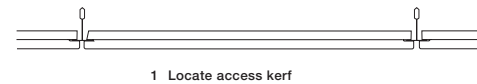
Install all full sized tiles with the spring kerfs facing in the same direction to provide access consistency.

Removal

Removal is simply the reverse of installation:

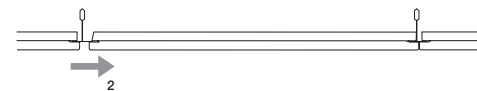
Step 1

Locate the access kerf by pushing on the panel edges until the panel moves.



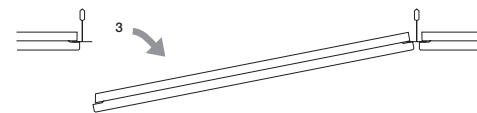
Step 2

Push on the access kerf edge until it clears the grid flange.



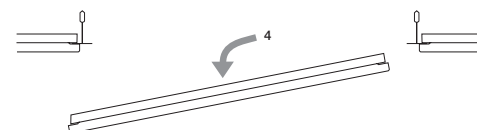
Step 3

Lower the kerfed edge of the tile.



Step 4

Slide the tile back and down, to remove it from the grid module.

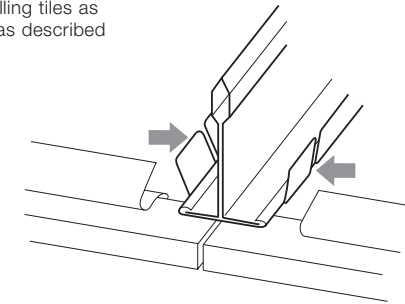


Secure

For security applications, Axal can be used where unauthorised removal of tiles is not desirable. This is achieved by installing tiles as normal and folding down the tabs as described in the following drawings.

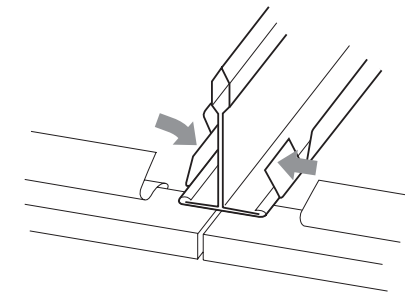
Step 1

Locate the security tabs on the rear of the non-engaging edge of the tile.



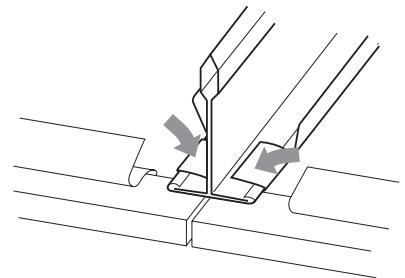
Step 2

Fold down the tabs towards the back of the 24XL² T grid table.



Step 3

Press down firmly to provide a secure installation.



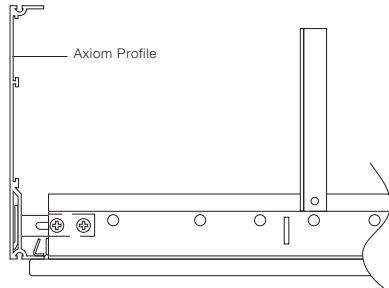
Authorised removal of tiles is permissible by reversing the above procedure.

The last tile cannot be secured in this way and the use of a dedicated access panel may be appropriate. Please contact the Internal Technical Sales Group for further assistance.

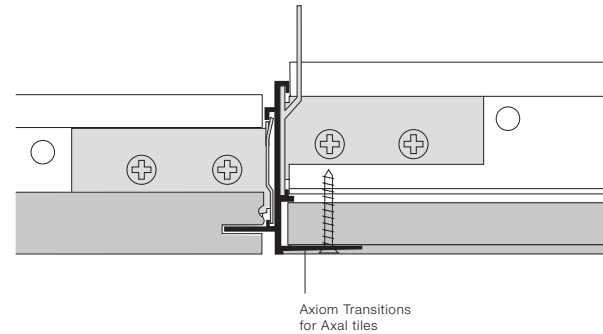
Perimeter Solutions

Full Size Axal Vector Tile Installations

A number of detail options are possible such as plasterboard margins and free floating ceilings.

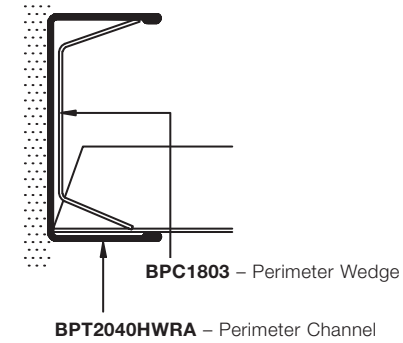
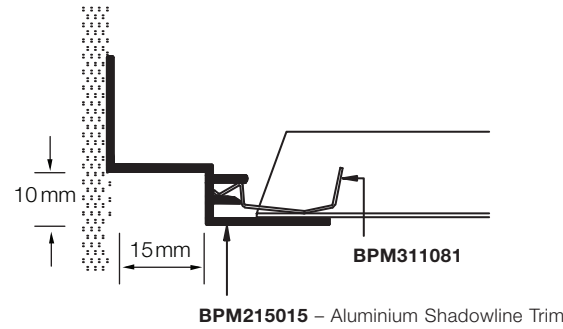
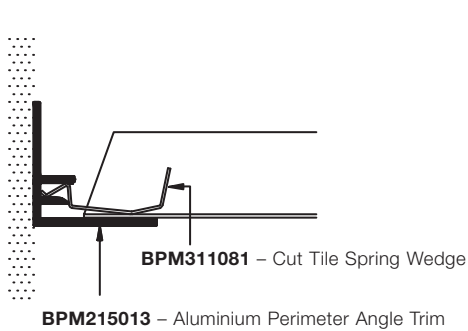


Full size Axal Vector tile installation with Axiom Profile as perimeter trim.
Alternative suspension systems : Wire, Quick and Nonius hangers.



Full size Axal Vector tile installation with Axiom Transitions
(**BPT3210WRG**) and flush plasterboard surround.

Cut tiles

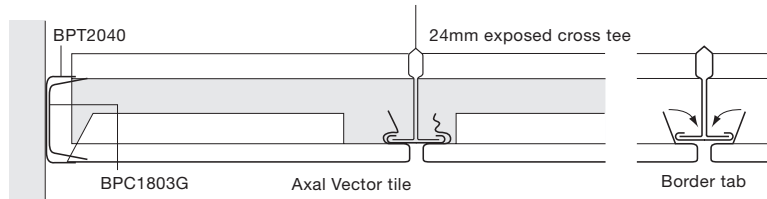


Cut tile wedges **BPM311081** and **BPC1803**, 1 piece per 300mm of perimeter trim is recommended

Perimeter Solutions

Cut Axal Vector Tile Installations

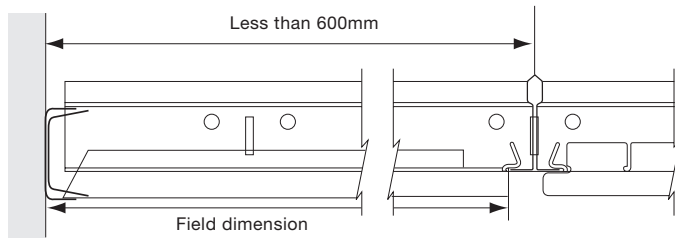
Cut Axal Vector tile can be used with a standard perimeter C channel. When this option is used the level of the lower flange of the C channel must be situated approximately 11 mm below the global level of the grid suspension. The cut Axal Vector tile must be secured by wedges in the C channel and folded tabs on cross tees.



*Extruded aluminium perimeter trims with cut tile spring wedges may also be used in place of the perimeter C channel.

Measuring, Cutting and Installing Field Cut Border Tiles

1. Measure the tile from the vertical wall surface to the closest edge of the grid flange.



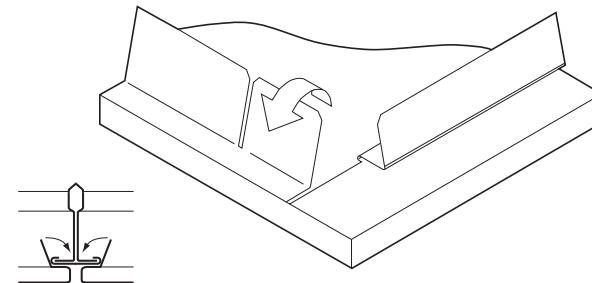
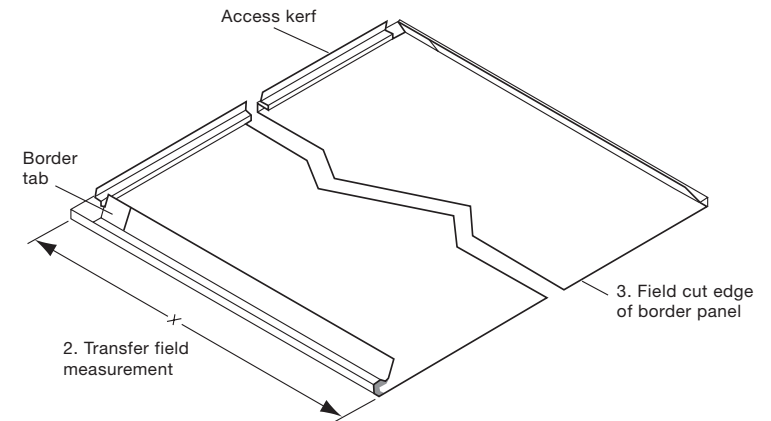
2. Transfer this dimension to the face of the tile.

Note: It is always the spring kerf tile edge that is cut off the border tiles.
Keep the access kerf as the longest side of the field cut border tile.

3. With the tile face up and protected, cut the face as marked.

4. Place the cut edge of the tile onto the back of the perimeter trim and raise the access kerf up to grid level.

Slide the access kerf out and engage onto the flange of the grid to position and support the tile. Fold the border security tabs down over the grid flanges and insert border wedges to secure the cut panels into the grid system and prevent the tile from dropping should it become dislodged.



Note: From an aesthetical point of view the perimeter margins should be larger than half a module.

Acoustic Performance**Sound Absorption (α_w)**

	Acoustic fleece	8mm x 100kg/m ³ pad	Premium B15 infill
Standard Perforation	0.70 (L)	0.80	0.60 (H)
Microperforation	0.75 (L)	0.80	0.60 (H)
Extra Microperforation	0.55 (L)	–	0.65 (L)

No acoustic infill (α_w)

Plain 0.10(L)

Room-to-room sound attenuation (Dncw)

	Acoustic fleece	Premium B15 infill
Standard Perforation	20 dB	41 dB
Microperforation	20 dB	41 dB
Extra Microperforation	30 dB	40 dB
Plain	–	47 dB

No acoustic infill (Dncw)

Plain 44 dB

A range of acoustic infills is available to achieve various acoustic performance levels. For further information please contact Armstrong Internal Technical Sales Group.

Tile Loading

Orcal tiles are capable of directly supporting limited additional loads from small service fittings. The maximum total uniformly distributed static load that can be applied to the rear of a 600x600mm tile should not exceed 3kg. The use of a pattress is recommended to distribute the load and to minimise face deflection of the tiles. Loads greater than 3kg should be independently suspended or supported from the primary grid. The maximum distributed static load that can be carried by the grid system should not exceed 10 kg/m². (Applies to standard ladder formation with main runners and hangers at 1200mm centres.)

Services Integration

Orcal tiles can be supplied with factory produced cut outs and apertures for the integration of lighting fittings, air grilles, sprinklers, and other building services equipment.

Handling and Storage

Ceiling components should be stored under conditions of use in a dry interior location and should remain in cartons until installation. Cartons should be stacked and oriented as shown on the carton. Care must be exercised during handling and opening of cartons to avoid damage. The use of soft cotton gloves is recommended for tile installation.

Environmental

Our metal ceilings have an average of 25% recycling content. ISO 14001: 2004 certified process.

United Kingdom**Republic of Ireland**

Armstrong World Industries Ltd.
Building Products Division
Armstrong House
38 Market Square
Uxbridge UB8 1NG

0800 371849 (UK) **FREEPHONE**

1800 409002 (RO)

Fax: +44 (0) 1895 274287

sales-support@armstrong.com

www.armstrong-ceilings.co.uk**www.armstrong-ceilings.ie****Other markets: www.armstrong-europe.com****Thermal Conductivity**

(λ) W/mK
50.0 : Steel
0.04 : Acoustic fleece

Humidity Exposure

Not greater than 70% RH @ 16°-23°C for long term exposure. Not greater than 95% RH for short term exposure during building site installation.

Fire Reaction**Plain without acoustic infill**

EEA Euroclass A1 (RAL 9010)

EEA Euroclass A2-s2, d0 (other colours)

No acoustic infillPerforated $\phi \leq 2.5$ mm

EEA Euroclass A1 (RAL 9010)

EEA Euroclass A2-s1, d0 (other colours)

With acoustic Fleece, ABBTF pad or B15 infillPerforated $\phi \leq 2.5$ mm (acoustic fleece)

EEA Euroclass A2-s2, d0

Perforated $\phi \leq 2.5$ mm (ABBTF pad)

EEA Euroclass A1

Perforated $\phi \leq 2.5$ mm (Premium B15 infill)

EEA Euroclass A2-s1, d0

Weight5 kg/m² – Steel tile**Field Cutting**

Orcal tiles can be cut using tin snips, electric sheet metal shears or band/jig saw. Care must be exercised to avoid damage to the painted surface, bending or distortion of the tiles.

Cleaning

Dust should be removed from the painted surface by wiping with a clean soft cloth. More stubborn marks should be removed with a mild household detergent in warm water. Excessive use of water should be avoided. The use of abrasive cleaners or scrubbing of the painted surface is not recommended.

Quality Standard

Armstrong is a certified ISO900:200 Quality Assumed Manufacturer. All tiles and products are manufactured to tolerances and quality standards in accordance with EN13964. Where differences exist between this and any expressed or implied architectural specifications or requirements than Armstrong's manufacturing standards will prevail unless stated otherwise.

Detailed NBS K40 specifications are available for these products, please contact Armstrong Internal Technical Sales Group for further details. All product specifications are subject to modifications without prior notice.