



# METALWORKS™ V-P500 ACOUSTIC BAFFLES Installation Guide

Inspiring Great Spaces™

**Armstrong®**

CEILING SYSTEMS



## Installation Guide

### Product Description

Armstrong MetalWorks™ V-P500 Baffles consists of a range of powdercoated and perforated galvanised steel, linear profiles, suspended from Unigridd™ Channel System. The DS-V-P500 Baffles are typically 30mm thick and pre-fitted with a Glasswool acoustic pad: 25mm x 25kg/m<sup>3</sup>, with black acoustic fleece on both sides.

### General Installation Conditions

Armstrong METALWORKS™ ceilings are interior finishes and conditions during the installation should reflect this. Armstrong recommends during installation that relative humidity should not exceed 99%, within a temperature range of 0 to 49 degrees Celsius and with the absence of any “standing water”. Conditions following completion should be maintained as such.

Because of the risk of soiling, the installation of ceiling tiles should only take place after the completion of any work generating large amounts of dust. The wearing of clean gloves is recommended for installation work. The ceiling installer is responsible for the satisfactory installation of the ceiling and adherence to industry best practice and in accordance with AS/NZS2785:2000

Baffles should only be stored in a dust-free and dry area. It is important to ensure that the tiles are not subjected to any mechanical influences, such as damage caused by the underlying surface. Baffles delivered on pallets should be stored in their original packaging until they are installed. Where this is not possible, care should be taken to ensure that cartons are stored with the designated side facing upwards. The installation company is responsible for the careful storage of tiles.

The integrity of the entire suspended ceiling depends on the hangers – commonly 5mm gal rod is used, with some contractors using 2.5mm wire and M6 Threaded Rod. Each of these hanger types meet Australian / New Zealand standard 2785-2000 and in conjunction with suitable Suspension Clips, support the Unigridd Channels. Bracing is to be applied where required to ensure the Unigridd™ Suspension System remains square.

## 1. Before You Start

All material delivered to site should be checked for damage, unopened and original packages.

At this stage if you are unsure of the suitability of material for this project, ask questions, as it is very expensive to remove materials that have been installed.

All materials to be kept dry and protected from the elements.

## 2. Plenum Space

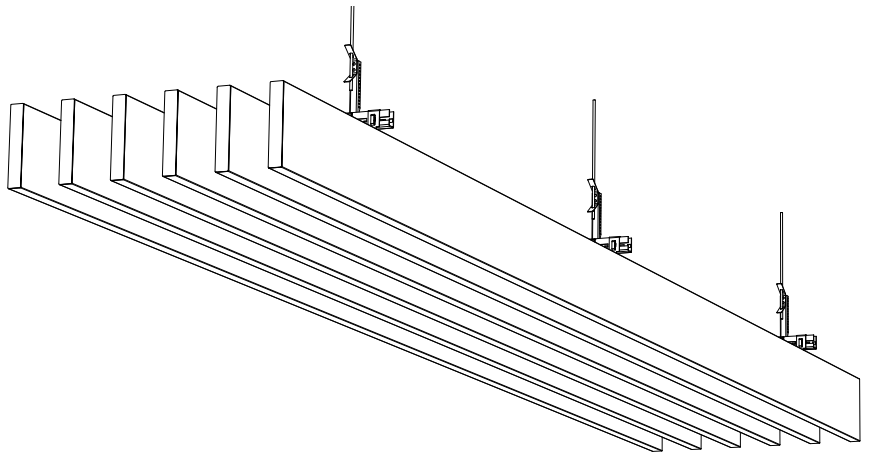
The installation of METALWORKS™ V-P500 Acoustic Baffles panels requires no more space in the plenum than that which is required to hang the suspension system. Baffles never need to travel into the plenum space during installation or removal.

The total height of the ceiling assembly can be determined from the Section D drawing on page 4. Additional space is required for the attachment of Suspension Clip and 5mm Rod.

## 3. Determine Ceiling Orientation

- It is important at this stage to determine the direction the ceiling grid and V-P Baffles to be installed.
- The drawing supplied by the builder will show the panel direction required (rectangular panels).
- Unigridd™ Channels are typically oriented perpendicular to the roof purlins or joists.

Suspension Components for METALWORKS™ V-P500 Acoustic Baffles



For Seismic  
Design support  
please contact  
your local  
Armstrong  
office.

## 4. Installation Of Hangers and Unigrid™

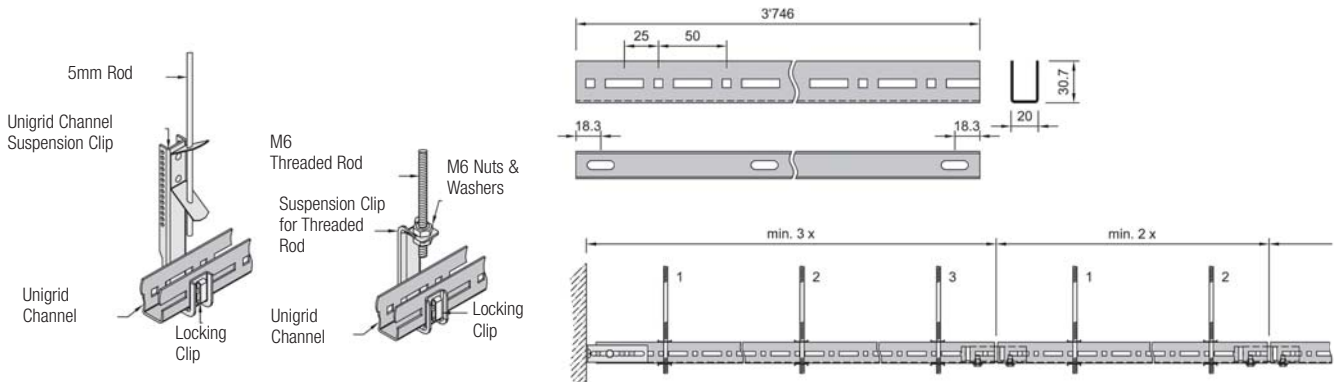
- The 5mm Gal rod shall be cut to pre-determined lengths, and a hook bent to 30° on one end (must be a sharp bend, so the suspension bracket will fit into the bend without the rod straightening).  
Where specified, the Unigrid Channel can be suspended on 6mm galvanised threaded rod. See Fig. 2 for details (Suspension Clip for Threaded Rod is Item UNITRCB).
- Fit the Suspension Clip to the rod at this stage and fasten with Locking Clip (item UNI200).
- The Locking Clip is correctly fitted with the longer tongue face up (see Fig 1). The Locking clip can be removed by pressing down on the upper tongue.

**Fig. 1: Locking Clip Installation**



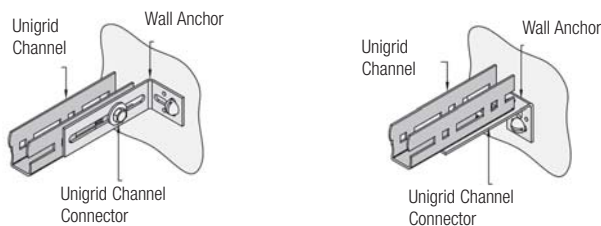
- Ensure all suspension rods are vertical.
- Install Unigrid™ Channels at 1200mm (maximum) centres with Suspension Hangers (5mm Rod and Clip) at 1200mm (maximum) centres along the length of each Unigrid™ Channel (Item UNI111B). Ensure Locking Clips are installed to secure the Suspension Clip to the Unigrid Channel. See Fig. 2 for details and specific components: 5mm Rod, Suspension Clip (item UNI203B) and Locking Clip (item UNI200)

**Fig. 2: Unigrid Channel and Suspension Components**



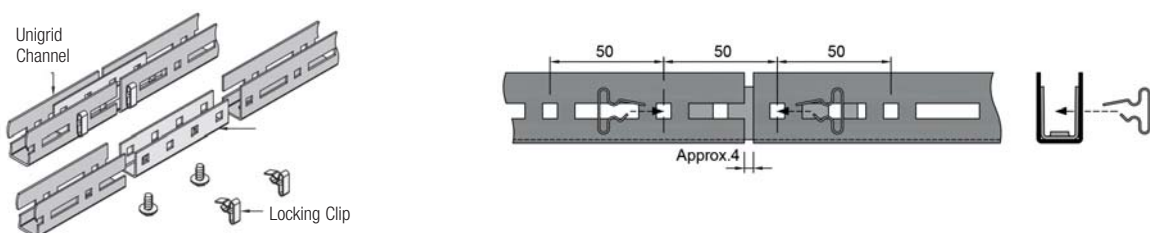
- The Unigrid Channels adjacent to the perimeter must have three suspension points, with the other Unigrid Channels in between requiring a minimum of two suspension points.
- Unigrid Channels are to be secured to the perimeter with the Wall Anchor (Item UNI202) See Fig. 3 for details

**Fig 3: Unigrid Detail at Perimeter**



- Unigrid Channels are to be joined end to end with a Unigrid Channel Connector (Item UNI103). See Fig. 4
- To ensure the Unigrid Channels are kept precisely on module, tolerances in the Unigrid Channel can be absorbed in the joint with the connector.

**Fig 4: Unigrid Channel and Connector**

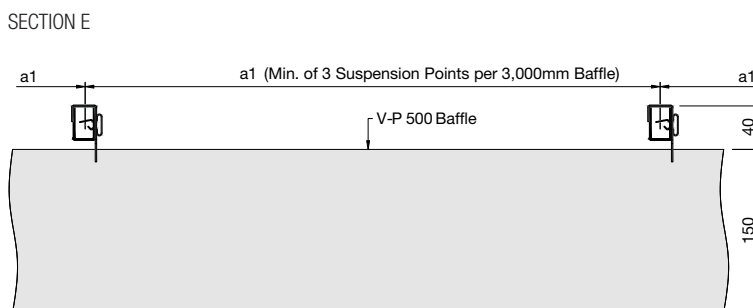
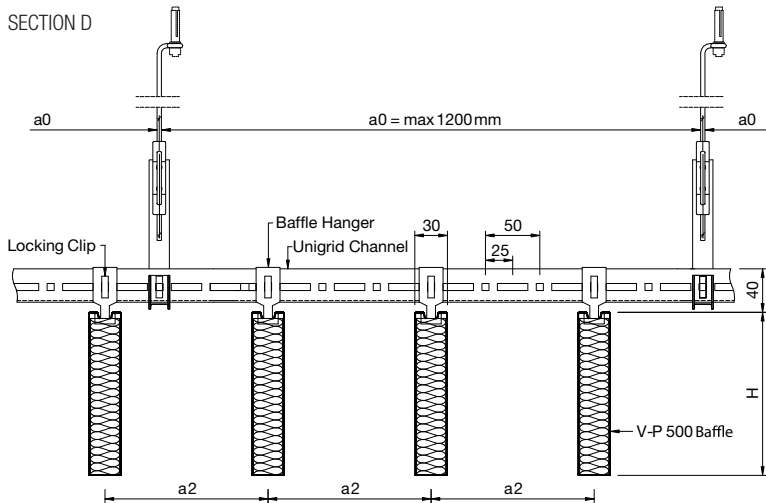
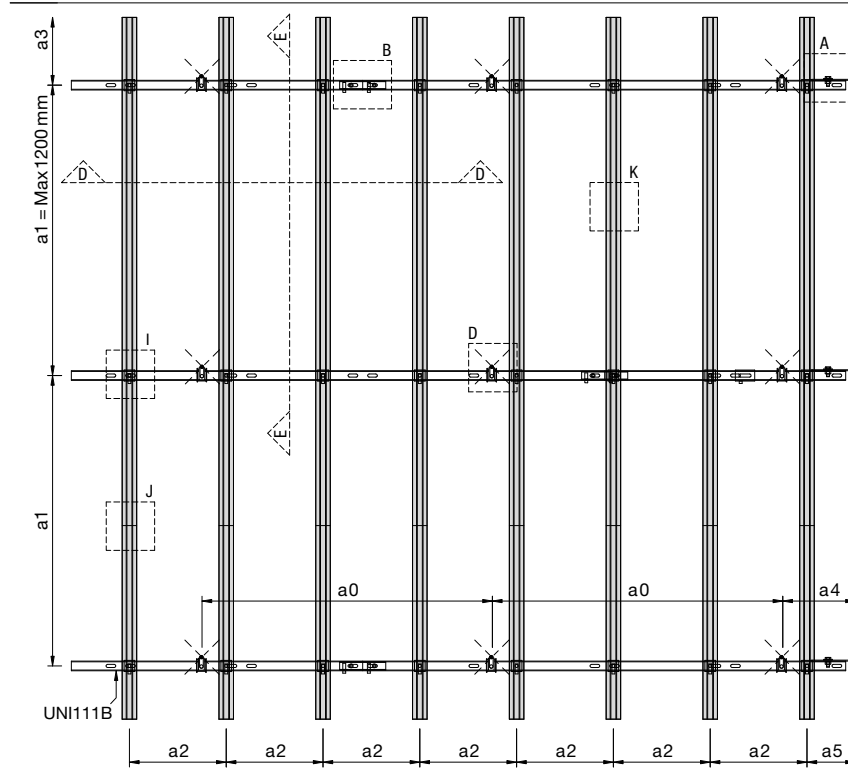


# METALWORKS™ V-P500 ACOUSTIC Baffles

## 5. Unigrig™ and Baffle Layout

- The 1st Unigrig Channel must be no more than 300mm from the perimeter, with the first suspension point being no greater than 300mm from the end of the Unigrig Channel.
- The Unigrig™ Channels are to be installed parallel, in a manner that the punchings along the length, align from one Unigrig™ Channel to the next.  
Note: the Unigrig Channels are directional and punched on both sides at 50mm OC, and 25mm offset. See Fig. 2 for details.

TYPICAL GRID LAYOUT



### Unigrig™ Suspension Components

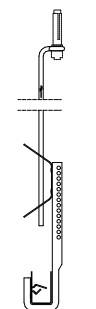
Item Number	Description
UNI111B	Unigrig™ Channel (3750mm)
UNI103B	Unigrig™ Channel Connector
BPM300367	Baffle Hanger
BPM300371	Baffle Connector
BPM311044	Baffle Distance Holder
BPM300375	Baffle End Cap
UNI203B	Suspension Clip for 5mm Rod
UNITRCB	Suspension Clip for M6 Threaded Rod
ROD 5mm	5mm Suspension Rod
UNI200	Locking Clip
UNI202	Unigrig™ Wall Anchor Bracket

### Typical Baffle Weights

BAFFLE SIZE	MICRO PERFORATION
150 x 30mm	1.8kg/m
200 x 30mm	2.3kg/m
250 x 30mm	2.8kg/m
300 x 30mm	3.2kg/m

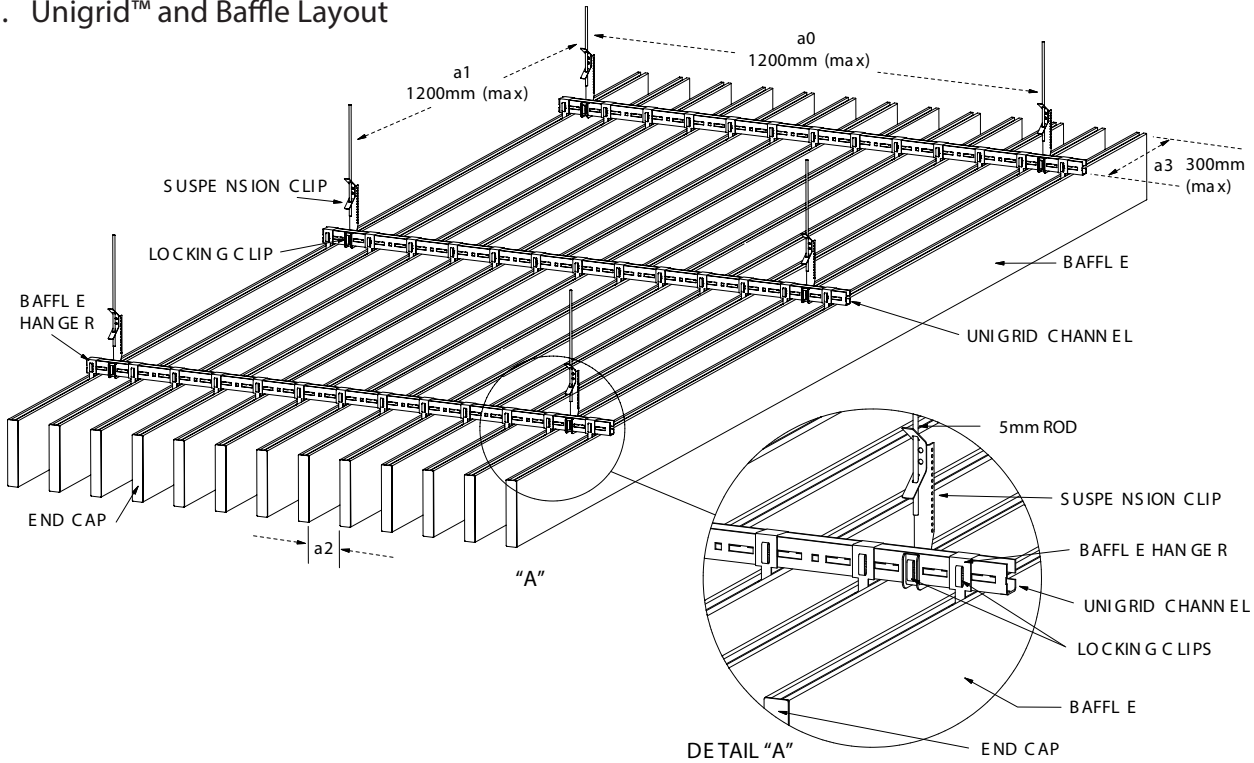
\* Baffle with Standard Acoustic Inlay

- a0 Distance between suspension points = Maximum 1200mm
- a1 Distance between Unigrig Channels = Maximum 1200mm
- a2 Distance of the Baffle = Minimum 100mm for Acoustical Requirements
- a3 Maximum Baffle Cantilever distance from Unigrig = Maximum 300mm
- a4 Distance from wall to first Suspension Point = Maximum 300mm
- a5 Minimum distance from wall to first Baffle = 20mm
- L Baffle Length = Maximum 3000mm
- H Baffle Height = 150 / 200 / 250 / 300mm
- W Baffle Width = 30mm
- J, K and L Refer page 6 for details



(Suspension Clip removed from Section E)

## 5. Unigrig™ and Baffle Layout



### Baffle Layout – Various Baffle Heights

SYSTEM WITHOUT ADDITIONAL LOAD / BAFFLE HEIGHT (H) = 150mm

a2 (mm)	100	200	300	400	500	600	700	800	900	1000
a (mm)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

SYSTEM WITHOUT ADDITIONAL LOAD / BAFFLE HEIGHT (H) = 200mm

a2 (mm)	100	200	300	400	500	600	700	800	900	1000
a (mm)	950	1200	1200	1200	1200	1200	1200	1200	1200	1200

SYSTEM WITHOUT ADDITIONAL LOAD / BAFFLE HEIGHT (H) = 250mm

a2 (mm)	100	200	300	400	500	600	700	800	900	1000
a (mm)	850	1200	1200	1200	1200	1200	1200	1200	1200	1200

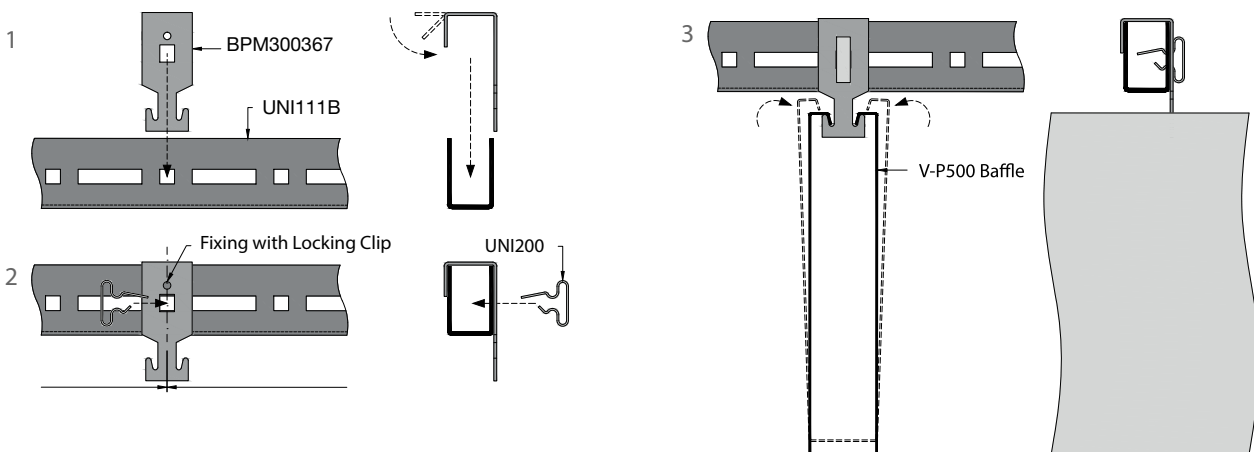
SYSTEM WITHOUT ADDITIONAL LOAD / BAFFLE HEIGHT (H) = 300mm

a2 (mm)	100	200	300	400	500	600	700	800	900	1000
a (mm)	750	1200	1200	1200	1200	1200	1200	1200	1200	1200

## 6. Installation of The V-P500 Baffle to the Unigrig Channel

- Locate and fasten V-P500 Baffle Hangers along the Unigrig™ Channels at the required centres – as per specification and drawings. See Detail I. Install V-P Baffles sections as per Detail I

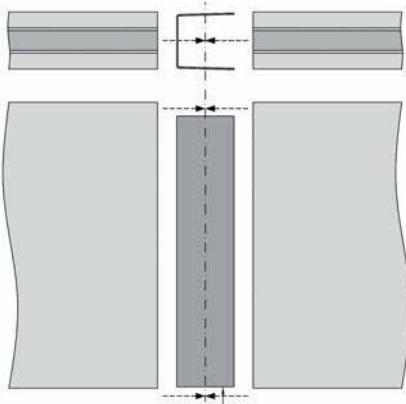
DETAIL I – Hanger Installation



\* If the pitch distance of the Baffles doesn't fit with the modulation of the U-Profile (steps of 25mm), the Locking Clip needs to be inserted into a long hole. The hanger position should be fixed by using a pop-rivet or self-drilling screw.

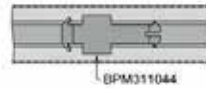
## 7. Connecting V-P500 Baffles and Installing End Caps (Refer to Detail J and L)

DETAIL J – Connector Installation



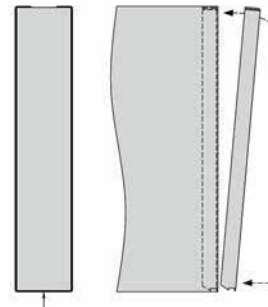
BPM300368 H = 150 mm  
 BPM300369 H = 200 mm  
 BPM300370 H = 250 mm  
 BPM300371 H = 300 mm

DETAIL K – Distance Holder



MIN. 2 DISTANCE HOLDER PER BAFFLE  
 To be installed along top of Baffle at mid points between suspension hangers to prevent any spreading or distorting of Baffle

DETAIL L – Optional Face Cover



BPM300372 H = 150 mm  
 BPM300373 H = 200 mm  
 BPM300374 H = 250 mm  
 BPM300375 H = 300 mm

## 8. Cutting Options

Two different types of equipment are recommended for cutting these metal panels. Each has its own set of advantages and limitations and will be presented in order of preference based on speed.

**CAUTION:** Cut edges of metal parts can be extremely sharp! Handle metal carefully to avoid injury. Always wear safety glasses and gloves when working with metal.

### • Electric Shears or Nibblers

These electric shears resemble a drill motor attached to a pair of scissors blades. There are actually three blades; one movable centered between two stationary. When used, the tool removes a strip of material about 8mm wide. They produce a clean cut, and is quicker than using aviation snips.

**Procedure:** Mark the cut line on the face of the panel. Use aviation snips to remove a section of the edge material on the waste side of the cut line. This step is required to provide access to the face for the shears. Cut the panels face up.

**NOTE:** To prevent scratching the face of the panel, observe the direction that the 8mm band of waste material takes as it coils up in front of the cut. Position successive panels so that this coil moves across the scrap portion of the panel.

### • Aviation Snips

Both left cut and right cut aviation snips will be required for notching operations and for cutting holes for penetrations through the panel face.

**Procedure:** Notching Snips are used as needed to cut through the edge detailing on panels to provide clearance for shears or to ease corners. Application will vary depending on edge detail.

## 9. Penetrations Cutouts

**Procedure:** Penetrations are created by first drilling or punching a hole near the center and then cutting in a spiral pattern to the finished size and shape. Exercise caution during this procedure as the hand will be in close proximity to the cut edge of the panel.

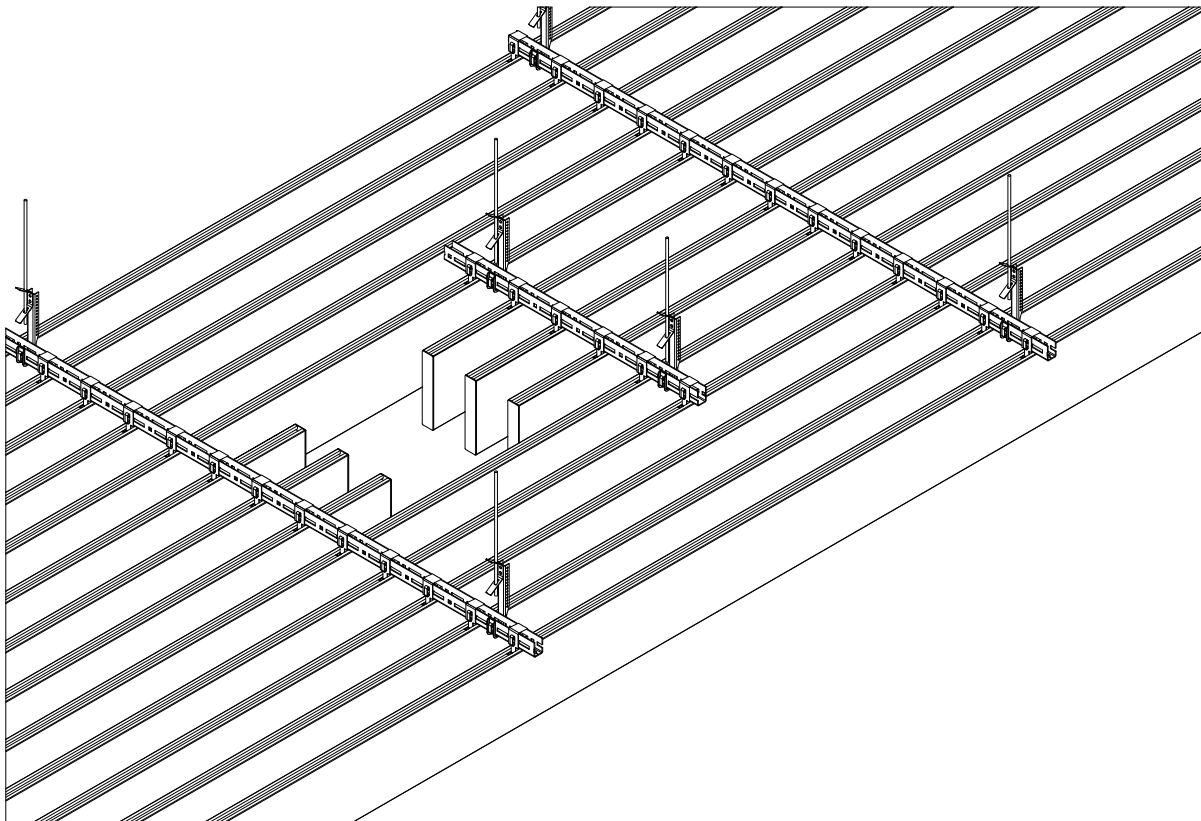
## 10. Baffle Removal

All Baffles are removable without moving up into the plenum.

**Procedure:** V-P500 Baffles are removed by reversing the Installation procedure illustrated on previous page.

## 11. Creating Openings / Voids For Integration of Services

- Openings can be simply created in the Baffle Ceiling as per the drawing below. Baffle sections are to be cut to specified length on site, using an aluminium drop saw.
- Additional Unigrig Channels and Suspension Hangers are to be applied where Baffles are cut (refer drawing for detail). Baffle sections should not cantilever more than 300mm from supporting Unigrig Channel.
- All Mechanical services to be independently supported.



## 12. Backloading

Unless approved, Armstrong metal ceilings are designed to support only their own weight plus that of light weight insulation. All mechanical services must be independently supported.

## 13. Maintenance

Ceiling Baffles may be cleaned at any time. However, any maintenance work on suspended ceilings should only be carried out after the technical functions of the ceiling installation have been carefully checked. In cases of doubt, the relevant Armstrong sales office should be contacted.

In the case of damage to individual Baffles, these can be exchanged within the systems. In such instances, especially after extended periods of use, colour variations may occur when individual tiles are replaced.

### Armstrong – paint coatings

Armstrong ceiling Baffles are finished with a polyester powdercoat.

### Cleaning of Armstrong METALWORKS™ metal ceilings.

The frequency of cleaning will depend upon the function and usage of each area and the efficiency of the air conditioning/heating system. This period can only be determined after handover and occupancy. Although the ceiling materials are provided with durable paint finish, abrasive or strong chemical detergent should not be used. A mild detergent diluted in warm water applied with a soft cloth, rinsed and finally wiped off with a chamois leather will maintain the ceiling in good condition. Oily or stubborn stains if not removed by washing can be wiped off with white spirit but care is necessary to avoid affecting the gloss level of the paint finishes.

## Armstrong, the Global Leader in Acoustic Ceilings

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