

MetalWorks V-P500 Acoustic Baffles Installation Guide

Armstrong[®]
CEILING SOLUTIONS

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METALWORKS V-P500



MetalWorks V-P500 Acoustic Baffles

Installation Guide

Product Description

Armstrong METALWORKS V-P500 Baffles consists of a range of powdercoated and perforated galvanised steel, linear profiles, suspended from U-Profile Channel System. The DS-V-P500 Baffles are typically 30mm thick and pre-fitted with a Glasswool acoustic pad: 25mm x 35kg/m³, with black acoustic fleece on both sides.

General Installation Conditions

Armstrong MetalWorks® ceilings are interior finishes only 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/NZS2785:2020

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 Baffles and suspension components.

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 2785-2020 and in conjunction with suitable Suspension Clips, support the suspension U-Profile and Baffles.

***Note: Specially designed MetalWorks Ceilings for EXTERIOR applications are available upon request. Contact your Armstrong Ceiling Solutions Representative for details and conditions.**

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.

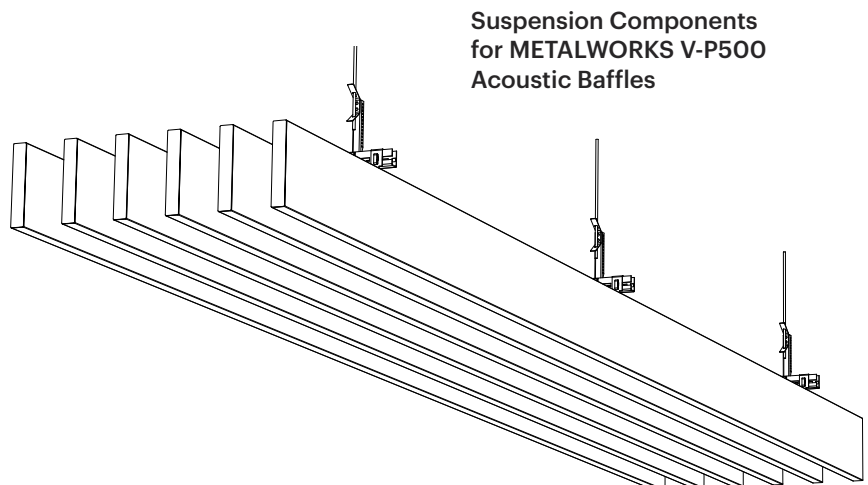
2. Plenum Space

- 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).
- U-Profile Channels are typically oriented perpendicular to the roof purlins or joists.

For Seismic Design support please contact your local Armstrong Ceilings office



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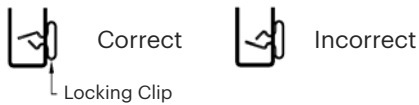
4. Installation Of Hangers and U-Profile

- The 5mm Gal rod shall to 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 U-Profile Channel can be suspended on 6mm galvanised threaded rod. See Fig. 2 for details (Suspension Clip for Threaded Rod is Item UNITRCB).

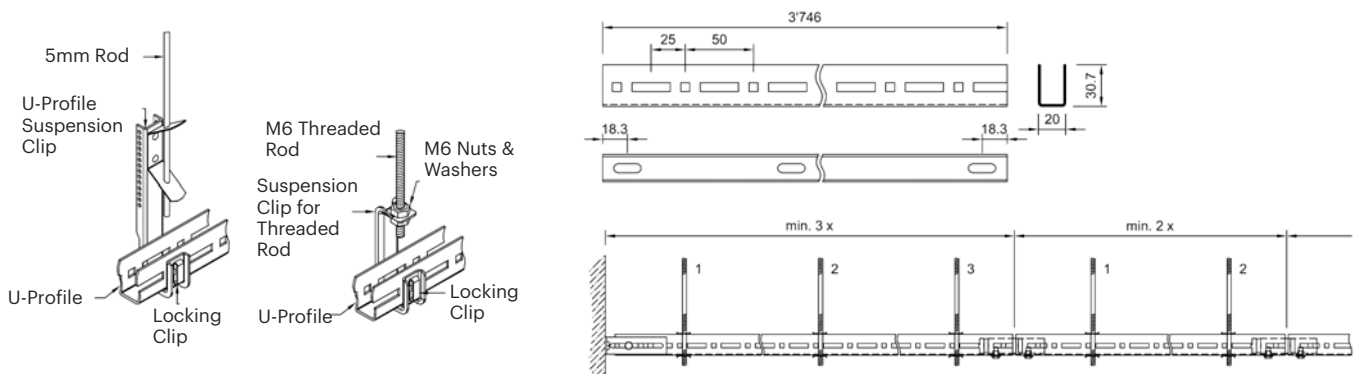
- Fit the Suspension Clip to the rod at this stage and fasten with Locking Clip (item UNI200).
- The Locking Clip is correctly fitted with the longer tongue face up (see Fig 1). The Locking clip can be removed by pressing down on the upper tongue.

Fig. 1: Locking Clip Installation



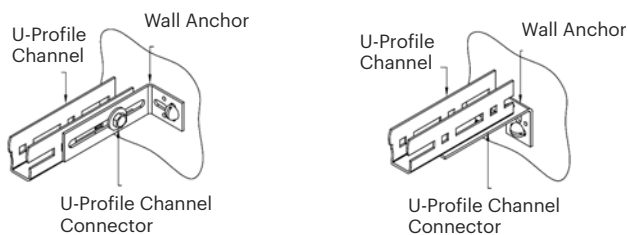
- Ensure all suspension rods are vertical.
- Install U-Profile Channels at 1200mm (maximum) centres with Suspension Hangers (5mm Rod and Clip) at 1200mm (maximum) centres along the length of each U-Profile Channel (Item BPM300100B). Ensure Locking Clips are installed to secure the Suspension Clip to the U-Profile Channel. See Fig. 2 for details and specific components: 5mm Rod, Suspension Clip (item UNI203B) and Locking Clip (item UNI200)

Fig. 2: U-Profile Channel and Suspension Components



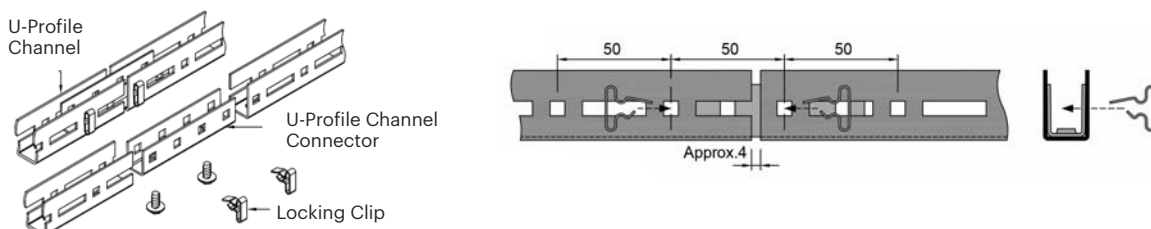
- The U-Profile Channels adjacent to the perimeter must have three suspension points, with the other U-Profile Channels in between requiring a minimum of two suspension points.
- U-Profile Channels are to be secured to the perimeter with the Wall Anchor (Item UNI202) See Fig. 3 for details

Fig 3: U-Profile Detail at Perimeter



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

Fig 4: U-Profile Channel and Connector

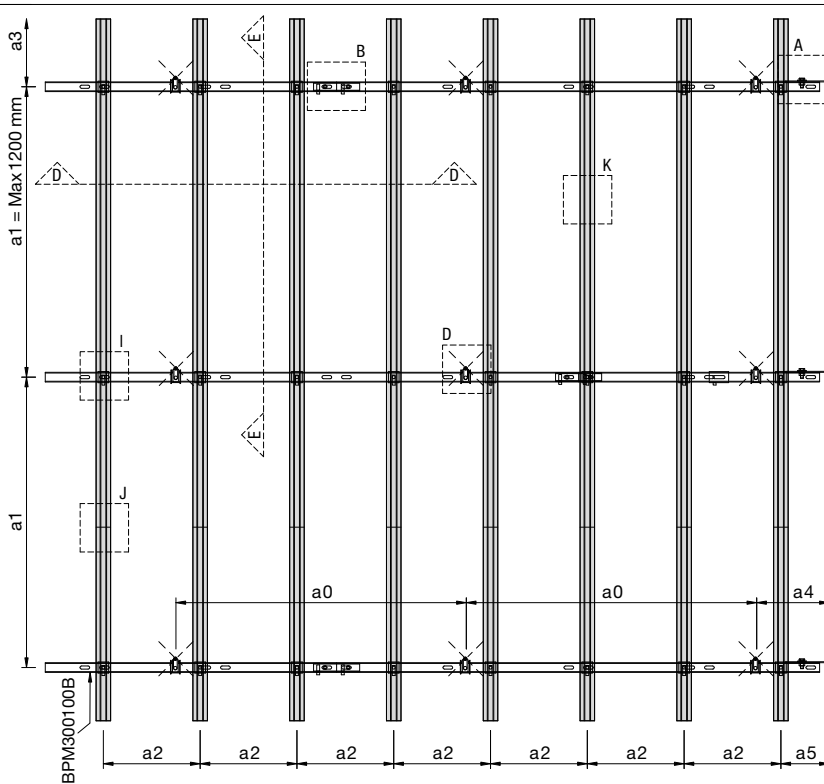


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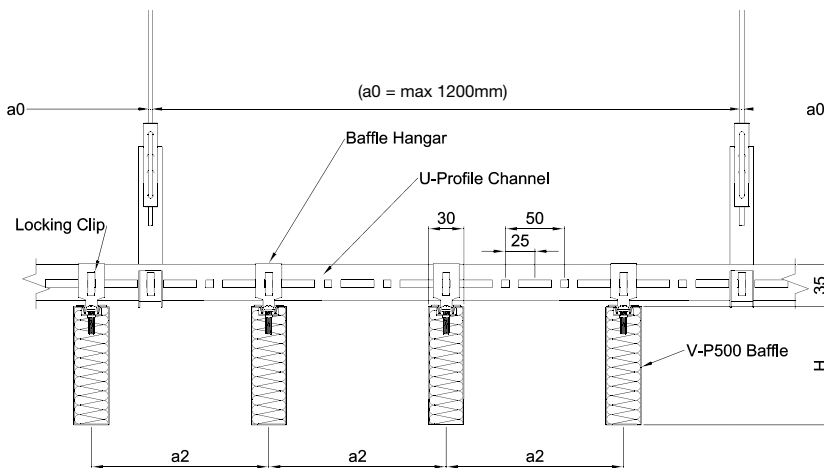
5. U-Profile and Baffle Layout

- The 1st U-Profile 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 U-Profile Channel.
- The U-Profile Channels are to be installed parallel, in a manner that the punchings along the length, align from one U-Profile Channel to the next. Note: the U-Profile Channels are directional and punched on both sides at 50mm OC, and 25mm offset. See Fig. 2 for details.

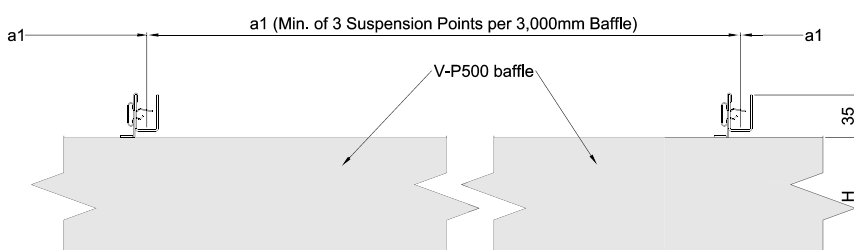
TYPICAL GRID LAYOUT



SECTION D



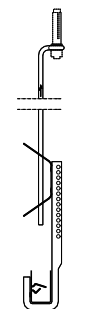
SECTION E



U-Profile Suspension Components

Item Number	Description
BPM300100B	U-Profile Channel (3750mm)
UNI103B	U-Profile Channel Connector
ABH	Baffle Hanger
ABTC	Baffle Top Connector
ABBC	Baffle Bottom Connector
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	U-Profile Wall Anchor Bracket

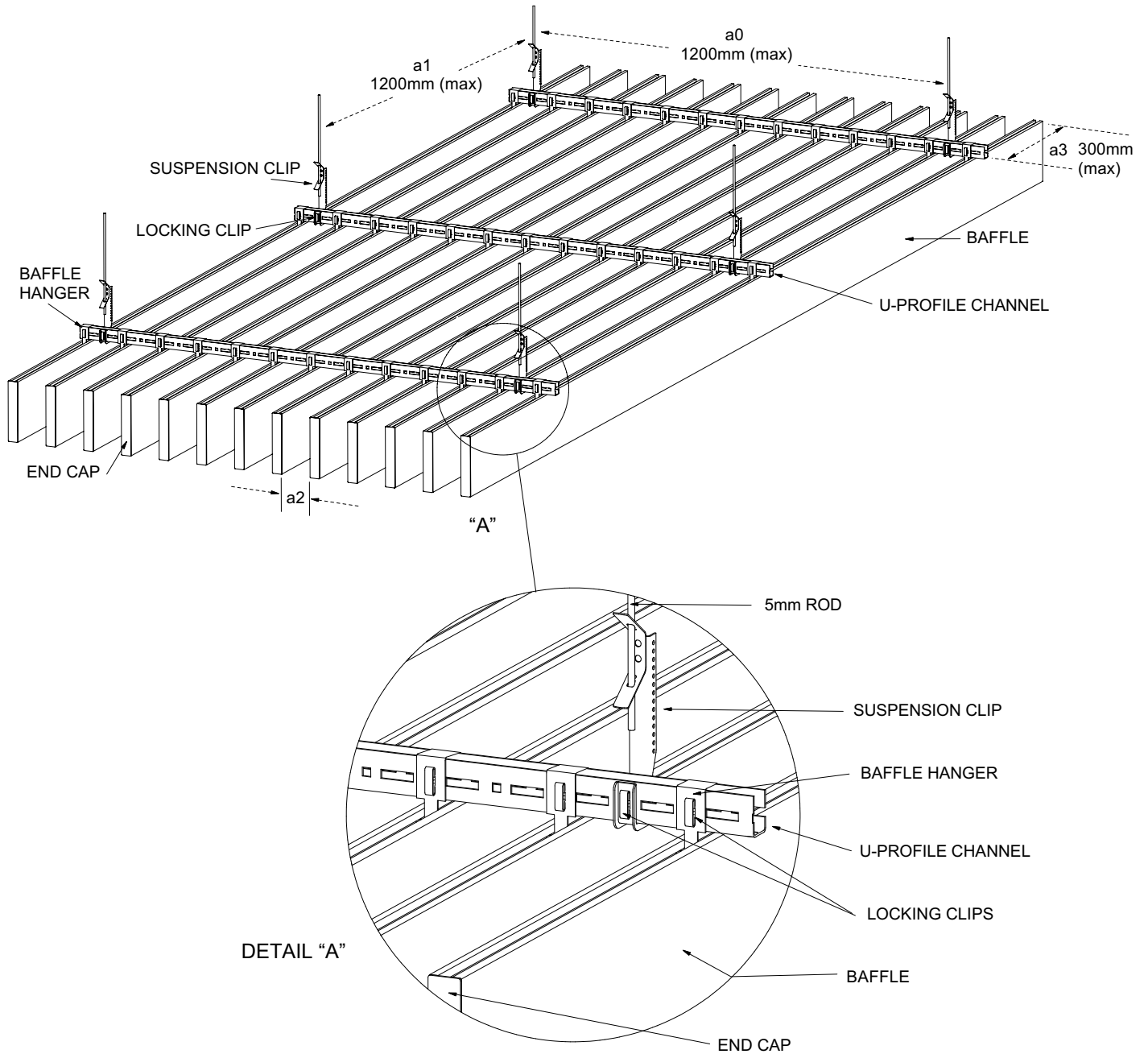
- a0 Distance between suspension points = Maximum 1200mm
- a1 Distance between U-Profile Channels = Maximum 1200mm
- a2 Distance of the Baffle = Minimum 100mm for Acoustical Requirements
- a3 Maximum Baffle Cantilever distance from U-Profile = Maximum 300mm
- a4 Distance from wall to first Suspension 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)

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5. U-Profile and Baffle Layout – Continued



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
 a0 (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
 a0 (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
 a0 (mm) 850 1200 1200 1200 1200 1200 1200 1200 1200 1200

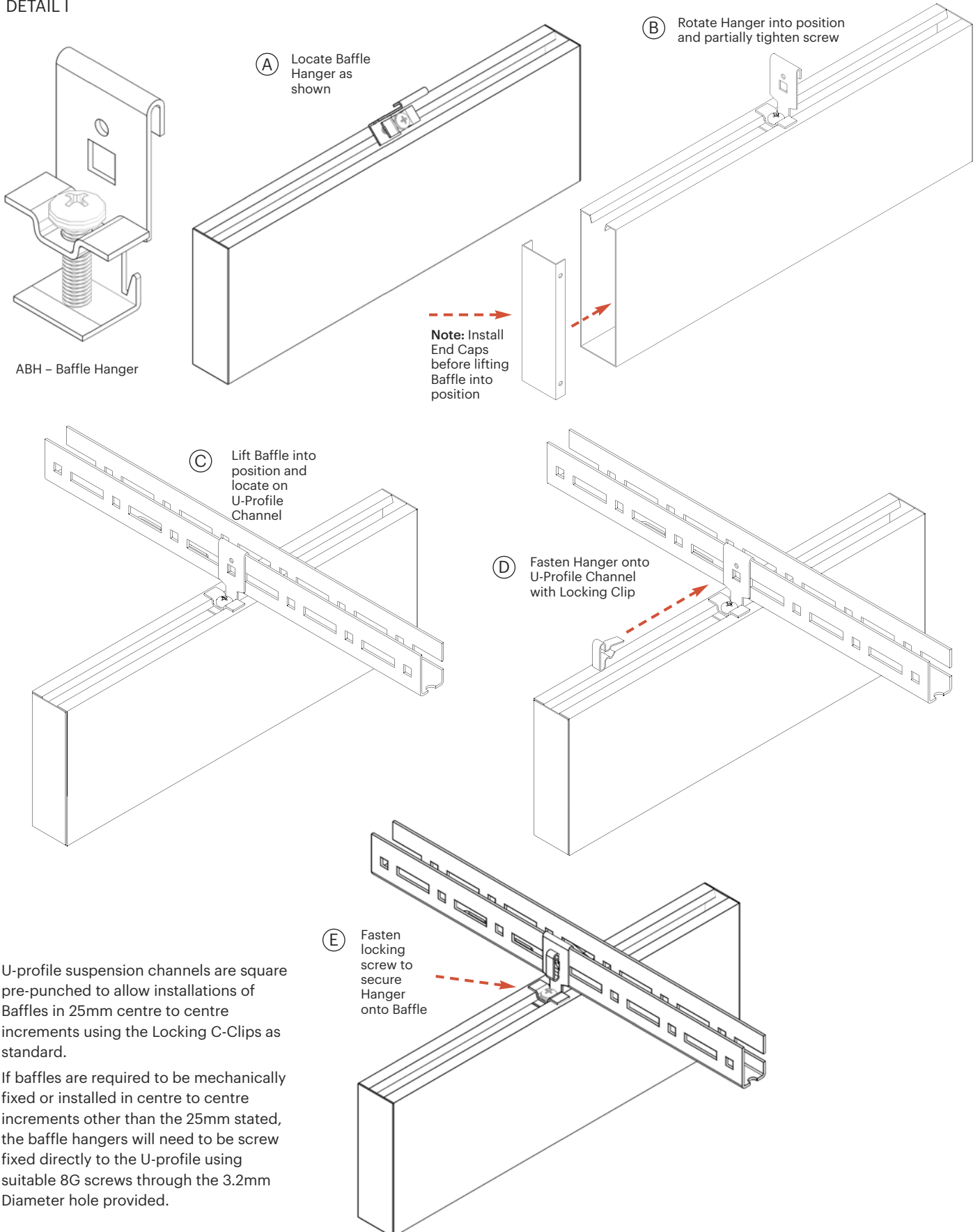
SYSTEM WITHOUT ADDITIONAL LOAD / BAFFLE HEIGHT (H) = 300mm
 a2 (mm) 100 200 300 400 500 600 700 800 900 1000
 a0 (mm) 750 1200 1200 1200 1200 1200 1200 1200 1200 1200

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6. Installation of The V-P500 Baffle to the U-Profile Channel

- Locate and fasten V-P500 Baffle Hangers along the U-Profile Channels at the required centres – as per specification and drawings shown in Detail I below.

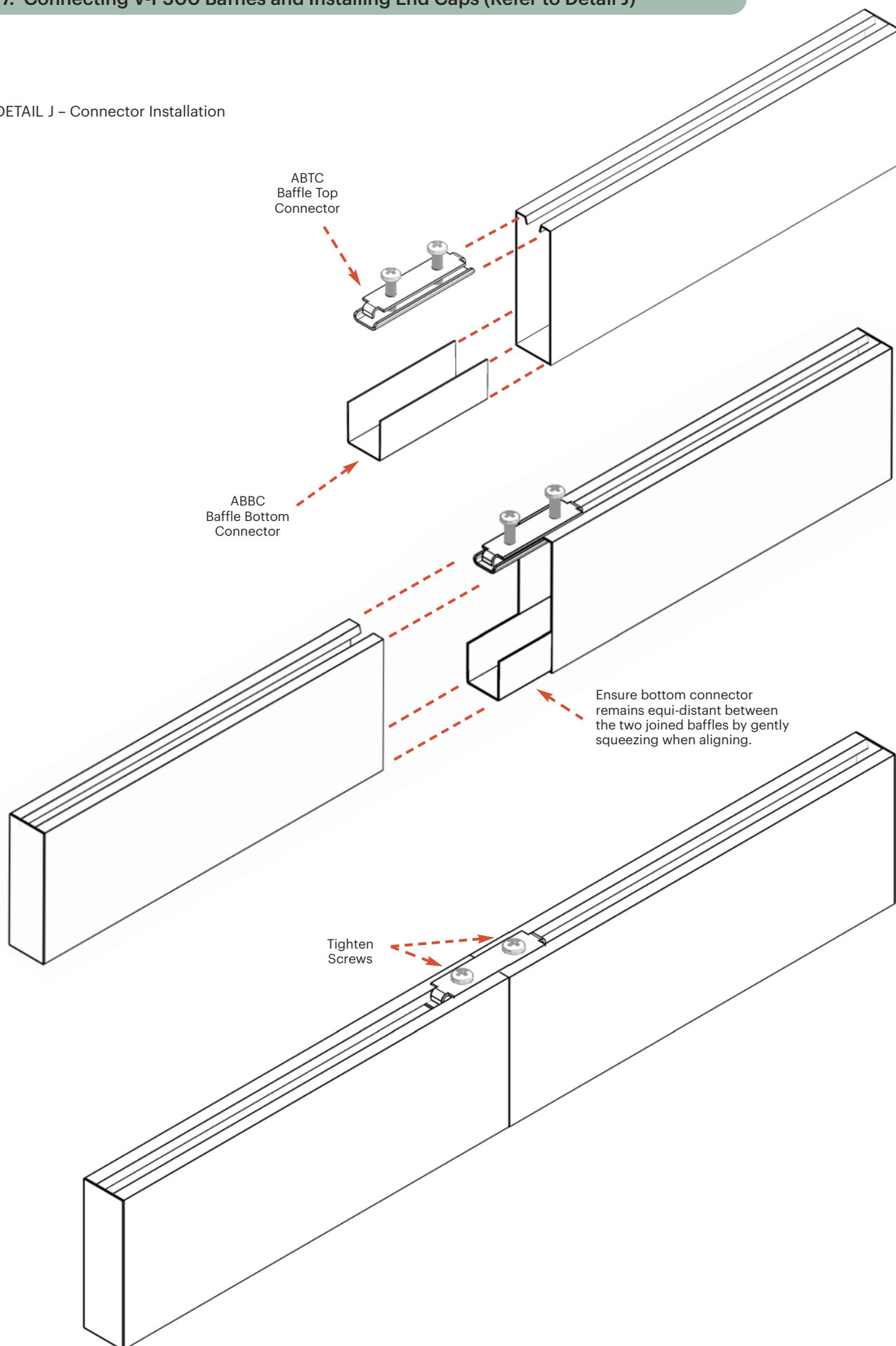
DETAIL I



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

DETAIL J - Connector Installation



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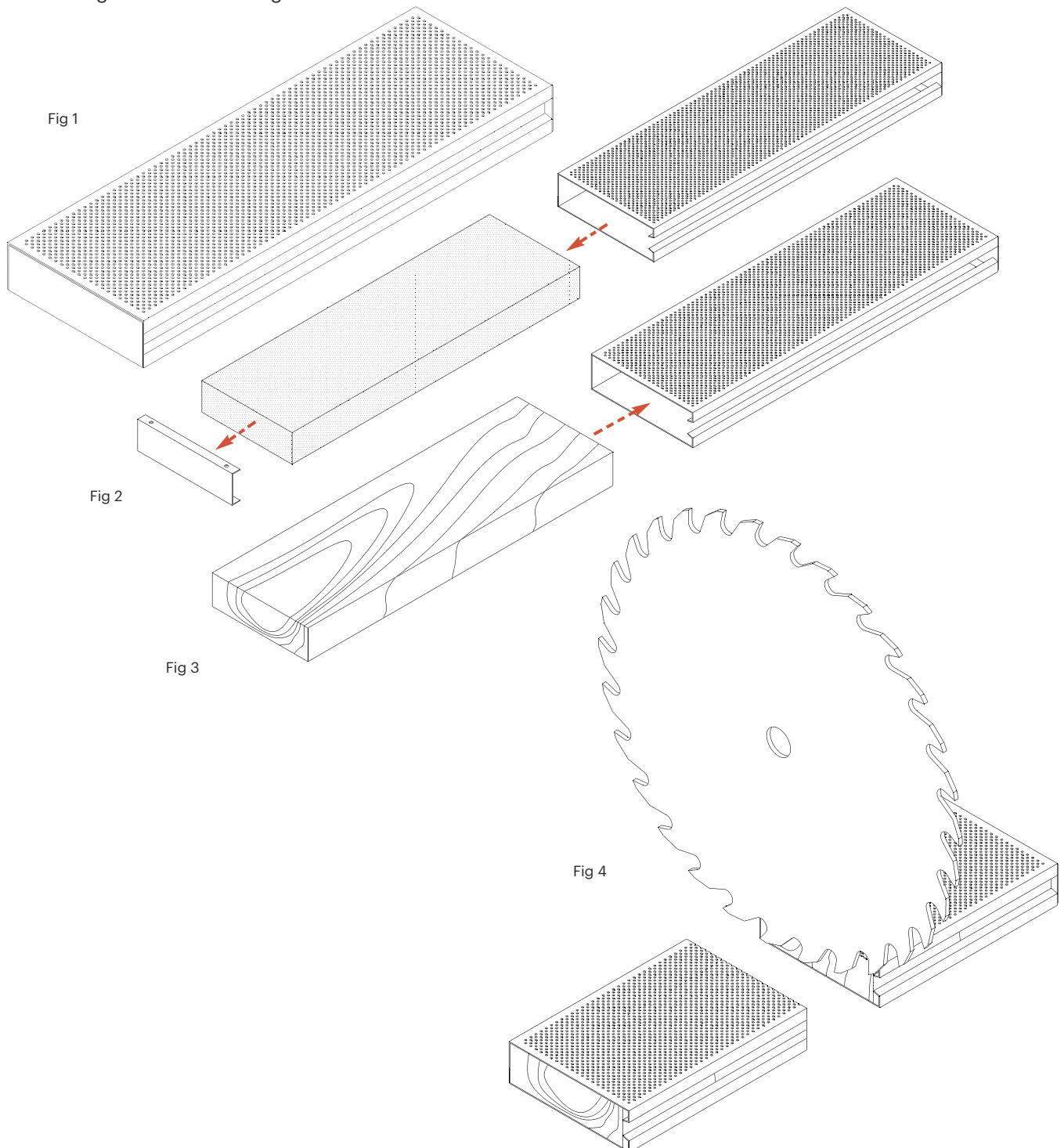
8. Cutting Options

NOTE: Armstrong do not recommend the cutting of V-P500 baffles. All baffles should be ordered and supplied cut to size, as the cutting to length on site after fabrication is extremely difficult and may not provide the required quality of finish.

However, in circumstances where on site cutting is unavoidable, please follow the procedure below:

1. Baffle to be cut should be laid flat on a suitable cutting surface. (fig 1)
2. Remove End Caps and insulation pad. (fig 2)
3. Insert suitable timber packer to maintain rigidity of Baffle to be cut. (fig 3)
4. Cut Baffle with Drop Saw/Miter Saw fitted with ferrous metal cutting saw blade. (fig 4)
5. Remove packer and reinstall insulation pad (also cut to size), then re-fit the End Cap.
6. Lift into position

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.



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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 and access to the Plenum

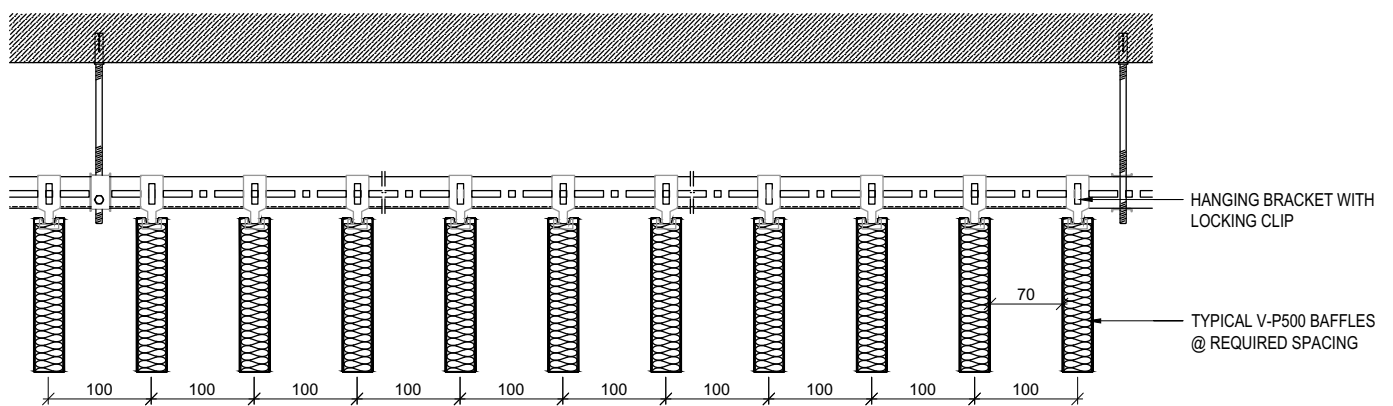
All Baffles are removable without moving up into the plenum. Accessing the plenum can be achieved by removing the Baffles or by stacking them to one side.

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

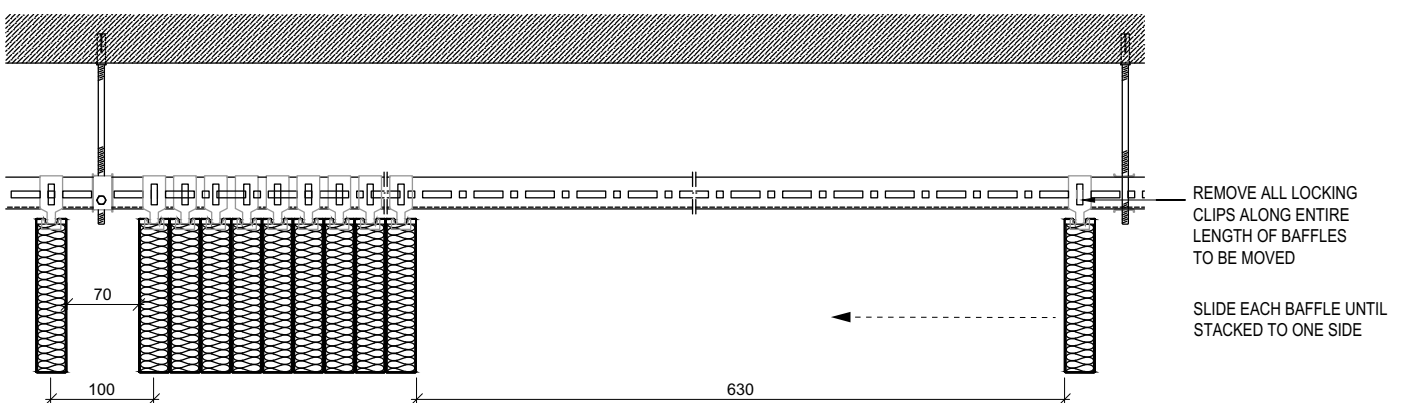
Alternatively, Baffles can be moved out of the way by following the stacking method below.

Note: The stacking method is only practical for individual (unjoined) Baffles.

The following example is for a Baffle assembly located at 100mm centres, however this method applies for all Baffles profiles regardless of their spacing.



SECTIONAL VIEW
TYPICAL BAFFLE SPACING

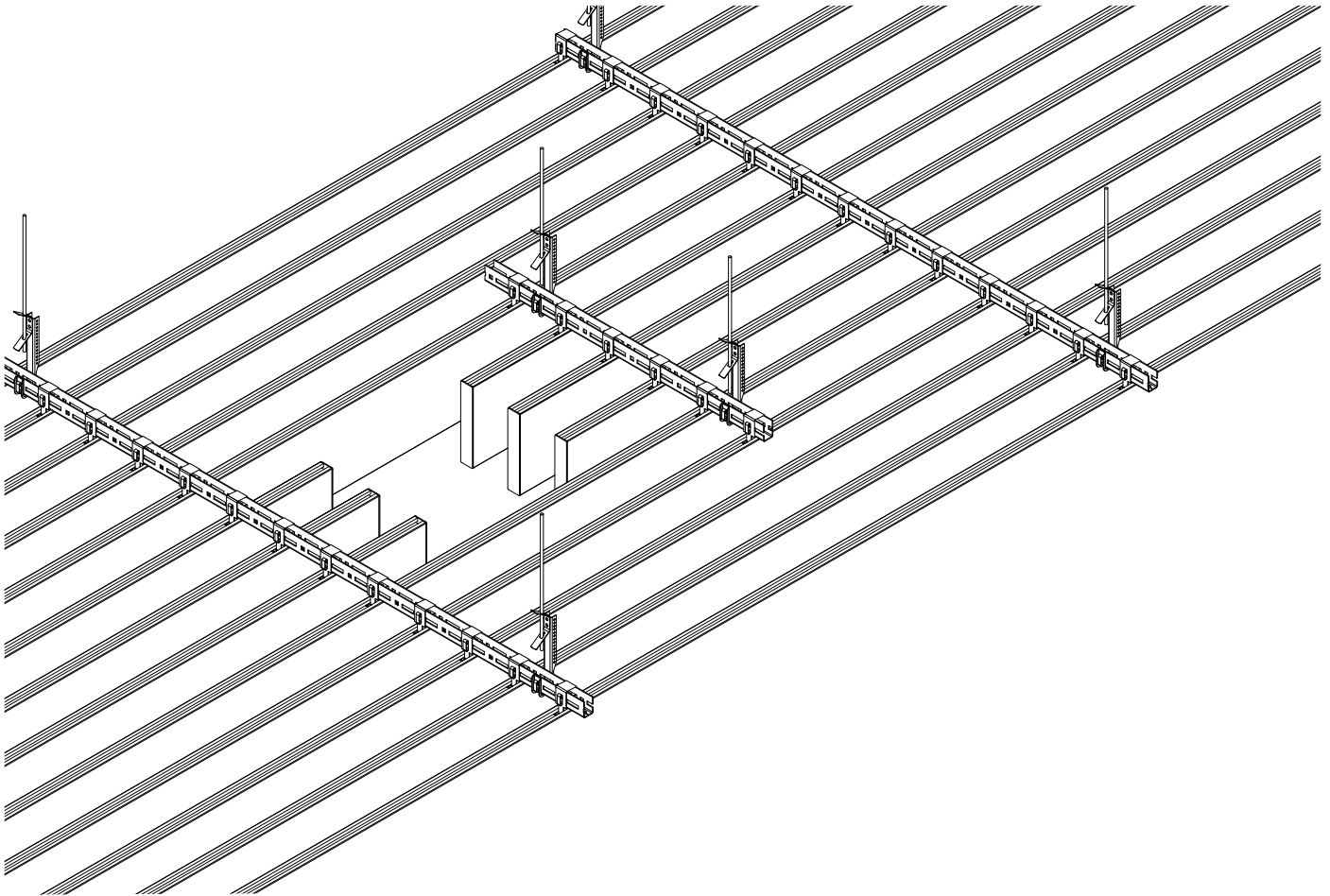


TYPICAL BAFFLE STACKING

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11. Creating Openings / Voids For Integration of Services

- Openings can be simply created in the Baffle Ceiling as per the drawing below. Refer to section 8 for baffle cutting instructions.
- Additional U-Profile 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 U-Profile 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.

13.1 Armstrong – paint coatings

Armstrong ceiling Baffles are finished with a polyester powdercoat.

13.2 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.

For Seismic Design support please contact your local Armstrong Ceilings office

Contact us

NSW/ACT

Armstrong Ceiling Solutions (Australia) Pty. Ltd.
75 Long Street, Smithfield, NSW, 2164
Telephone (02) 9748 1588

VIC/TAS

Armstrong Ceiling Solutions (Australia) Pty. Ltd.
Unit 1, 88 Henderson Road, Rowville VIC 3178
Telephone (03) 8706 4000

QLD / NT

Armstrong Ceiling Solutions (Australia) Pty. Ltd.
6 Barrinia Street, Slacks Creek QLD 4127
Telephone (07) 3809 5565

SA

Total Building Systems Pty. Ltd.
160 Grand Junction Road, Blair Athol SA 5084
Telephone (08) 7325 7555

WA

Ceiling Manufacturers of Australia Pty. Ltd.
3 Irvine Street, Bayswater WA 6053
Telephone (08) 9271 0777

New Zealand

Comfortech Building Performance Solutions®
27B Smales Road, East Tamaki, Auckland 2013
Telephone 64-9-276 4000

