

**ALUWALL**

Antimicrobial interiors & fittings

Antimicrobial  
Cladding  
Solutions



**LEADING  
ANTIMICROBIAL  
PROTECTION**



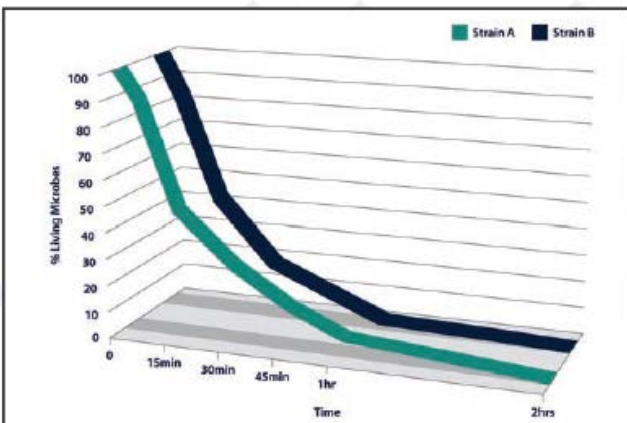
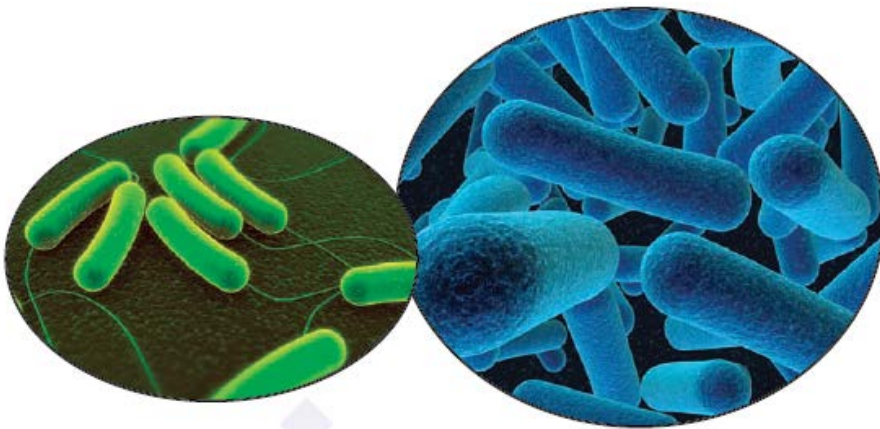
Bay Plastics Ltd

# Introduction

Aluwall aluminium composite panels have been created with a specialist Antimicrobial finish. The inclusion of BioCote offers antimicrobial protection of Aluwall panels for use in many industries where cleanliness is of high priority.

BioCote inhibits the growth of a broad spectrum of microbes, including bacteria, mould, fungi and provides product protection 24-hours a day, and works alongside Aluwalls' vinyl paint finish offering a strong, resistant surface finish.

Aluwall has been created alongside our cap profile system to form a complete microbial cladding system for use in many applications.



Microbes are found in every environment and are a natural part of everyday life. Even in the cleanest of surroundings microbes can multiply on surfaces, sometimes to harmful levels leading to risk of infection.

Microbes can cause unpleasant odours, bacterial degradation or deterioration of surfaces.

BioCote Silver Ion Technology gives Aluwall continuous, build-in antimicrobial protection and inhibits the growth of microbes on the products surface by up to 99.99%. Aluwalls' BioCote technology remains effective for the lifetime of the product.

Fig 1.1 Details the percentage (%) reduction of "Strain A" and "Strain B" on a BioCote protected surface using the ISO 22196:2007 test method.

*This product does not protect users or others against food borne (or disease causing) bacteria. Always clean this product thoroughly.*





# Features & Benefits

Aluwall has been developed alongside our unique Cap Profile System, offering a complete solution to all cladding requirements.

Our aluminium cap profile system provides extrusions to support join and face the panels creating a flat, antimicrobial-protected surface.

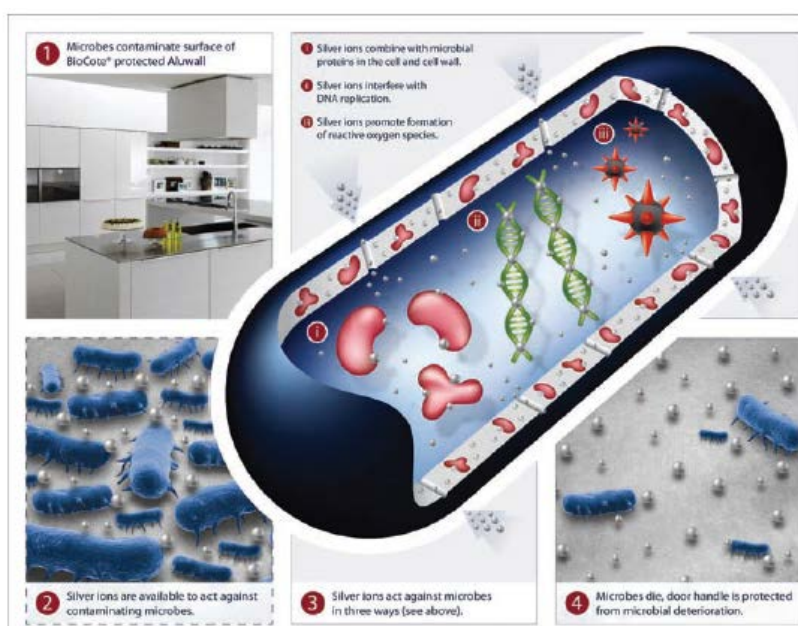
Aluwall composite panels are extremely rigid and when used alongside our cap profile system produce a perfectly smooth, flat surface finish with excellent durability and impact resistance.

## Applications:

- ❖ Hospitals
- ❖ Clinics
- ❖ Laboratories
- ❖ Kitchens
- ❖ Food Storage Areas
- ❖ Cafe's & Dining Halls
- ❖ Schools
- ❖ Pharmacies
- ❖ Public Areas

## Product Features:

- ❖ Excellent impact resistance.
- ❖ Proven to inhibit the growth of a broad spectrum of microbes, including bacteria, mould and fungi and provides product protection 24-hours a day.
- ❖ Proven Silver Ion Technology.
- ❖ Easy to clean, wipe free.
- ❖ Holds -  
Class 1 BS476 Part 7;  
Class 0 BS476 Part 6; and M1 fire performance.
- ❖ Easy to process and install.



Constant build in antimicrobial protection, providing a finish that helps prevent the growth of microbes by up to 99.99%.



# Example Applications - One

**Healthcare:**

Aluwall is perfect for any health environment where cleanliness is a priority, for example Operating Theatres, Surgeries, Hospitals and much more.

**Laboratories:**

Aluwall is protected against the growth of microbes on its surface by up to 99.99%.



**Food & Catering:**

BioCote's Silver-based additive is economically engineered into Aluwall at the time of manufacture, reducing the growth of microbes on the products surface.

Aluwall can be used in many food environments and can provide a complete cladding solution.



## Example Applications - Two

### Education:

Aluwalls BioCote treated finish can protect classrooms, gymnasiums, science blocks, cafeterias and much more from the spread of bacteria and mould.

### Leisure:

Aluwall offers a greater protection in leisure environments such as swimming pools, changing rooms and gyms where BioCote helps protect the products surface from bacterial degradation.



### Retail:

In retail environments with high foot fall, Aluwall can be used to clad changing rooms etc and make point of sale displays which have been BioCote treated to inhibit the growth of microbes on Aluwall surfaces.



# Processing Techniques

## 3 Roller Panel Bending



## Routing



## Thermal Expansion

Before use, please refer to our thermal expansion document which details recommendations and instructions for panels that will be subject to temperature fluctuation.

## Drilling



## Hot Air Welding



## Smoothing Edges

After cutting Aluwall, any rough edges may be removed using a file with a rasp like effect. Always file along the length of the cut edge.

## Riveting



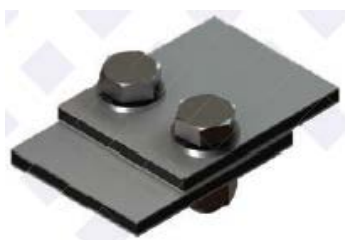
## Sawing



## Directional Finish

Aluwall has a directional finish (indicated by the arrows on the protective film) and must always be installed in the same direction.

## Clamping & Bolting



## Gluing

Use standard metal/aluminium adhesives. Avoid contact with the polyethylene core as some adhesives will attack it. Double sided tape designed for use with metal/aluminium can also be used.

## Punching

Use a steel band tool on a punching base for 2mm and 3mm thickness. Conventional punching machines are ideal for this process.

# Technical Specification

<b>Panel Dimensions</b>			
Standard Sheet Sizes (mm)	1220 x 2440	1220 x 3050	1500 x 3050
Panel Thickness (mm)	3.0		
Aluminium Skin Thickness (mm)	0.21		
Weight (Kg/m <sup>2</sup> )	3.51		
Weight (Kg/full sheet)	10.45	13.07	16.07

<b>Dimensional Tolerances</b>	
Thickness (mm)	-0 + 0.2
Width (mm)	± 2
Length (mm)	± 3
Diagonal (mm)	± 5
Thermal Expansion	2.4mm/m @100°C Temp Difference
Aluminium Thickness (mm)	± 0.02

<b>Surface Properties</b>	
Paint Thickness (micron)	20
Pencil Hardness	>9H
Toughness of Coating	3T
Temperature Resistance	-50°C to +90°C
Impact Strength (Kg/cm <sup>2</sup> )	50
Boiling Water Resistance	Boiling for 2hrs without change
Acid Resistance	Surface immersed in 2% HCl for 24hrs without change
Alkali Resistance	Surface immersed in 2% NaHO for 24hrs without change
Oil Resistance	Surface immersed in 20# engine oil for 24hrs without change
Solvent Resistance	Cleaned 100 times with Dimethylbenzene without change
Cleaning Resistance	>1000 times without change
Peel Strength 180°	>5 Newton/mm

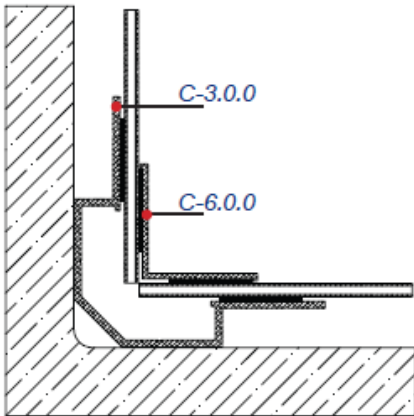
<b>Product Properties</b>	
Sound Absorption NRC	0.05
Sound Attenuation R <sub>w</sub> db	24
Water Absorption % by Volume	0.01
Thermal Performance R Values	0.008
Core Composition	LDPE
Fire Performance	Class 1 BS476 PT7 Class 0 BS476 PT6
Tensile Strength of Aluminium Layers	149MPa





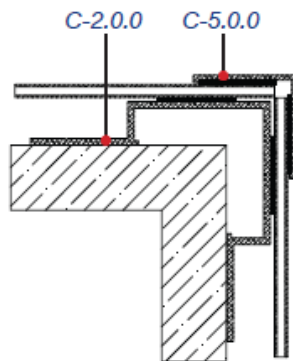
# Cap Profile System - Details

## Internal Corner



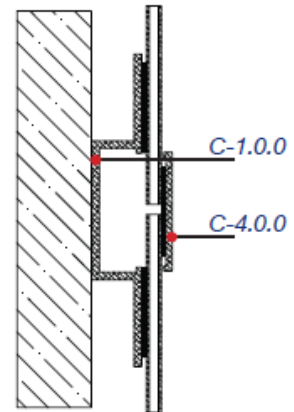
Internal Corner profiles featuring C-3.0.0 subframe profile and C-6.0.0 Cap profile.

## External Corner



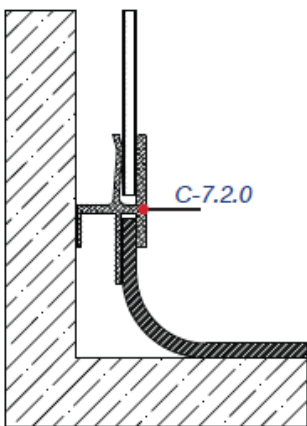
External Corner profiles featuring C-2.0.0 subframe profile and C-5.0.0 Cap profile.

## Intermediate Join



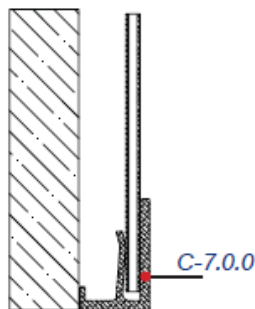
Intermediate Join profiles featuring C-1.0.0 subframe profile and C-4.0.0 Cap profile.

## Flooring Profile



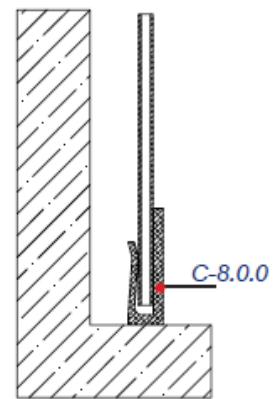
Flooring profile C-7.2.0 enabling flooring to be tucked into the profile for a hygienic finish.

## Edge Cap



Edge Cap profile featuring C-7.0.0 cap profile for edges requiring support.

## Edge Cap



Edge Cap profile featuring C-8.0.0 cap profile for edges which require no support.

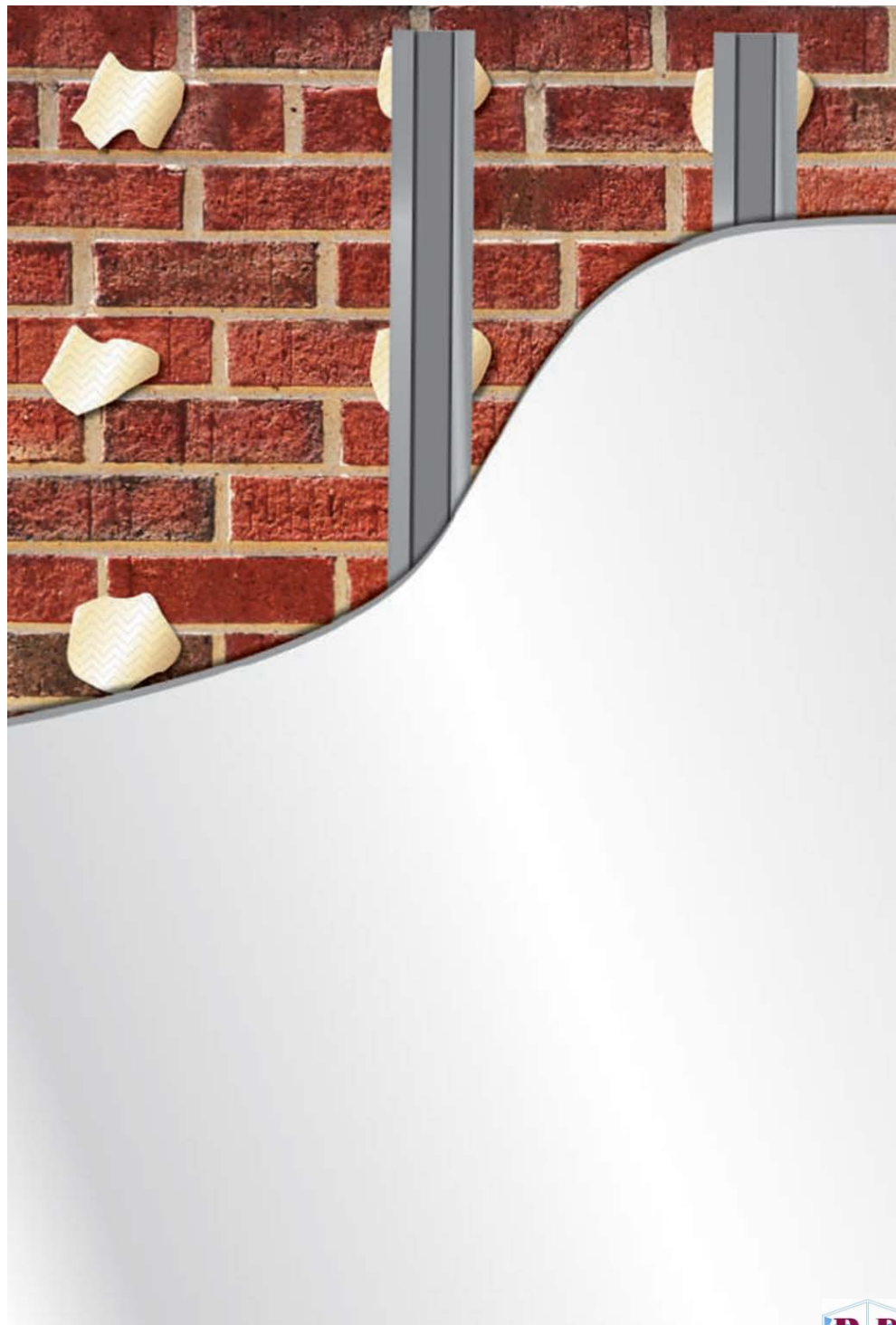


# Cap Profile System – Uneven Walls

## Uneven Walls

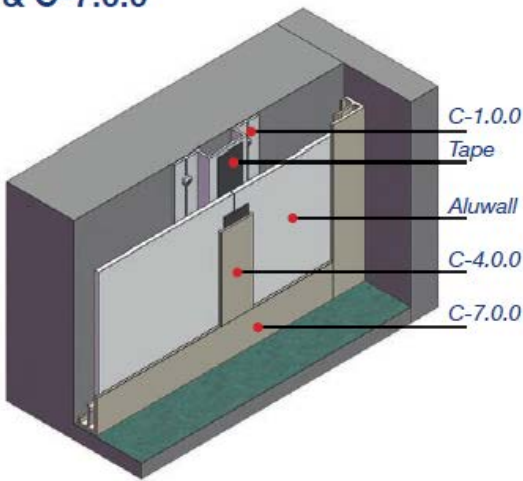
Our cap system is suitable to be used on both flat, and uneven walls. For uneven walls the “Dot & Dab” technique can be used to create fixing points for the subframe profiles, which when fitted will produce a completely smooth, flat wall.

Other techniques can be used to fit profiles to uneven walls, but detailed fitting information should be sought from an industry professional before installation.

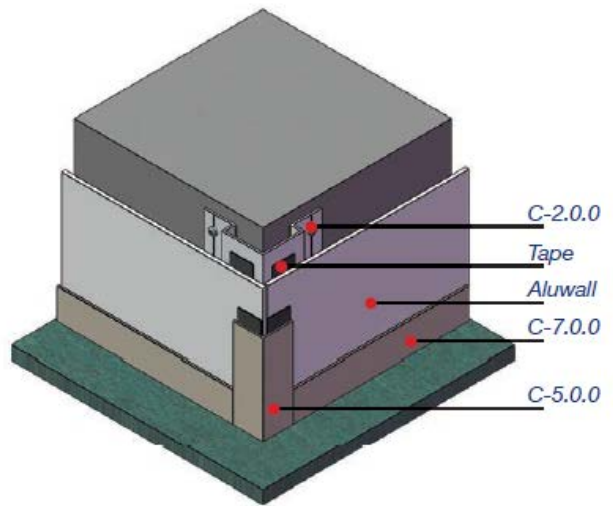


# Cap Profile System – Installation Diagrams

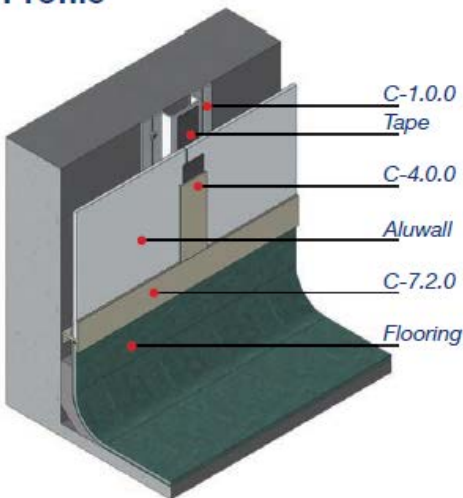
**Intermediate Join  
& C-7.0.0**



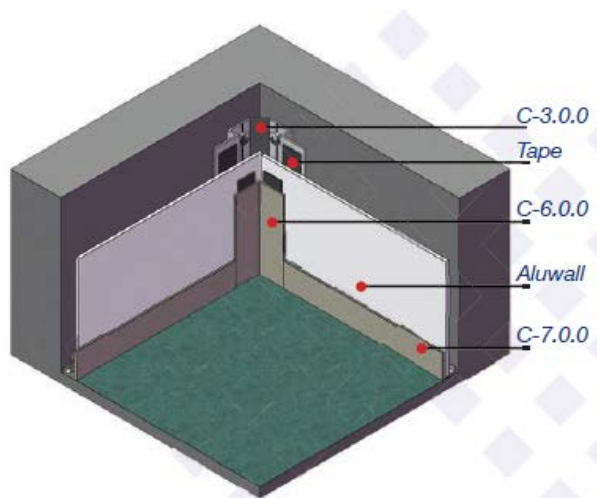
**External Corner**



**Specialist Flooring  
Profile**



**Internal Corner**



# Profile Information & Ancillaries

## Cap System Information

Our cap profile fixing system has been designed for easy installation of Aluwall, Alupanel and some of our other materials. It is suitable for almost any interior application and consists of subframe and cap profiles.

Our system can be used on both flat walling, and some slightly uneven surfaces due to the strength and straightness the subframe profiles offer. Elements that extrude over 10mm on the surface to be fitted should be removed.

We recommend that specially designed profiles C-1.0.0, C-2.0.0 and C-3.0.0 should be used as a subframe for the installation. Depending on the material of the wall and customers discretion, screws, dowels or glue can be used to fix the subframe profiles to the wall. The recommended span between profiles should be a maximum of 750mm.

After the installation of the subframe profiles, Aluwall can be cut to size and fixed to the subframe. Our double sided tapes should be used as they have been specifically designed for this system. They guarantee strong adhesion and enable quick installation.

To cover any joins between panels and create a hygienic finish, cover strips C-4.0.0, C-5.0.0 and C-6.0.0 should be used, which have been designed with a special return to allow for the use of the double sided tape.

Thermal expansion should be taken in to account when installing the system and amendments made to reduce stress to the panels/frames. Before installation please refer to our thermal expansion document, and installation document.

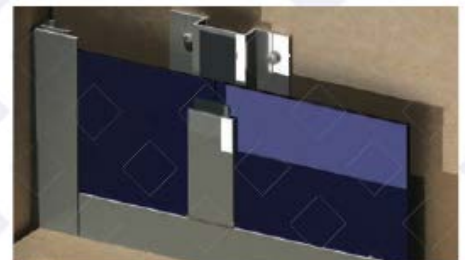
## V Groove Routing Blade

The new V-Groove routing blade is the perfect solution to time saving, on-site routing. You can now route and fold Aluwall on site without the need to return the material to the workshop for CNC routing. The blade fits into almost any circular saw making it completely portable, offering significant cost savings.

## Double Sided Tape

Our tapes are perfect for use with Alupanel and aluminium profiles.

The cap profiles have been designed with a 0.5mm tolerance to allow the tape to completely adhere to each surface, but also ensure the cap system sits flush with the panel.







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