

Fabrication + Installation Manual



Fusion fabrication and installation manual receipt

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Cutting-edge technology in composite solid surfaces.

Applications

Benchtops

Vanities

Desktops + tabletops

Induction splashbacks

Toilet partitioning

Lockers + seating

Wall panels

Product Attributes



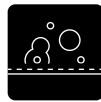
Horizontal Application



Vertical Application



Fingerprint Resistant



Protect+ Antimicrobial



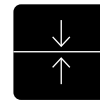
Heat Resistant



Scratch Resistant



Impact Resistant



Ultra Thin Profile



SuperMatte Finish



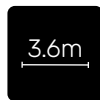
UV Stable Indoor Use



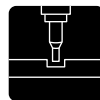
Induction Splashback



Fast Installation



Extra long slab size



Routing Capability



Made in Australia

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1 – Introduction

1.1 Purpose of this manual

This manual has been created to provide clear instructions required to successfully design, fabricate and install Fusion Composite Solid Surfaces. Strict adherence to the techniques and guidelines presented in this manual will permit the finished article to be compliant with the conditions in the product warranty.

Throughout this manual the  symbol will appear against any specific instructions that are linked to compliance with the Fusion Composite Solid Surfaces warranty.

This manual has been developed to allow designers, fabricators and installers who work with Fusion to achieve positive performance outcomes for both domestic and commercial applications.

It is important to note that the techniques and guidelines presented in this manual are those recommended for use with Fusion 6mm and 13mm products. Fusion panels are available in the following nominal sizes, in both thicknesses: 3600mm x 1500mm and 3600mm x 750mm. Any variation from these guidelines may create unexpected performance problems and may void the limited warranty.

It is impossible to cover all the existing fabrication techniques in this manual. This manual provides instructions to comply with the product warranty and is not intended to replace any testing you may need to conduct to determine the suitability of this product for your particular purpose and needs.

While every precaution has been taken in the preparation of this document, Laminex assumes no responsibility for errors or omissions, or for damages resulting from the use of information contained in this document. In no event shall Laminex be liable for any loss of profit or any other loss or damage caused or alleged to have been caused directly or indirectly as a result of any person relying upon any information contained in this document.

Content in this manual is subject to change at any time without notice. Consult with your local Laminex representative for access to the latest technical updates.

This manual is not for general distribution. It has been developed for Fusion fabricators and Fusion installers.

2 – General Information

2.1 Safety

Safety training, product knowledge and product use, are the responsibility of the fabrication facility, installation team (whether in-house or contracted) and its employees.

Equipment selection, use and maintenance, are the responsibility of the fabrication facility installation team (whether in-house or contracted) and its employees.

Maintaining a clean and adequately ventilated workplace, are the responsibility of the fabrication facility installation team (whether in-house or contracted) and its employees.

2.1.1 Safety Data Sheet

Refer to fusionsurfaces.com.au for the latest version of the Safety Data Sheet (SDS) for this product.

2.1.2 Personal protective equipment (PPE)

Always wear appropriate PPE when handling, cutting, fabricating & installing this product. Wear gloves, safety footwear and suitable workwear apparel (no loose clothing or jewellery).



Occupational exposure to any type of dust is known to be hazardous to human health. Care must be taken to avoid the inhalation of dust. Follow good hygiene and workplace practices. Dust can be vacuumed or swept to avoid accumulation. If dust levels exceed Safe Work Australia Standards the wearing of a dust mask (AS 1715 and AS 1716) is recommended.



Always use safety glasses or approved eye protection and/or face shield when cutting, routing and sanding.



2.1.3 Tools and equipment

Use and maintain all tools and equipment in accordance with manufacturer's instructions. Keep all equipment safety guards and dust collection devices in place. Follow all manufacturer's instructions to maintain equipment in optimal working order.

2.1.4 Adhesives

Always refer to the manufacturer's Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for instructions on how to store and use solvents, adhesives and other materials in a safe manner.

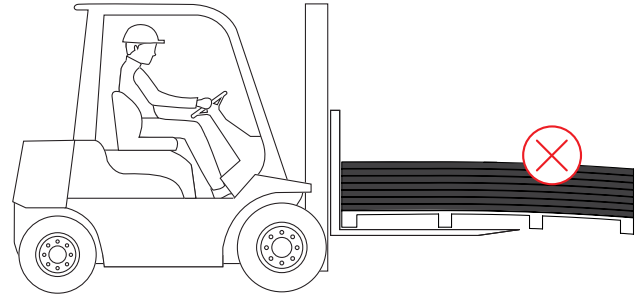
2.2 Handling

This product is heavy. A 13mm panel weighs 20Kg/m² and a 6mm panel weighs 9.2Kg/m². Fusion Composite Solid Surfaces should not be manually lifted by less than two people.

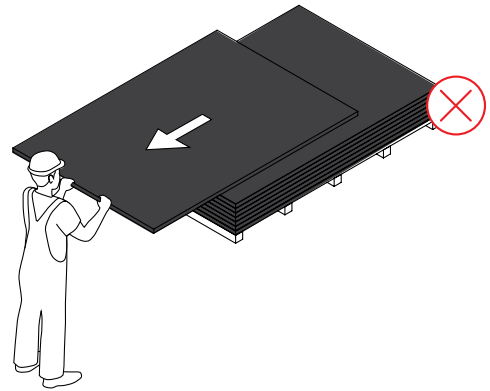


Carry 6mm sheets vertically to avoid flex or possible breakage. The use of mechanical aids, such as vacuum lifting devices, are recommended for handling large panels.

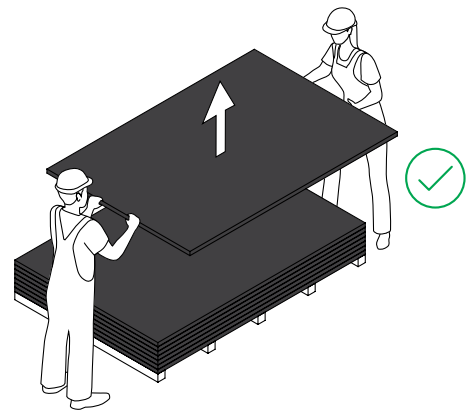
- Ⓜ If moving or transporting panels via forklift or suction lift, move sheets carefully to avoid damage and ensure the right forklift tyne length is used for the sheet size. Do not overload the forklift.



- Ⓜ DO NOT slide panels over one another to move them.



- Ⓜ Always gently lift and place the panels to avoid damage to the decorative surface



2.3 Storage

Ⓦ Panels and offcuts intended for reuse, must be stored at approximately 20-25°C and a relative humidity of approximately 50%.

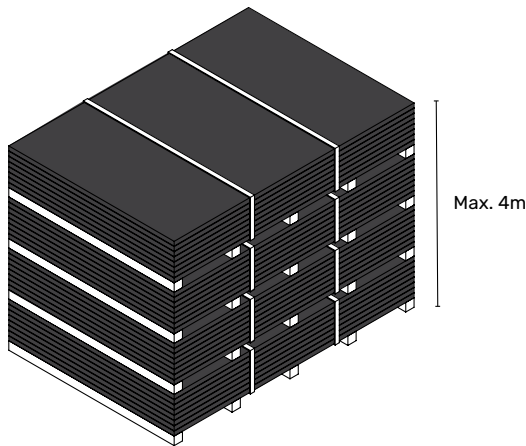
Ⓦ Panels and offcuts intended for reuse, must be stored in a dry, fully enclosed area away from exterior doors. Do not leave Fusion panels in the rain, wind or in UV light.

When working from a pack of Fusion Composite Solid Surfaces, use panels as required and then repackage the unused sheets.

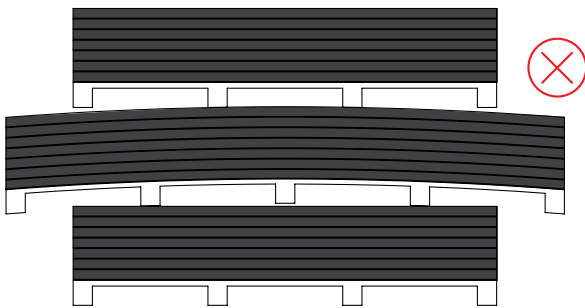
Ⓦ Packs must be stored with an identical top and bottom coversheet in direct contact with the Fusion panel surface. ONLY use approved coversheet materials.

Ⓦ Packs must be stored parallel to the ground and aligned with each other on a flat surface.

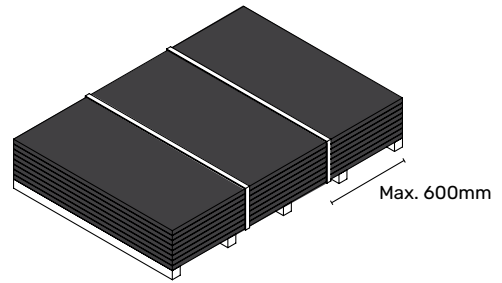
Ⓦ Do not stack packs more than 4 meters high.



Ⓦ Do not stack different size packs on top of each other.

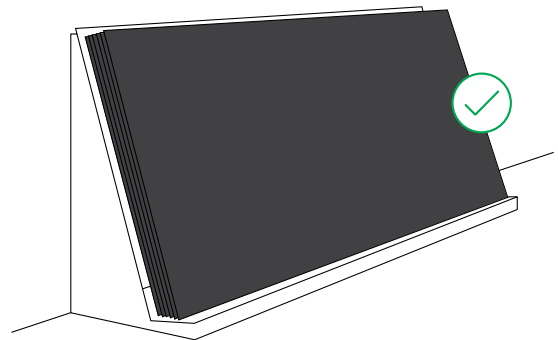


Ⓦ Do not store product on pallets with bearer spacings more than 600mm apart. Ensure sheets are fully supported at each end.

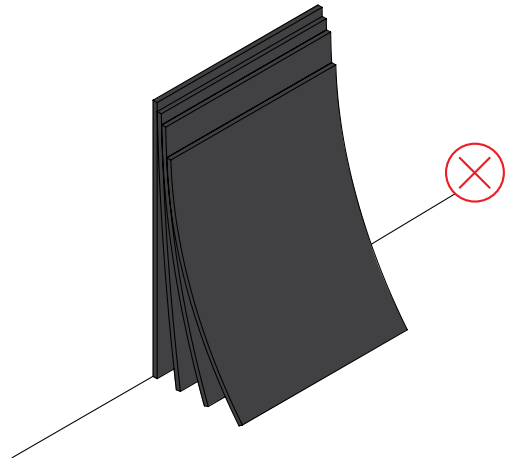


When working with loose panels of Fusion Composite Solid Surfaces, where the original packaging is removed, the panels and offcuts intended for reuse must be stored horizontally in a flat level fully supported manner.

Ⓦ If horizontal storage is not possible, angled storage at approx. 80° with full support across the entire face is required.



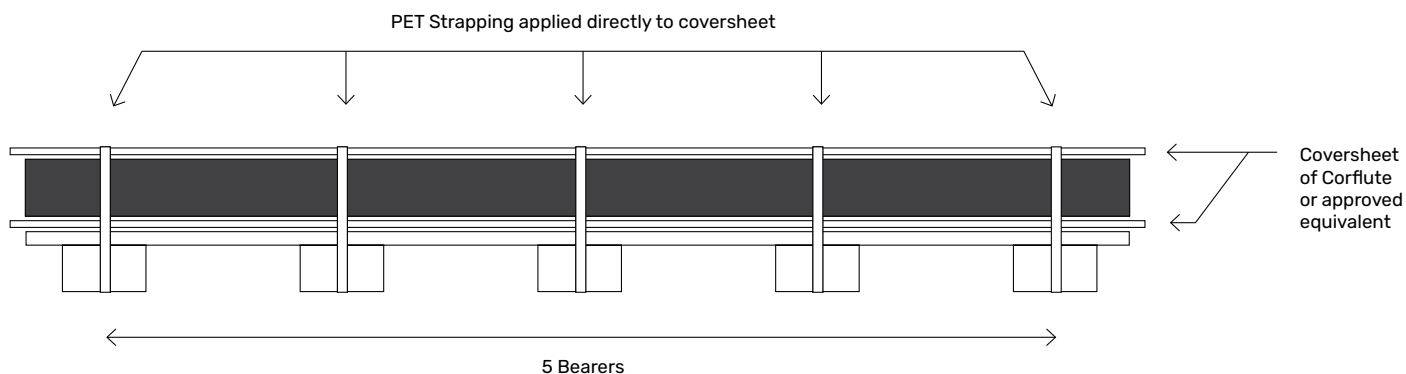
Ⓦ Do not stand the sheets vertically in an unsupported manner that produces cavities between the sheets.



2.4 Packaging

The use of suitable packaging is essential to controlling and maintaining moisture equilibrium. An imbalance of moisture will result in bowing or warping of the Fusion panel.

Use of a corflute coversheet top and bottom in direct contact with the Fusion panel surface is recommended. Approved corflute equivalent coversheets include any polypropylene sheets (>3mm) or a compact laminate sheet (3mm - 6mm). These must be used as a complete matching set, top and bottom, but not interchangeably with each other.

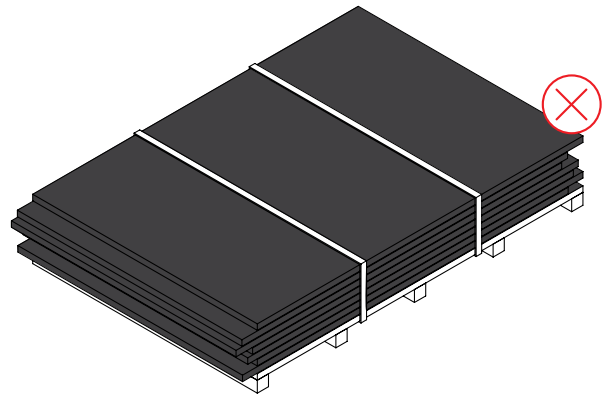


- Ⓢ The use of Particleboard (PB), Medium Density Fibreboard (MDF), Plywood, or similar material as a coversheet is expressly excluded from warranty coverage.
- Ⓢ Claims for bowed panels attributable to the use of unsuitable packaging techniques will not be recognised.

2.5 Transport

It is important to take precautions when transporting Fusion Composite Solid Surfaces.

Ensure product surfaces and edges are well protected when transporting, storing, fabricating and installing sheets or fabricated items.



All straps and restraint devices must remain grit and burr free and suitably tensioned to prevent movement of the product during transport.

When transporting Fusion Composite Solid Surfaces across long distances, it is recommended that a belly strap is applied to the pack, tight against the product.

- Ⓢ Claims for damage or surface abrasion due to unsuitable transport techniques will not be recognised.
- Ⓢ During transportation, use flat, stable pallets of at least the same dimensions as the material.

2.6 Conditioning

Fusion Composite Solid Surfaces will react to changes in ambient conditions and must therefore be conditioned prior to both fabrication and installation for a minimum period of 48 hours at the same environmental conditions as the subsequent place of use.

How to condition Fusion Composite Solid Surfaces:

- Remove all protective coverings from both surfaces of the panel to ensure even moisture absorption.
- Do not allow Particleboard (PB) or Medium Density Fibreboard (MDF), Plywood or other non-approved materials, to contact the product.
- Arrange the sheets loosely in a supported manner to expose the full surface area to air circulation.

Failure to condition material may result in product expansion and contraction in response to environmental conditions, particularly with changes in temperature and humidity. This may result in, but is not limited to, bowing or warping of panels, joint failure or build-up of internal stresses that release in the form of cracks.

Fusion Composite Solid Surfaces must be installed in locations where the environmental conditions on both sides of the Fusion panel can be controlled and maintained in a manner to avoid large fluctuations in temperature or humidity.

- Ⓢ Failure to adhere to conditioning guidelines will void your warranty.
- Ⓢ Failure to maintain and control temperature and humidity of installation environments will void your warranty.

2.7 Quality control

2.7.1 Inspection

- Ⓜ ALL sheets must be visually inspected prior to the commencement of ANY cutting or fabrication.

Goods supplied with protective film should be inspected with the film removed, as small defects can be disguised with the protective film in place and will not be recognised as a claim if not removed before inspection.

Before commencing any cutting or fabrication, the following must be checked:

- Correct items (colour, thickness, finish, etc)
- Consistent colour match (ensure panels for the same installation are inspected for colour compatibility)
- Inspect for defects, such as: chips, scratches, unacceptable product deflection (length and width), evidence of transport damage, general quality of the surface finish and quality of the edge.

If products are believed to be defective, record all batch details, photograph product concerns and contact your Laminex representative as soon as possible.

Once cut or fabricated, no claims will be recognised for any visual defects.

Any protective film should not be left on the surface for extended periods, particularly if exposed to UV conditions through adjacent window as this may cause discolouration of the surface and changes to adhesion, making it difficult to remove.

2.7.2 Technical data

[Click here to view the Fushion Technical Data Sheet \(TDS\) of this product.](#) Refer to fusionsurfaces.com.au for the latest version.

2.8 Care and Maintenance

[Click here to view the Care and Maintenance for this product.](#)
Refer to fusionsurfaces.com.au for the latest version.

2.9 Warranty

[Click here to view the Warranty for this product.](#)
Refer to fusionsurfaces.com.au for the latest version.

3 – Applications

3.1 Interior

- Ⓜ Fusion Composite Solid Surfaces is suitable for interior applications and can be used for: kitchen and vanity benchtops, splashbacks, furniture components, internal cladding and many other interior vertical and horizontal applications.
- Ⓜ Fusion Composite Solid Surfaces is suitable for splashback applications behind an induction, electric or gas cooktop, when installed in compliance with strict setbacks distances stipulated by all relevant cooktop standards and regulations, and the requirements set out in this fabrication and installation manual.

Note: When used for splashback applications, the installation must conform to the minimum Australian/New Zealand Standards for installation behind gas cooktops, for clearances in relation to combustible materials and appliances generating heat. Please refer to AS/NZS 5601 Gas installations and AS/NZS 4386 Cabinetry in the built-in environment - Commercial and Domestic.

- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for use with an open or enclosed fireplace or fire box surrounds. This includes but is not limited to hearths, mantels, corbels, plinths, linings or casings, hoods or other elements adjacent to a solid or liquid fuel fire (including ethanol burners).
- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for cabinetry door and draw fronts.
- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for use as any component of a staircase including, but not limited to, stair treads, risers, base-rails, stringers or solid bannisters
- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for use as any safety barrier.
- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for use as any ceiling or flooring application.
- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for laboratory applications where exposure to chemicals is likely.

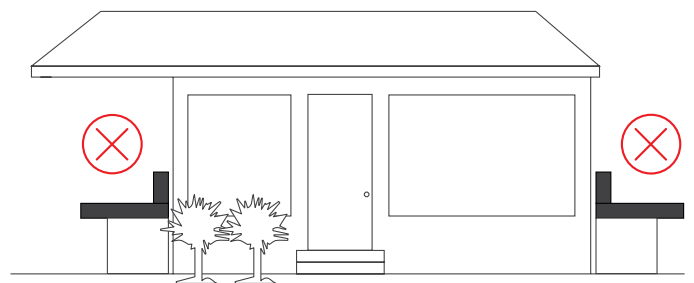
Note: Specialised or non-standard use of Fusion Composite Solid Surfaces may be subject to warranty restrictions. Please contact your local Laminex representative for technical guidance on your project.

3.1.1 Wet areas

- Ⓜ Only 13mm Black core Fusion Composite Solid Surfaces is suitable for use in wet area partitioning system applications.
- Ⓜ A minimum 10mm clearance MUST be maintained between the top surface of the primary floor and the bottom edge of the Fusion panel.
- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for use in any application where the product can be submerged in a liquid.
- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for use in any application where water pools or is trapped in contact with the surface or core of the product. This includes but is not limited to, bath, shower, pool & spa surrounds, shower base and wash-planes.
- Ⓜ Any Fusion Composite Solid Surfaces claim attributable to damage resulting from water ingress whether via the decorative surface or core material will not be recognised under warranty.

3.2 Exterior

- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for use in exterior applications. This includes servery areas and adjacent cabinetry that may continue from the indoor kitchen area through windows or doors into deck or alfresco-BBQ zones.
- Ⓜ Fusion Composite Solid Surfaces is NOT suitable for tabletops that may be moved between indoor and outdoor/alfresco zones during periods of use.



4 – Design guidelines

When you are in the planning and design stage of your project there are some important points to consider ensuring your installation meets the compliance requirements for the Fusion Composite Solid Surfaces warranty.

The “Design Guidelines” for Fusion Composite Solid Surfaces is a separate document found at fusionsurfaces.com.au

4.1 Material use

You should ensure that your project specification documents include both fabrication and installation document and should follow all technical requirements of the Fusion Composite Solid Surfaces fabrication and installation manual.

Key attributes when considering a project using Fusion Composite Solid Surfaces are the preliminary conditioning of the material, directionality of the material when cutting and installing, and expansion gaps both around and behind the material when installed.

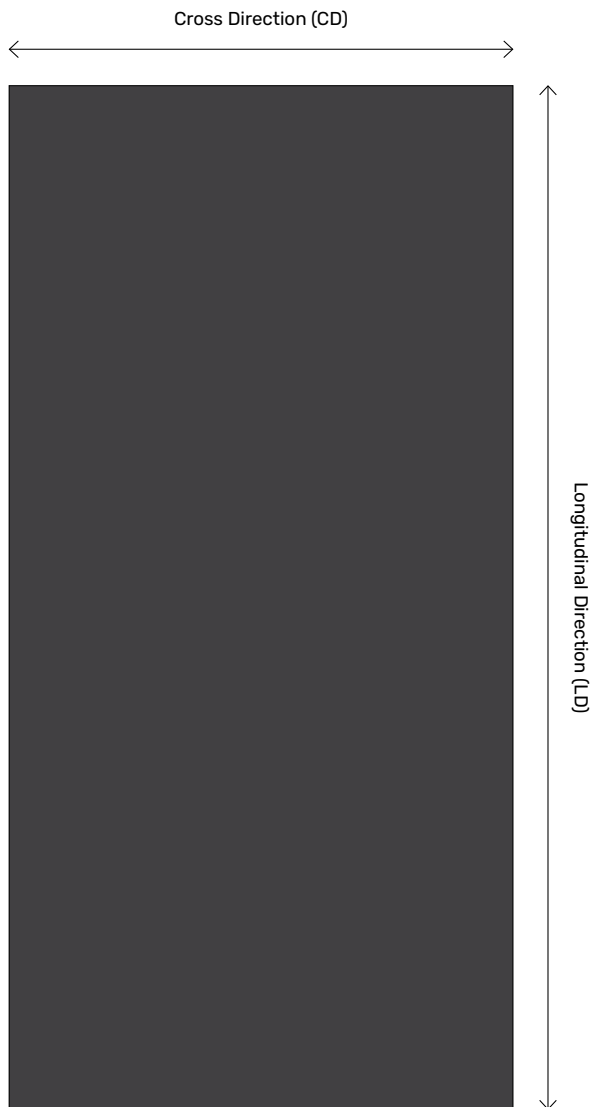
Fusion Composite Solid Surfaces are unsuitable for use in any external or alfresco application. Ceilings and floors are unsuitable applications for Fusion Composite Solid Surfaces. Non-compliant use of materials will not be considered under warranty.

4.1.1 Conditioning of Material

Use of Fusion Composite Solid Surfaces must include the pre-arrival of sheets or finished panels into the area where they are to be installed for long enough to allow them to reach a moisture content which is in balance with their surroundings. This should be at least 48 hours. This is a function of fabrication and installation however should be a timeframe consideration in the planning and design stages of a project. Failure to condition material may result in product expansion and contraction in response to environmental conditions which may result in, but is not limited to, bowing or warping of panels, joint failure and build-up of internal stresses that release in the form of cracks.

4.1.2 Directionality

Fusion Composite Solid Surfaces will react to changes in ambient conditions, particularly changes in temperature and humidity, affecting the moisture content of the product and may result in expansion and/or contraction of the product. The two directions within a sheet are described as Cross Directional (CD) across the width of the sheet, and Longitudinal (LD) along the length of the sheet. It is important that any project has all panels cut and assembled in a manner that maintains the consistent alignment of directional orientation. This may affect yields and optimisation of sheets and should be considered in the planning stages of a project. Mixing directional orientations of panels together may result in expansion forces working against one another resulting in but not limited to bowing or warping of panels, joint failure, and build-up of internal stresses that release in the form of cracks.



4.1.3 Expansion gaps and dimensional tolerance

Planning a project using Fusion Composite Solid Surfaces should include allowance for a flexible expansion gap of 3mm - 5mm around all perimeter edges that abutt any fixture, wall or adjacent contrasting material and are filled with a flexible polyurethane glue bead. This is a function of fabrication and installation but should be considered in specification documents and working drawings.

Vertical use - A minimum expansion gap of 10mm MUST be left between the top surface of the primary floor and the bottom edge of the Fusion panel when used for wall lining applications or for vertical faces on cabinetry such as waterfall ends and bar backs.

Ventilation behind panels when affixed to walls or fixtures in the vertical plane is also important. Designing a project with panels affixed to existing walls for example may require the use of batons or furring channels to maintain airflow behind the panels whether used for splashbacks or wall linings. Direct fixing to existing plaster walls is not permitted.

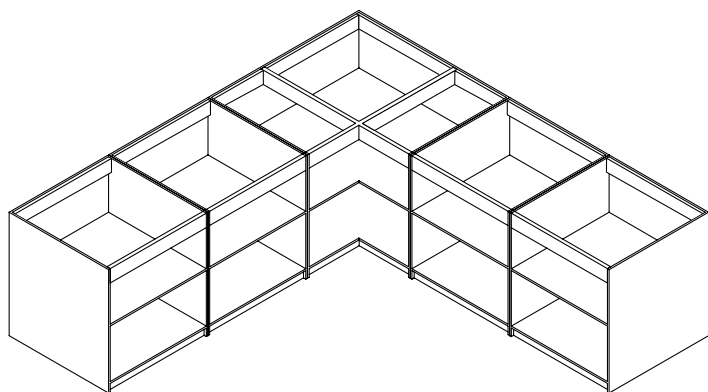
4.2 Benchtops

4.2.1 Benchtop support

Fusion Composite Solid Surfaces must be supported by a structure that is able to take the weight of the product (20kg per m² for 13mm and 9.2kg per m² for 6mm) plus any additional load the benchtop could be subject to. Typical loads applied to benchtops could exceed 100kg per m². Any appliance weighing more than 5Kg should not be supported directly by the product but be adequately supported by the cabinet frames or additional supports under the appliance.

- Ⓢ Cracks or dimensional flexing/bowing occurring in the product will not be recognised where inadequate support of an appliance is found.

Fusion Composite Solid Surfaces must use the perimeter support method which requires the use of rails around the front and back edge of the cabinet and every 600mm centres. For benchtops of greater than 750mm wide, an addition centre lineal rail is required. A board of suitable length should be used for these rails. These can be made from either 18mm MR MDF or 18mm MR PB.



4.2.2 Substructure

Fusion Composite Solid Surfaces should not be mounted to a full support substrate, as this can prevent the top and bottom surfaces of the product maintaining equilibrium during changes in environment conditions. Adequate gaps of min 25mm should be maintained between the top and/or side of any heat generating under-bench appliance and the underside of the Fusion Composite Solid Surfaces benchtop. Any appliance with a motor or fan is considered to have the potential for heat emissions. Do not apply a full substrate across the top of dishwasher openings as is common for other materials such as stone.

4.2.3 Cabinet requirements

Fusion Composite Solid Surfaces must be supported by a carcass base cabinet configuration of 600mm maximum spacing to form a box frame and multiple lattice structure.

The fabricated carcass must be constructed with a level surface upon which the benchtop can be mounted. The use of shims between the benchtop and carcass is not allowed.

The installed cabinetry must ensure all carcass modules are level, individually and as a complete integrated assembly. A maximum out-of-level tolerance is 1.5mm per 3000mm.

4.2.4 Span support

Designs requiring the provision for a span exceeding 600mm shall require vertical rails placed underneath the benchtop. These should be placed at 600mm centres and suitably anchored to the principle cabinetry at either end.

- Ⓢ Cracks or product deflection occurring where any span is greater than the tolerances specified and not adequately supported will not be recognised under warranty.

4.2.5 Overhang support

An unsupported overhang of up to 200mm past the principle cabinetry/perimeter support rails is permitted.

Designs requiring an overhang greater than 200mm past the principle cabinetry, such as a breakfast bar, require the fitting of additional vertical support (such as brackets, legs or similar) and/or steel bracing beneath the benchtop will be required. A steel brace projection shall require 4mm thick, 70mm wide steel flat bar or equivalent placed underneath the benchtop for the entire overhang with a 200mm unsupported perimeter permitted on all sides. These flat bar supports should be placed at 600mm centres and suitably anchored to the principle cabinetry. Please consult a qualified professional/engineer for weight-projection-support certifications as required.

- Ⓢ Cracks or product deflection occurring where any overhang is greater than the tolerances specified and not adequately supported will not be recognised under warranty.

4.2.6 Benchtop features

4.2.6.1 Edge profiles

One of the unique characteristics of Fusion Composite Solid Surfaces is the coloured core. Planning for exposed edges of the material therefore has both utility and aesthetic elements. Non-black, coloured core products may permit discolouration/staining onto the coloured edge and should not be used where such staining will be unsightly.

Black core products are suitable for use in high impact areas and where staining and discolouration from environment uses is expected.

Standard profiling using conventional machining techniques to produce edge profiles such as bullnose, top and/or bottom arched square edge as well as more elaborate edge profiles are possible. Build-up or build-down edges to create the appearance of a thickened edge can be created by gluing a corresponding Fusion Composite Solid Surface strip along the underside of the benchtop edge. It is important to note that the directional orientation of edge strips must match the primary benchtop onto which they are fixed. They should be cut from the same sheet and carefully managed throughout the fabrication process to avoid directional orientation conflict. This may result in failure of the bond, and cause the edge to flex, crack or bow.

4.2.6.2 Internal corners

Internal corners in Fusion Composite Solid Surfaces require a minimum of 10mm radius whether in a change of direction of the benchtop, or within a cut-out or aperture. Sharp corners cause a weakness that can result in formation cracks. All edges must be smooth and free of damage, cracks, and dents.

Note: Grooves and rebates must also be rounded and smooth, to avoid cracks.

4.2.6.3 "U", "L" and angled shapes

Fusion Composite Solid Surfaces is suitable for use in a single section "L", "U" or angle-shaped benchtop, when fabricated and installed in compliance with all instructions, recommendations and guidelines contained within this manual.

- Any internal corner must be cut with a minimum internal radius of 10mm.
- Sharp corners cause a weakness that can result in formation cracks.
- All edges must be smooth and free of damage, cracks, dents, or notches.

Ⓜ Cracks or any other failure attributable to non-compliant internal corners will not be recognised under warranty.

4.2.6.4 Curved and irregular shapes

Fusion Composite Solid Surface is suitable for use as a curved or irregular shaped benchtop when fabricated and installed in compliance with all instructions, recommendations and guidelines contained within this manual.

For horizontal applications, including benchtops, the support requires the use of rails around the front and back edge of the cabinet and every 600mm centres.

For vertical applications, panels should be treated as a cladding material and adequately supported using a ladder frame affixed to the primary cabinet or wall with perimeter support rails and every 600mm centres. A gap of at least 10mm should be maintained to prevent water ingress along the bottom edge of the material. All should take account of the dimensional attributes within the material and that the material on both the vertical and horizontal planes will require room to move.

4.2.6.5 Waterfall ends

To create a waterfall end on a benchtop using Fusion Composite Solid Surface several different joining methods are possible. All should take account of the dimensional attributes within the material and that the material on both the vertical and horizontal planes will require room to move.

A simple butt joint using mechanical fasteners is the simplest of the possible methods to connect the waterfall end to the principle benchtop.

A mitre joint with a splined fixing and adhesive is another method that can be used.

In each design it should be noted that the Fusion Composite Solid Surface vertical end cannot extend all the way to the primary floor. A gap of at least 10mm should be maintained to prevent water ingress along the bottom edge.

4.2.6.6 Monolithic structures

To create a monolithic structure (a cabinet or section that appears to be built from a solid block) using Fusion Composite Solid Surfaces when fabricated and installed in compliance with all instructions, recommendations and guidelines contained within this manual.

All should take account of the dimensional attributes within the material and that the material on both the vertical and horizontal planes will require room to move. The material must be supported on the horizontal plane using the perimeter support method which requires the use of rails around the front and back edge of the cabinet and every 600mm centres. Vertical plane support including any angular sections is as for other cabinetry described in this manual. Note that a gap of at least 10mm between the primary floor and bottom edge of the material must be maintained. Any motor or gas driven appliance with the potential to generate heat cannot be contained with the monolithic structure without adequate ventilation.

4.2.6.7 Cantilevered

The creation of a cantilevered structure (a long projecting horizontal cabinet or section that is supported at only one end to the primary cabinet) will require an engineer or appropriately qualified professional to provide instructions on suitable cabinet build and supports taking into account shear forces and proportional stresses on the materials used. All should take account of the dimensional attributes within the material and that the material on both the vertical and horizontal planes will require room to move. It should be noted that all considerations for support, expansion and maintaining a gap of at least 10mm between the primary floor and the bottom edge of the material is as for other cabinetry described in this manual.

- Ⓜ Cracks or product deflection occurring where any overhang is greater than the tolerances specified and not adequately supported will not be recognised under warranty.

4.2.6.8 Mixed Materials

For all applications where Fusion Composite Solid surface benchtops will be integrated with other materials the performance attributes of all materials must be considered. Of special note are expansion tolerances of the Fusion surface vs other materials employed. Suitable expansion gaps must be used between the contrasting surfaces and around the perimeter between any adjacent wall or fixture and the benchtop surface. Suitable support structures including full perimeter rails and cross sections at 600mm centre must always be employed for the Fusion Composite Solid Surface component of the project even where solid substrate support may be used for other adjacent materials.

Careful consideration of specialised cleaning or maintenance requirements, contrasting attributes of heat tolerance between materials and differences in moisture/water resistance should be planned.

4.2.6.9 Aprons and built-up edges

To introduce the appearance of a thickened edge on a Fusion Composite Solid Surface benchtop, a build-down/build-up may be used. This is created by adhering a strip of the same material bonded along the exposed edge of the benchtop. It is important that the edge strips are used in the same directional orientation as the primary benchtop and should be cut for use from the same sheet.

4.2.6.10 Window reveals

Fusion Composite Solid Surfaces can be used in one piece where a benchtop continues into a window reveal. Any cut outs around window posts or changes in direction of the wall should include a radius corner of min 10mm. It is important that an expansion gap of 3-5mm is left around all benchtop perimeters that abutt a fixture such as a window post or splashback and are filled with a flexible polyurethane glue bead.

4.3 Splashback and upstands

Fusion Composite Solid Surfaces can be used for splashbacks adjacent to any part of the kitchen or bathroom benchtops where water cannot gather or pool against the material. The design and installation of splashbacks must conform to the minimum Australian standards for installations behind gas cooktops and clearances in relation to combustible materials and appliances. Please refer to AS/NZS 5601 Gas installations and AS/NZS 4386 Cabinetry in the built-in environment - Commercial and Domestic. The following general guidelines should always be considered during the design phase for splashback applications: the correct distance from a heat generating source which will be measured from the back edge of the appliance rather than the burner. This set-back may be up to 200mm and therefore is unsuitable for all benchtops less than 650mm wide depending on the width of the appliance. A flexible polyurethane glue bead of 3mm - 5mm must be employed at the interface of splashback material and the primary benchtop, and the top edge of the splashback where it abutts cabinets or fixtures. GPO and other cut-outs into the splashback must comply with all instructions, recommendations and guidelines contained within this manual.

4.4 Cooktops and heat generating appliances

Fusion Composite Solid Surfaces is suitable for use in benchtops and counters where domestic or commercial cooktops, internal BBQ's, Bain Marie's or similar insulated heat generating appliances may be installed. It is important that hot cooking implements not be placed directly onto the surface. Where plug in heat generating appliances are used on the benchtop a protective mat or trivet should be used to protect the Fusion Composite Solid Surface. In commercial kitchen or food prep projects, a provision of landing panels or mats of a suitable heat resistant material installed nearby to the cooking zone is an important consideration.

4.5 Sinks, tubs, vessels and basins

Fusion Composite Solid Surfaces is suitable for drop in kitchen, laundry and bathroom sinks and basins and semi recessed and vessel type vanity bowls. ONLY Black Fusion Composite Solid Surfaces is suitable for use with undermount sinks.

Fusion Composite Solid Surfaces is not suitable for use with flush mounted sinks.

Tap holes should be placed a minimum of 50mm away from the nearest sink/basin opening and if multiple tap holes are used maintain a minimum of 50mm between the nearest edge of each one.

4.6 Furniture

Fusion Composite Solid Surfaces is suitable for use on furniture destined for internal use only when fabricated and installed in compliance with all instructions, recommendations and guidelines contained within this manual. Specialised or non-standard use of Fusion Composite Solid Surfaces may be subject to warranty restrictions. Please contact your local Laminex representative for technical guidance on your project.

4.7 Desks and worktops

Fusion Composite Solid Surfaces is suitable for use on desks and worktops when fabricated and installed in compliance with all instructions, recommendations and guidelines contained within this manual. Important consideration must be given for the span that is likely to exceed 600mm in the desk design. The desk work surface must use the perimeter support method which requires the use of rails around the front and back edge of the desktop and every 600mm centres.

Where conventional cabinetry rails will be unsightly, designs requiring the provision for a span exceeding 600mm, shall require min 4mm thick, 70mm wide steel flat bar or equivalent placed underneath the benchtop. These should be placed at 600mm centres and suitably anchored to the principle cabinetry at either end.

4.8 Fire surrounds

Fusion Composite Solid Surfaces is NOT suitable for use with an open or enclosed fireplace or fire box surrounds. This includes but is not limited to hearths, mantels, corbels, plinths, linings or casings, hoods or other elements adjacent to a solid or liquid fuel fire (including ethanol burners)

5 – Fabrication

5.1 Directional orientation

Fusion Composite Solid Surfaces will react to changes in ambient conditions, particularly changes in temperature and humidity, affecting the moisture content of the product and may result in expansion and/or contraction of the product.

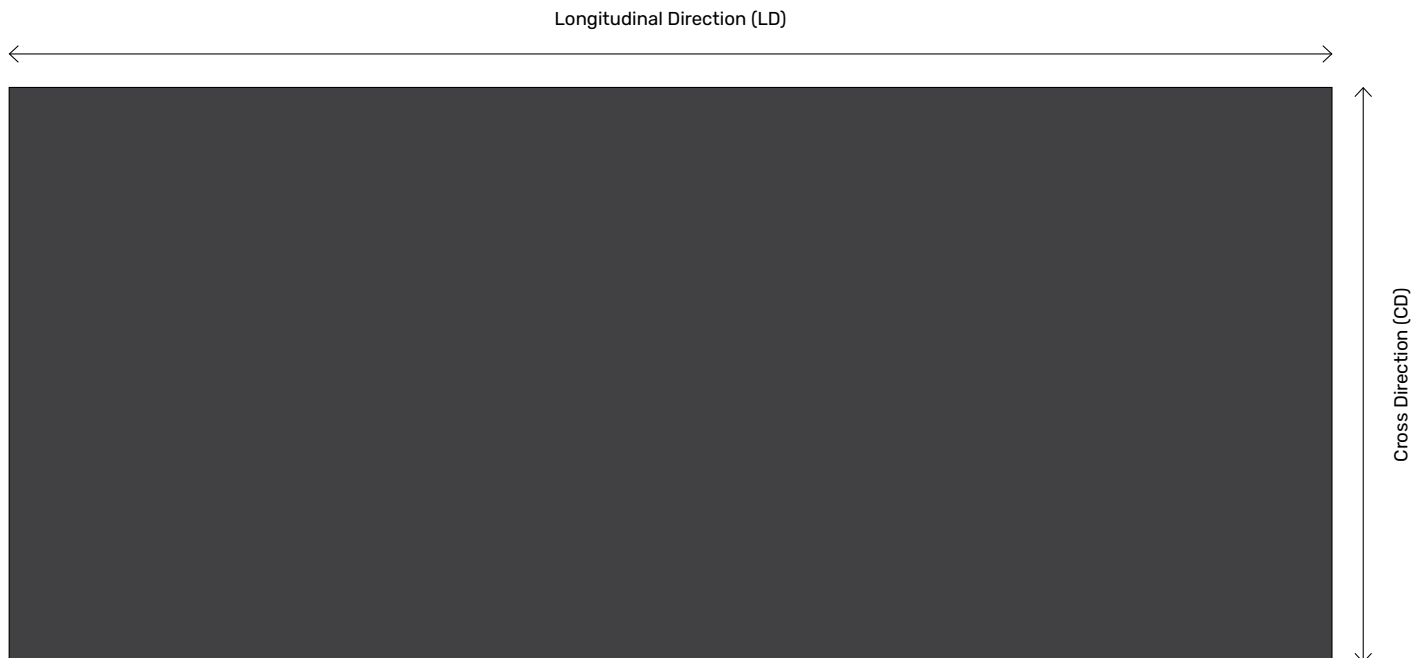
Optimising programs will not always take directionality into consideration, it is important that the directional orientation is programmed before cutting lists are generated.

It is essential that the directional orientation of all Fusion panels is clearly identifiable at every fabrication stage.

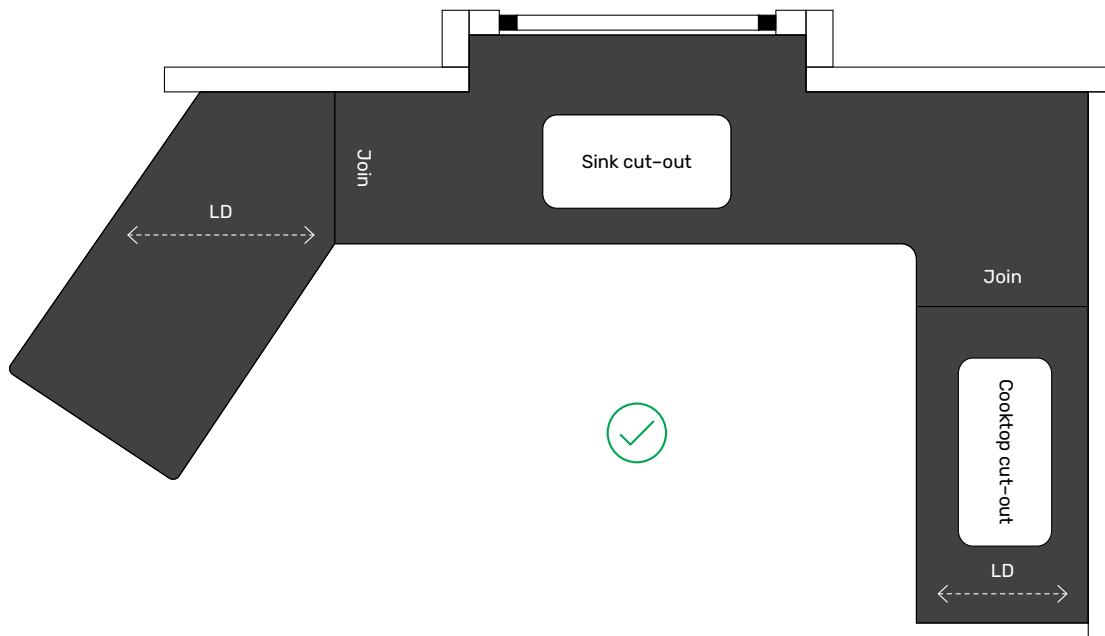
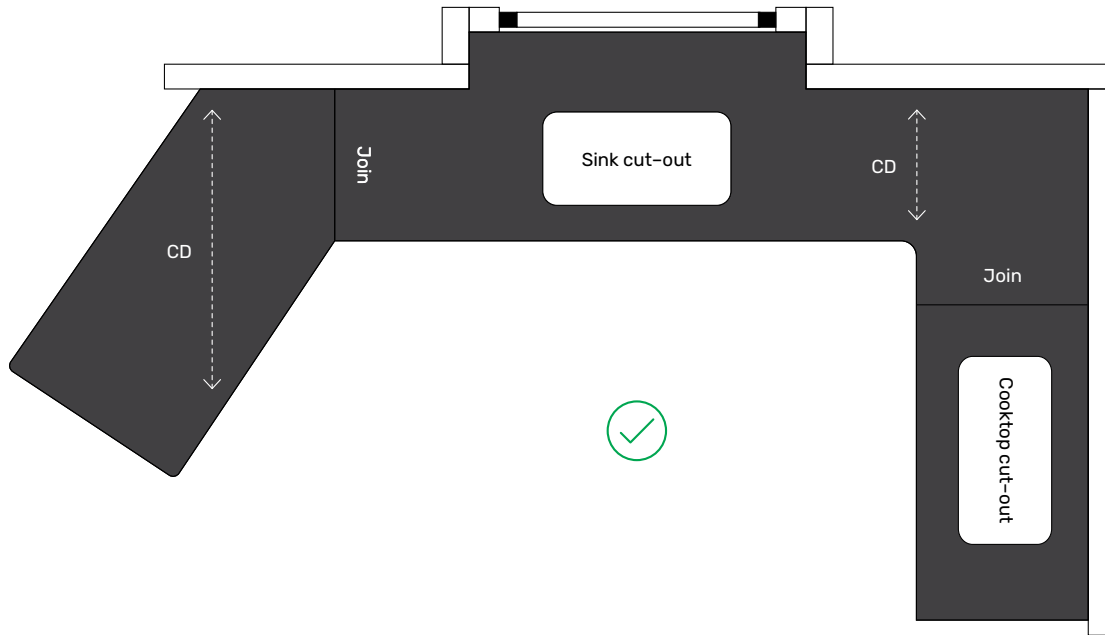
Each cut panel, whether finished components ready for assembly or process off-cuts for storage and later use, must be clearly labelled to identify the panel directionality.

Component cutting plans must ensure that assembled panels are compliant to the following directional movement orientations.

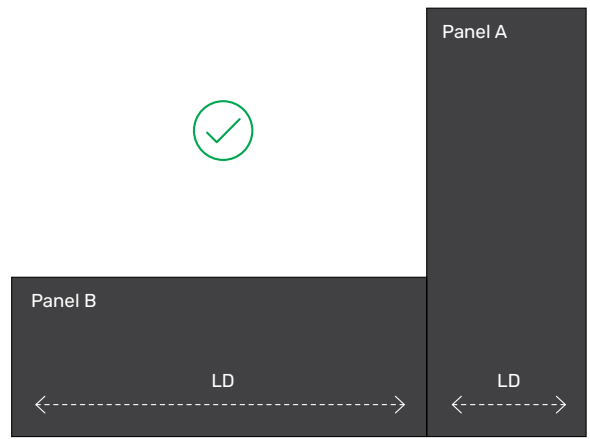
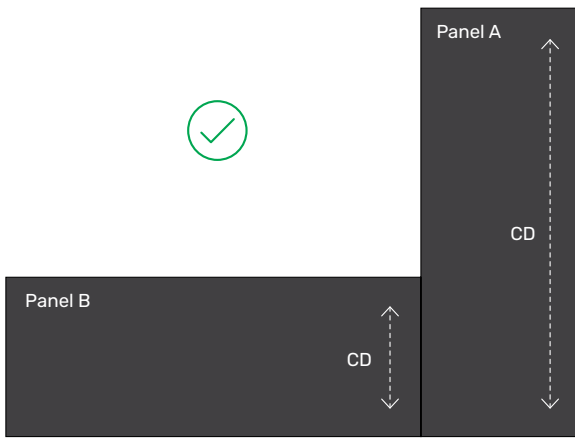
All components within a Fusion Composite Solid Surfaces installation must be assembled in a manner that maintains the consistent alignment of directional orientation. Compliance to directional orientation guidelines is mandatory.



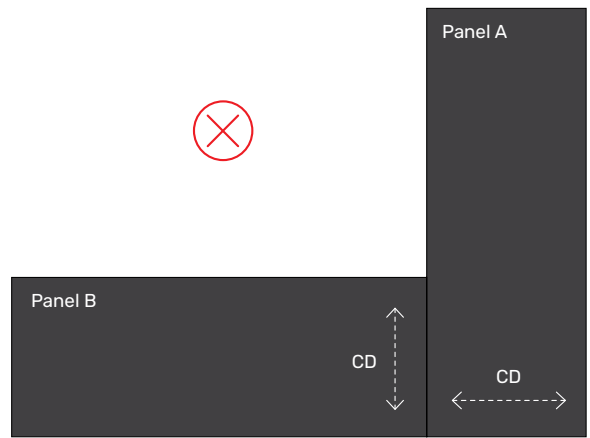
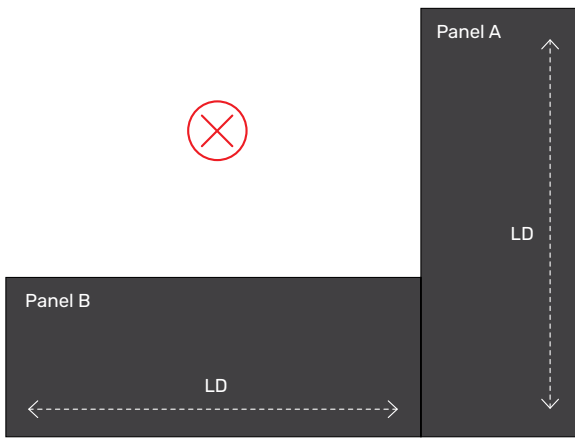
Directional orientation of Fusion panels must be consistent



Correct directional orientation



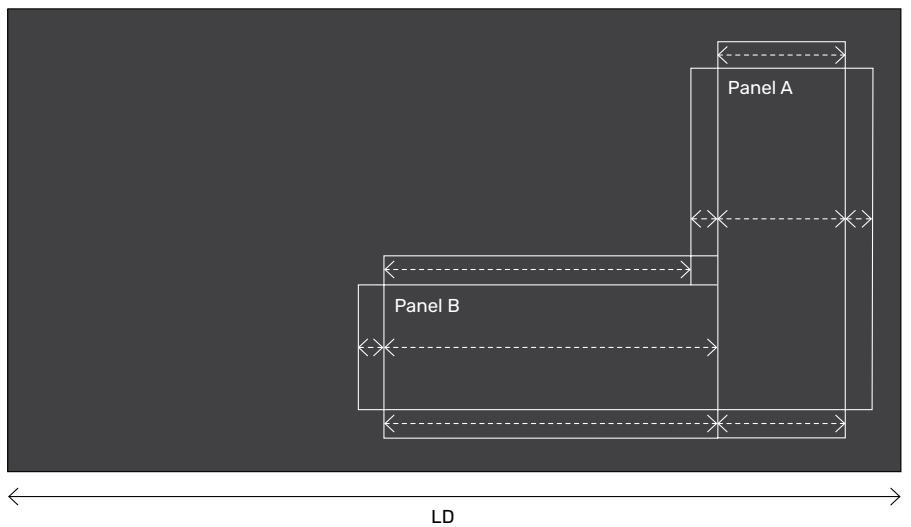
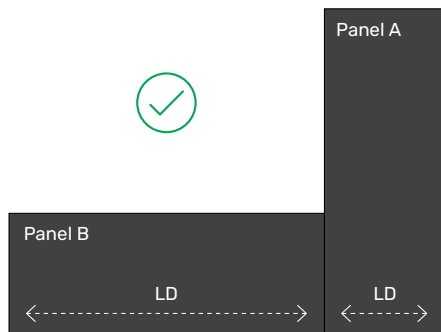
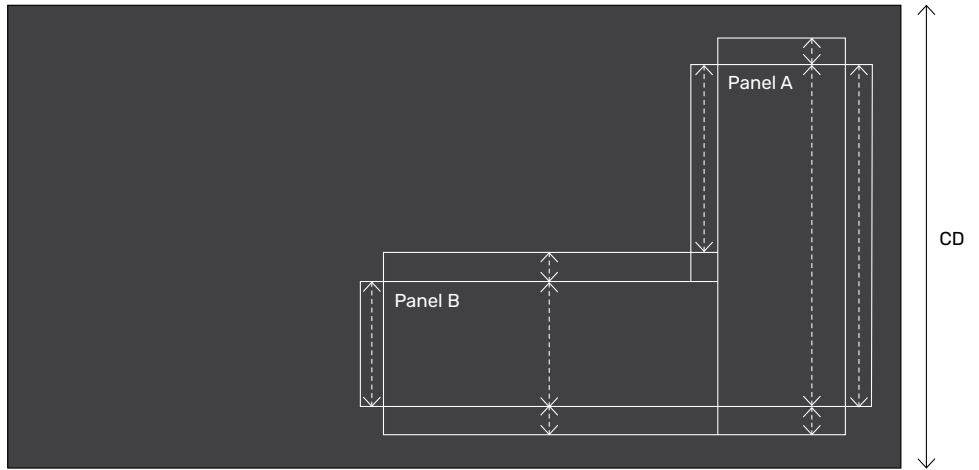
Incorrect directional orientation



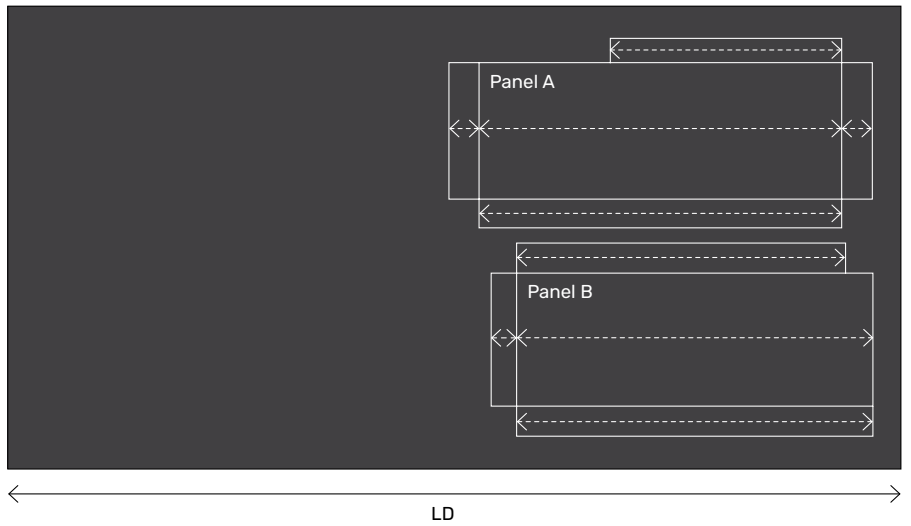
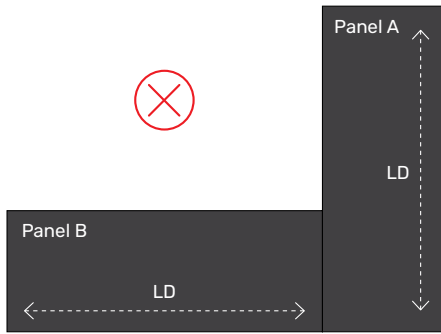
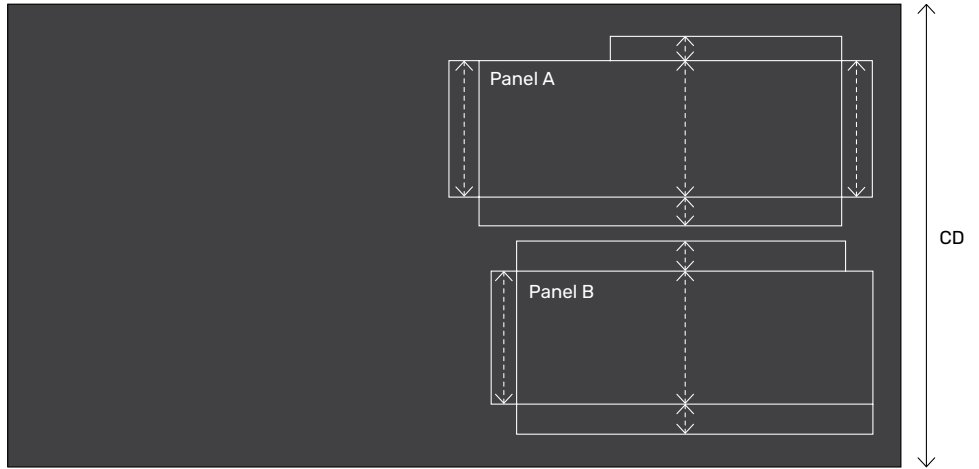
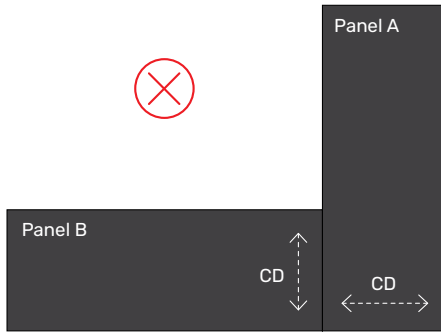
For installation designs that incorporate a dropdown edge, the directional orientation must comply to the following directional movement orientations.

- Ⓜ Bowing or any other failure attributable to product movement due to non-compliant directional orientation will not be recognised under warranty.

Correct directional orientation



Incorrect directional orientation



5.2 Tools and equipment

It remains the exclusive responsibility of the fabricator to select, maintain, setup processing parameters and knowledgeably utilise equipment.

Fusion Composite Solid Surfaces is a high density material. Hence, the cutting forces required to process Fusion panels can lead to high tool wear. As a result, diamond tipped tools are recommended for processing Fusion Composite Solid Surfaces.

The use of tungsten carbide high speed tools, while commonly used to process material such as Fusion Composite Solid Surfaces, will require disciplined tool inspection, quality suitability assessment and sharpening protocols, as incorrect tool selection, maintenance and equipment setup can result in the generation of frictional heat, leading to smouldering, odour and/or edge discolouration. The use of tungsten carbide high speed tools should be restricted to sizing cuts only.

To achieve a quality cut edge finish, the use of diamond tipped tooling is recommended for all finishing cuts.

- Ⓜ Any product or processing failure attributable to incorrect tool selection or poor tool maintenance, will not be recognised under warranty.

It is advisable to maintain contact with your expert tool supplier for appropriate tool selection, maintenance of your tooling and awareness of new tool technology for this application. A professional tooling supplier, such as Leitz, can assist you to confirm the best tooling for the application and setup of your installed equipment.

Tooling reference information within this document has been provided to Laminex by Leitz.



Workplace

Keep work area clean, uncluttered and well lit. Avoid panel contact with abrasive surfaces, grit or other processing debris. Contamination trapped between sheets will cause surface indentations, marring or scratching.

When cutting panels ensure that the full panel is well supported before any cutting or processing.

5.2.1 Sawing

Before ANY panel or component cutting commences, the directional orientation MUST be marked on each panel and remain traceable to each cut component.

Ⓢ DO NOT cut more than one Fusion panel at a time.

Fusion Composite Solid Surfaces must be cut using a panel or circular bench saw to achieve optimum edge finish quality. When both decorative surfaces of the Fusion panel are intended for display, a scribing saw must be used to avoid splintering on the bottom cut edge. Fusion panels should be cut only on saws that have a scribing blade on the underside.

It is recommended that a test piece be cut to verify the suitability of the specific cutting equipment to be used and the correct orientation of the decorative face to avoid damage of the bottom edge. New or sharpened blades should always be used as blunt or dull blades will decrease the accuracy and finish of cuts.

Diamond tipped tools are recommended for processing Fusion Composite Solid Surfaces due to the high density of the product.

The use of tungsten carbide high speed tools, will require disciplined tool inspection, quality suitability assessment and sharpening protocols, as incorrect tool selection, maintenance and equipment setup can result in the generation of frictional heat, leading to smouldering, odour and/or edge discolouration. The use of tungsten carbide high speed tools should be restricted to sizing cuts only.

Ⓢ Unacceptable cut quality as a result of incorrect tool selection, maintenance or equipment setup, will not be recognised under warranty.

Saw blade selection should focus on the following criteria:

- number of cutting teeth,
- shape of cutting teeth,
- rake angle height setting
- blade rotation speed
- work piece feed rate

The following saw blade features and processing setup recommendations are made under guidance from Leitz:

- Diameter (mm) – 300
- No. of Teeth – 72
- Blade Thickness (mm) – 3.2
- Rotation Speed (rev/min) – 6000
- Feed Speed (m/min) – 15



The height setting of the saw blade should be approximately 10-15mm above the decorative surface when the saw shaft is below the work piece (positive rake angle) and 3-5mm when the saw shaft is above the work piece (negative rake angle).

Ⓢ The use of handheld sawing tools, including but not limited to jig saw and hand saw, will not be recognised under warranty.

5.2.2 Routing

Routing operations can be conducted with either a CNC machine or manual operated routing cutter.

Diamond tipped tools are recommended for processing Fusion Composite Solid Surfaces due to the high density of the product.

The use of tungsten carbide high speed tools, will require disciplined tool inspection, quality suitability assessment and sharpening protocols, as incorrect tool selection, maintenance and equipment setup can result in the generation of frictional heat, leading to smouldering, odour and/or edge discolouration. The use of tungsten carbide high speed tools should be restricted to sizing cuts only.

Ⓜ Unacceptable cut quality as a result of incorrect tool selection, maintenance or equipment setup, will not be recognised under warranty.

For CNC operation, consult the machine manufacturer to verify that the spindle tool head is capable of servicing the forces typically experienced when processing a high density product, such as Fusion Composite Solid Surfaces.

The following router features and processing setup recommendations are made under guidance from Leitz:

- Bit Diameter (mm) – 16
- Rotation Speed (rev/min – 16000-18000
- Cutting Speed# (m/sec) – 10-14
- Feed Speed (m/min) – 4-7

at the outside diameter of the cutter

The use of a Diamaster Plus Router cutter DP, Z2 (DP = Polycrystalline diamond) is recommended.



Diamaster plus Router cutter DP, Z2 (For sizing, grooving, finishing edges)

5.2.3 Drilling

Fusion Composite Solid Surfaces can be drilled using a high speed steel (HSS) drill bit (typically designed for plastic materials) with a point angle of 60°-80°, instead of the normal 120° used when drilling metal. However, tungsten carbide drill bits are recommended as they offer more durability over HSS types.

- Ⓜ Unacceptable cut quality as a result of incorrect tool selection, maintenance or equipment setup, will not be recognised under warranty.

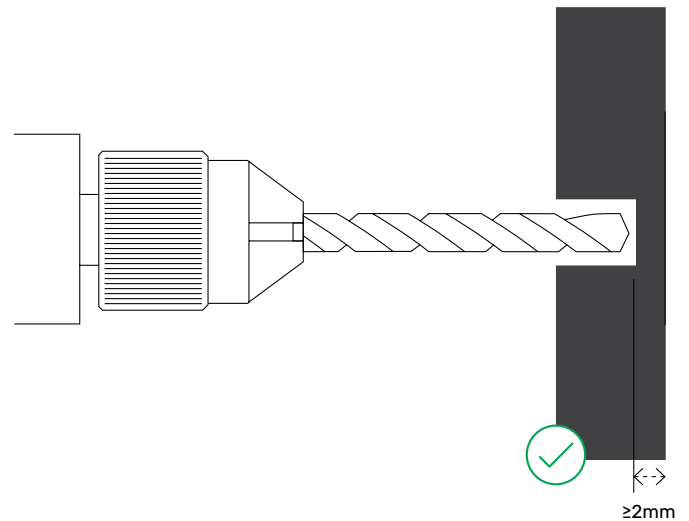
Swarf and dirt must be cleared from all penetrations. Failure to do so may result in non-compliant expansion allowances.

Blind mechanical fixing

Fusion panels of less than 10mm thickness are not suitable for blind fixing. Hence, through fixing or glue bonding are options for 6mm thick Fusion panels.

For Fusion panels of $\geq 10\text{mm}$, blind boring into the decorative face, a minimum of 2mm thickness must remain between the bottom of the hole and the reverse decorative face.

To produce clean flat bottom holes, with less risk of point penetration on the reverse decorative face, use drill bits specifically designed for dowel or blind hole drilling. This will allow maximum depth of material for fixing.



Edge fixing

Drilling parallel to the decorative face must retain a minimum 3mm of material on both sides of the hole. Edge fixing is not recommended nor protected under warranty.

The following drill bit features and processing setup recommendations are made under guidance from Leitz:

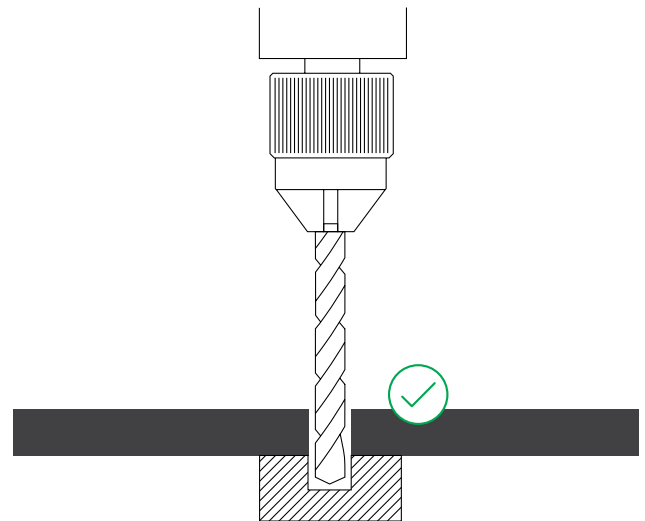
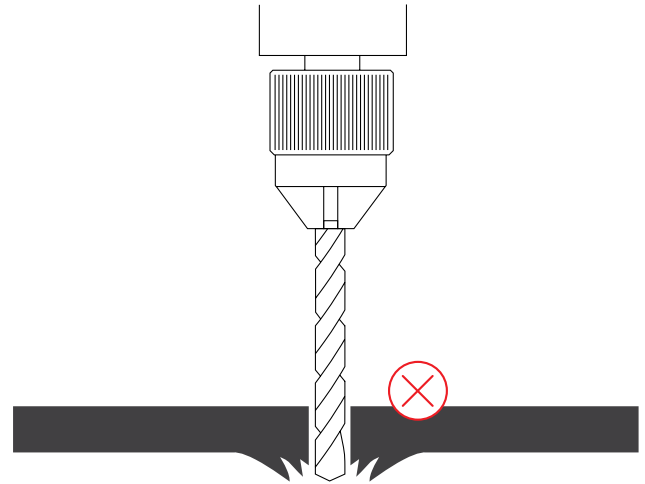
DRILL DIAMETRE	5MM	8MM	10MM
Rotation Speed (rev/min)	3000-4500	2000-3000	1500-3000
Feed Speed (mm/min)	60-120	40-80	30- 0

Through fixing

To avoid breakout on the reverse decorative face:

- clamp a temporary sacrificial support piece, such as plywood or chipboard, under the work piece being drilled
- when approaching the breakthrough point, gradually reduce the feed speed of the drill head and the pressure applied

Ⓜ Drilling techniques resulting in breakout or unacceptable penetrations, will not be recognised under warranty.



5.3 Cut-outs

All corners of a cut-out must have a minimum internal radius of 10mm.

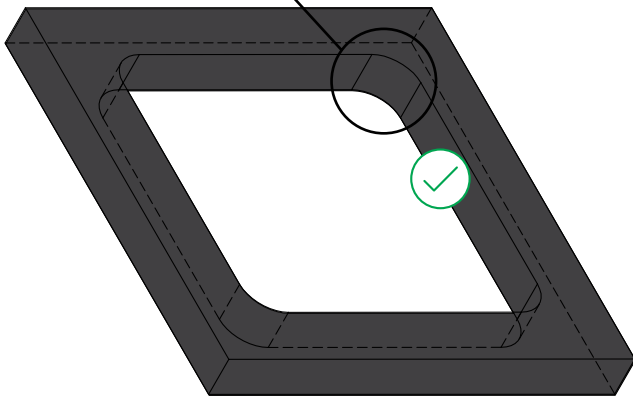
Cut-outs can be made with a router or by pre-drilling a hole of an appropriate diameter to meet internal radius requirements and then cut between drill holes. All edges must be smooth and free of damage, cracks, dents or notches.

- Ⓢ Evidence of cross cutting, square non-radiused corners or jags left behind that contribute to cracks occurring from within the cut-out, will not be recognised under warranty.
- Ⓢ Cracks or any other failure attributable to non-compliant cut-outs will not be recognised under warranty.

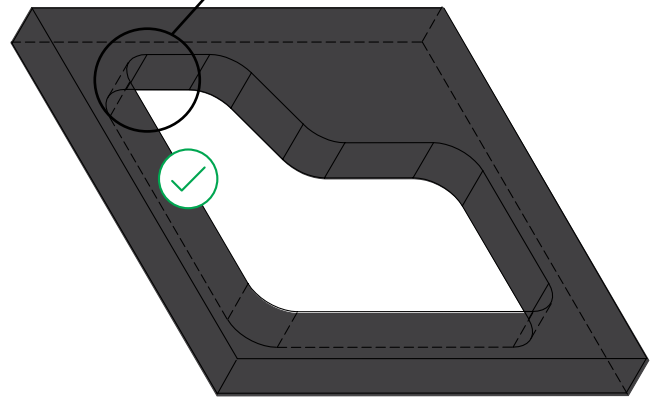
Cut-out dimensions must ensure there is at least 3mm clearance around the entire perimeter of any appliance or insert.

Where cut-outs provide access to appliances, pipework or other heat cycling exposure a minimum 5mm expansion gap must be allowed.

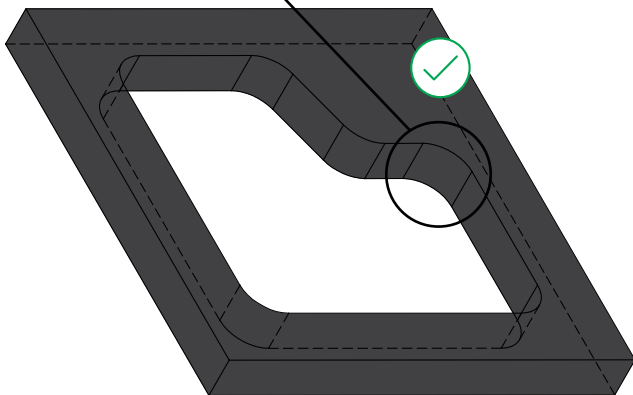
Minimum corner radius = 10mm



Minimum corner radius = 10mm



Minimum corner radius = 10mm



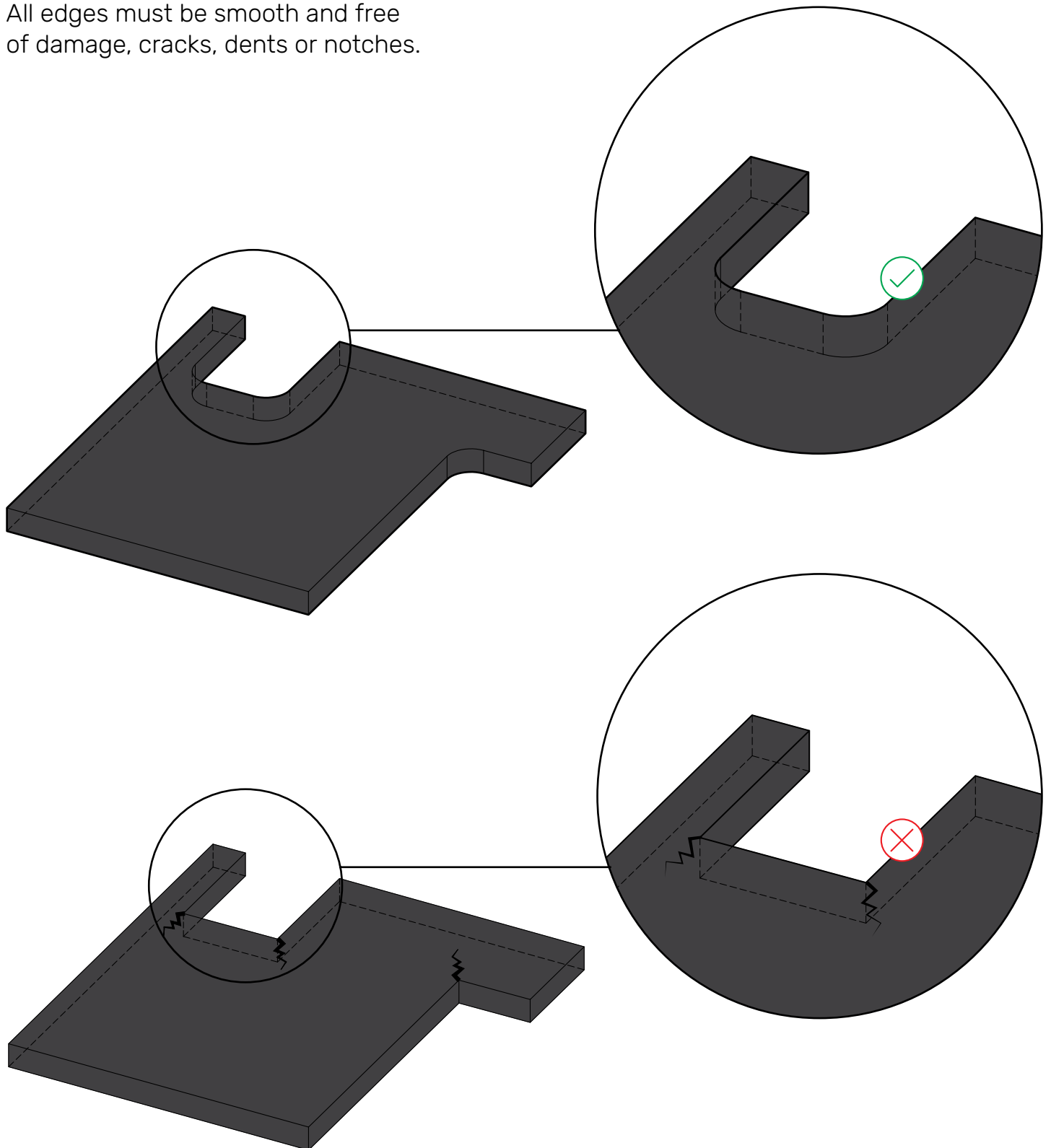
Any appliance or insert installed into the Fusion Composite Solid Surfaces material weighing greater than 5kg will require additional support rails around the underside of the opening.

5.4 Internal corners

Any internal corner must be cut with a minimum internal radius of 10mm.

All edges must be smooth and free of damage, cracks, dents or notches.

- Ⓜ Cracks or any other failure attributable to non-compliant internal corners will not be recognised under warranty.



5.5 Joining

Fusion Composite Solid Surfaces will react to changes in ambient conditions, particularly changes in temperature and humidity, affecting the moisture content of the product and may result in expansion and/or contraction of the product.

Fusion Composite Solid Surfaces must be conditioned prior to fabrication and at the job site prior to installation.

It is imperative that the directional orientation of Fusion panel components remains constant in the same machine direction. Do not join conflicting longitudinal and cross directional Fusion panel orientations.

- Ⓢ Any failure attributable to assemblies containing components joined in opposing directional orientations, will not be recognised under warranty.
- Ⓢ Failure of joins or bowing of panels directly attributable to non-compliant joining methods, will not be recognised under warranty.

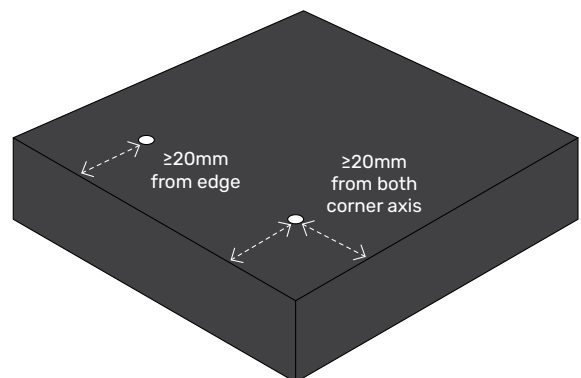
Fusion Composite Solid Surfaces must not have a join positioned less than 150mm clearance from any cut-out.

When designing with Fusion Composite Solid Surfaces, it is important to allow for dimensional movement by providing slip layers points in the design, clearance around fasteners and away from solid fixtures to provide for unobstructed movement.

5.5.1 Screw fixing

Fixing systems must be carefully positioned to prevent splintering or breakout.

Face fixing positions must be no closer than 20mm to any Fusion panel edge but should not exceed 10 x the thickness of the panel.



- Ⓢ Edge fixing is not recommended nor protected under warranty.

Countersunk screws should not be used, as they restrict panel movement.

If countersunk head screws must be used, this is only possible with screw rosettes.

5.5.1.1 Blind mechanical fixing

Blind fixing is not suitable for Fusion panels thinner than 10mm. Hence, through fixing or glue bonding are options for 6mm thick Fusion panels.

As a guide, pre-drilled pilot holes should be 0.5mm smaller than the screw gauge. Screw into the Fusion, not through fixing securing brackets and angles. Follow the screw manufacturer's instructions to prevent Fusion panels splitting.

Caution must be taken not to overtighten the joining assembly, as this may result in the screw snapping.

Screw penetration must be a minimum of 8mm in depth. Leave a clearance at the bottom of the hole to avoid the screw pushing against the reverse decorative face.

A minimum of 2mm thickness must remain between the bottom of the hole and the reverse decorative face of the Fusion panel.

5.5.1.2 Through fixing

When through fixing, the screw or fixing device must penetrate at least 25mm into the securing structure behind the Fusion panel.

Pre-drilled pilot holes must have a clearance of 2mm to 3mm larger than the screw or fixing device to allow for panel movement.

5.5.1.3 Fixed and floating points

The use of fixed and floating fixing points can be employed for both horizontal and vertical applications.

A combination of fixed and floating fixing points should be employed to evenly distribute unimpeded dimensional movement.

A fixed fixing point should be located centrally with no clearance around the fixing device.

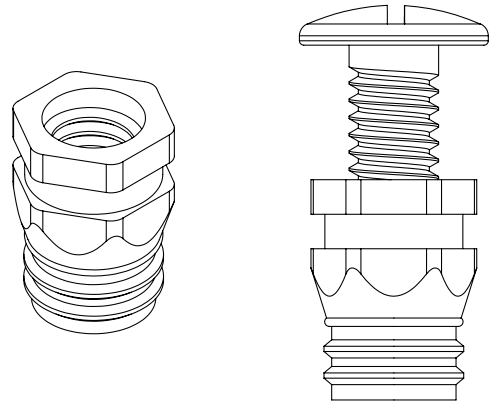
A floating fixing point should have a hole 2mm to 3mm larger than the fixing device, as a minimum.

Note the head of the screw should cover the hole bore.

Side panels attached to cabinetry use a minimum of four (4) floating points and one (1) centrally located fixed point.

5.5.2 Screw fasteners

When blind fixing Fusion panels, threaded brass conical inserts (M4 or M6) must be used in conjunction with a thread cutting screw (M4 or M6), within pre-drilled pilot holes.



Brass conical insert

Brass conical inserts are sometimes described as spreading sleeves or spreader dowels and can be sourced with nylon inserts to assist spreading when the screw is tightened. The inserts are tapped into the pre-drilled pilot hole until the hexagonal top is flush with the face of the Fusion panel. Stainless steel thread cutting machine screws (M4 or M6), such as button head, allen drive or square drive pan head machine screws can be used in conjunction with the required threaded brass conical inserts (M4 or M6). Care should be taken when selecting screw types to ensure the head size is suitable for the hole size requirements.

5.5.3 Bonding and gluing

Joins that are likely to be subjected to vibration, impact, weight point loads or similar, should be reinforced with mechanical fixing to reduce the effects of joint stress.

Prepare join surfaces by slightly roughening the complete area using a scotch bright pad or fine sandpaper. Remove any dirt or dust from the join surfaces.

Wipe down the join surfaces with a solvent such as Isopropyl alcohol to remove any grease residue.

Ensure all solvent residues have evaporated before applying any adhesive.

The following adhesive systems are recommended for use with Fusion Composite Solid Surfaces.

ADHESIVE SYSTEMS

APPLICATION	SIKAFLEX 252 (High Strength STP Polyurethane)	UNIKA TOPSEAL	UNIKA COLOURJOINT
Fabrication Joins	x	x	✓
Expansion Joins	✓	✓	x
Benchtop to Support Frame	✓	✓	x
Edge Build-ups	x	x	✓
Wall Panelling	✓	✓	x

Unika Systems
represented in Australia by:
Amorini Pty Ltd
28 Star Avenue
north Plymoth, SA
amorini.com.au

Sika
Products available from
hardware outlets.
Sika Pty Ltd
33-41 Fiveways Blvd,
Keysborough VIC
aus.sika.com

The recommended adhesives must be laid down in a straight line of consistently equivalent bead size.

DO NOT use a squiggle or criss-cross pattern. Because polyurethane glue systems require moisture to cure, the glue bead should be no wider than 50mm, as cured adhesive will prevent moisture to penetrate and continue curing a wider glue bead.

DO NOT move the join while the adhesive is curing as this will weaken the bond strength.

Follow adhesive supplier guidelines which instruct correct surface preparation and glue application to achieve the best bonding results.

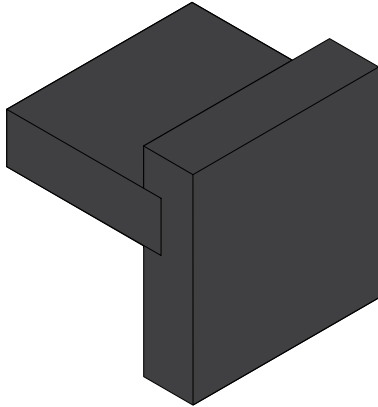
Ⓢ Failures of bonding or adhesives are not protected under warranty.

5.5.4 Connection profiles

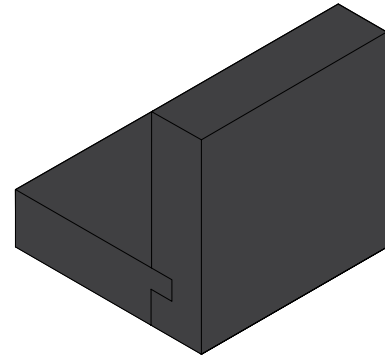
Fusion Composite Solid Surfaces can be connected using a combination of fixing and gluing methods in conjunction with metal splines, biscuits (made of compact laminate) or interlocking grooves.

Fusion Composite Solid Surfaces connections must ensure compliance to all directional orientation requirements, as set out in this document.

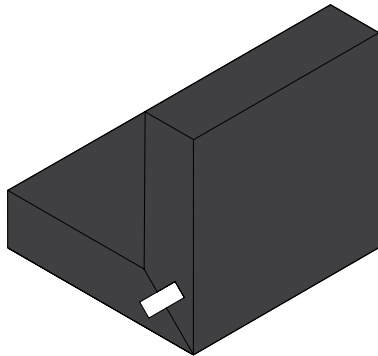
Fusion panels are NOT self-supporting and MUST be used with suitable support structures for the intended application.



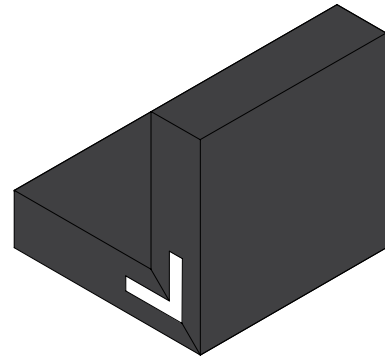
Grooved



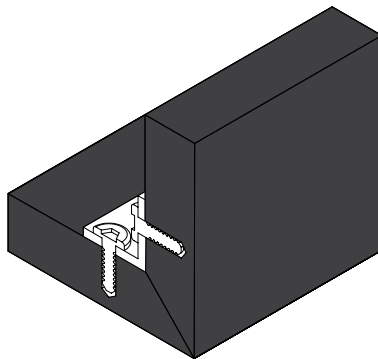
Grooved / Rebated



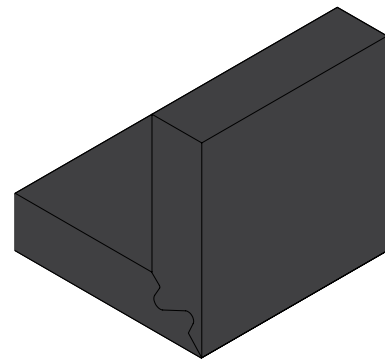
Tongue and Groove



Angle Spring



Metal Profile, Screw Fixed



Profiled Connections

5.6 Applications

5.6.1 Benchtops

ONLY 13mm Fusion Composite Solid Surfaces is suitable for use as a benchtop.

5.6.1.1 Benchtop support

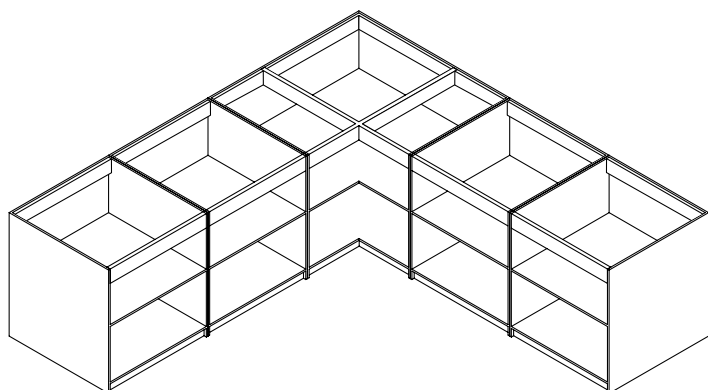
Fusion Composite Solid Surfaces must be well supported to maintain a flat surface, so as not to sag or deflect under its own weight.

Fusion Composite Solid Surfaces must be supported by a structure that is able to take the weight of the product (20kg per m² for 13mm and 9.2kg per m² for 6mm) plus any additional load the benchtop could be subject to. Typical loads applied to benchtops could exceed 100kg per m². Any appliance weighing more than 5Kg should not be supported directly by the product but be adequately supported by the cabinet frames or additional supports under the appliance.

Ⓜ Cracks or dimensional flexing/bowing occurring in the product will not be recognised where inadequate support of an appliance is found.

Fusion Composite Solid Surfaces must use the perimeter support method which requires the use of rails around the front and back edge of the cabinet and every 600mm centres. For benchtops of greater than 750mm wide, an addition centre lineal rail is required. A board of suitable length should be used for these rails. These can be made from either 18mm MR MDF or 18mm MR PB.

Fusion Composite Solid Surfaces should not be mounted to a full support substrate, as this can prevent the top and bottom surfaces of the product maintaining equilibrium during changes in environment conditions.



5.6.1.2 Cabinet requirements

Fusion Composite Solid Surfaces must be supported by a carcass base cabinet configuration of 600mm maximum spacing to form a box frame and multiple lattice structure.

The fabricated carcass must be constructed with a level surface upon which the benchtop can be mounted. The use of shims between the benchtop and carcass is not allowed.

The installed cabinetry must ensure all carcass modules are level, individually and as a complete integrated assembly. A maximum out-of-level tolerance is 1.5mm per 3000mm.

5.6.1.3 Span support

Designs requiring the provision for a span exceeding 600mm shall require vertical rails placed underneath the benchtop. These should be placed at 600mm centres and suitably anchored to the principle cabinetry at either end.

Ⓜ Cracks or product deflection occurring where any span is greater than the tolerances specified and not adequately supported will not be recognised under warranty.

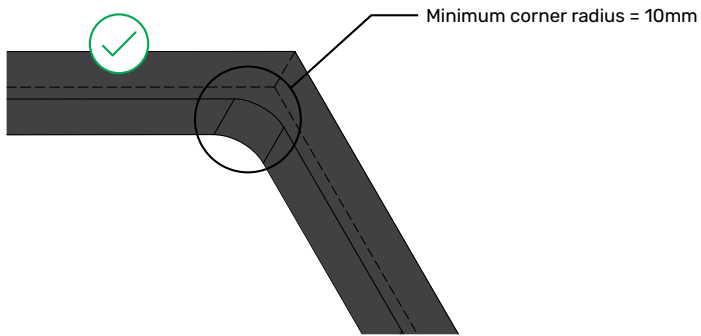
5.6.1.4 Overhang support

Designs requiring the provision for an overhanging top greater than 200mm, such as a breakfast bar, the fitting of vertical support (such as brackets, legs or similar) and/or steel bracing beneath the benchtop will be required. Designs requiring the provision for an overhang exceeding 200mm shall require 4mm thick, 70mm wide steel flat bar or equivalent placed underneath the benchtop. These flat bar supports should be placed at 600mm centres and suitably anchored to the principle cabinetry. Please consult a qualified professional/engineer for weight-projection-support certifications as required.

Ⓜ Cracks or product deflection occurring where any overhang is greater than the tolerances specified and not adequately supported will not be recognised under warranty.

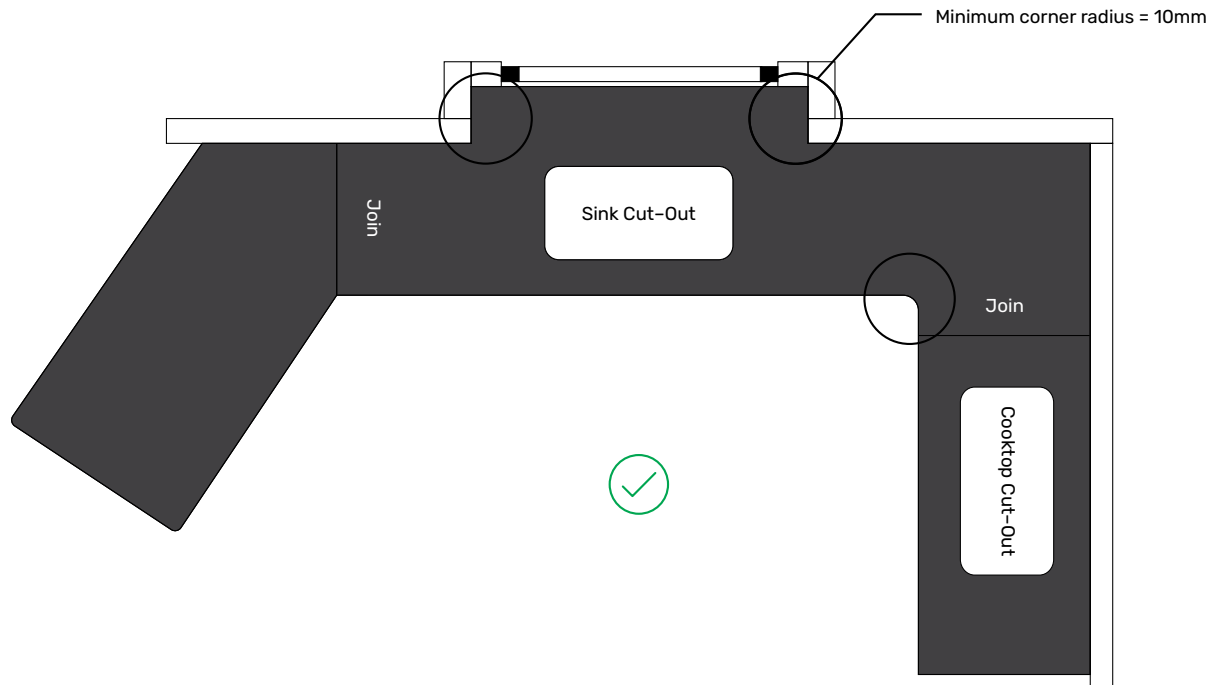
5.6.1.5 Benchtop configurations

Fusion Composite Solid Surfaces permit the incorporation of one-piece "L", "U" or angle shaped sections, when fabricated and installed in compliance with all instructions, recommendations and guidelines contained within this document.

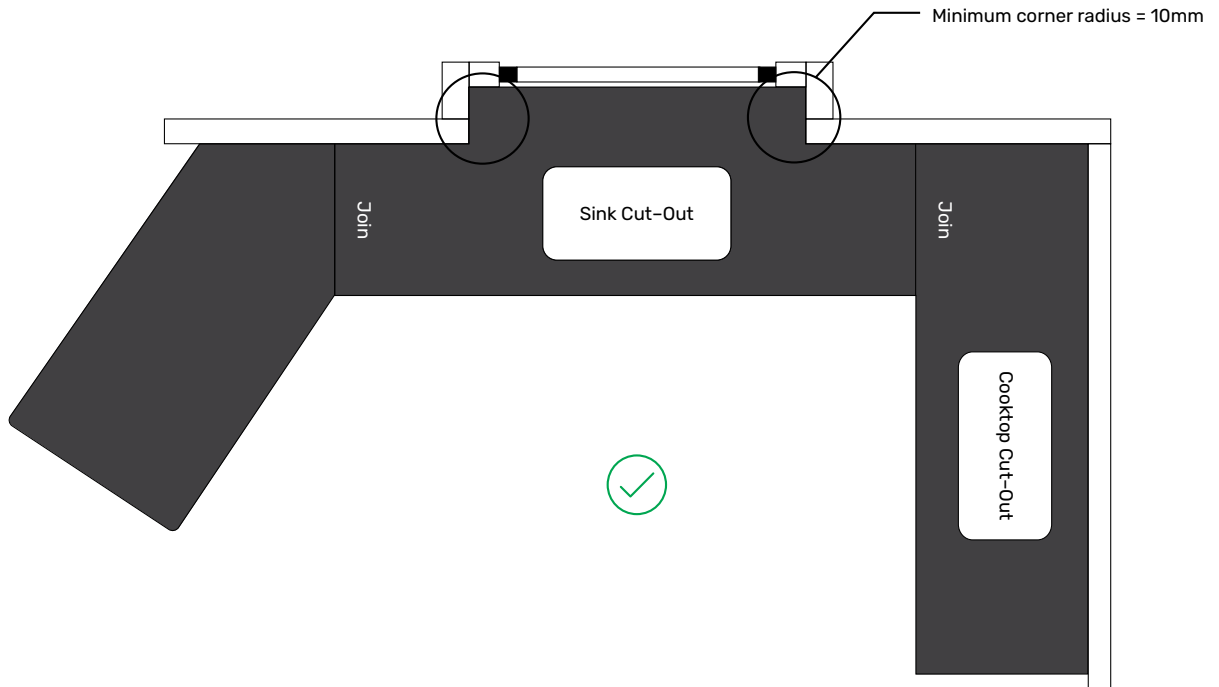
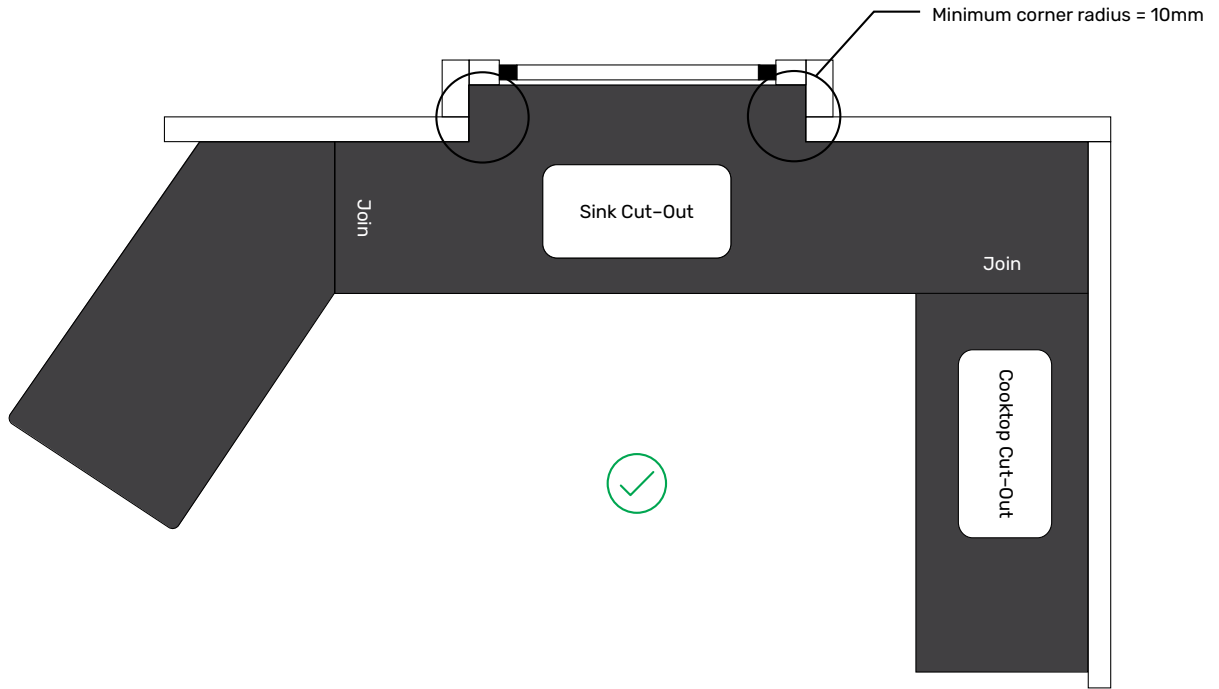


Fusion Composite Solid Surface is suitable for use as a curved or irregular shaped benchtop when fabricated and installed in compliance with all instructions, recommendations and guidelines contained within this manual. Compliance to directional orientation guidelines is mandatory.

- Ⓜ Bowing or any other failure attributable to product movement due to non-compliant directional orientation will not be recognised under warranty.



Directional orientation of Fusion panels must be consistent



5.6.2 Drainage grooves

ONLY 13mm Black core Fusion Composite Solid surfaces is suitable for inclusion of self-draining grooves that empty into an under-mount sink.

- Ⓢ 6mm Fusion Composite Solid Surfaces is NOT suitable for the inclusion of drainage grooves.
- Ⓢ Fusion Composite Solid Surfaces with core colours other than black are NOT suitable for the inclusion of drainage grooves.
- Ⓢ Fusion Composite Solid Surfaces is NOT suitable for surface rout designs that allow liquids to pool or be trapped in contact with the surface or core of the product.

The depth of drainage grooves is not to exceed 4mm. The length of any drainage groove must result in a fall or pitch that allows for complete drainage of any liquid and prevents liquids from pooling. It is essential that drainage grooves remain clear of debris or any other obstruction that may prevent the free flowing and complete drainage of any liquid.

Drainage grooves must be cleaned regularly to prevent dirt and other debris build-up that can trap liquid. Drainage grooves must be dried routinely, as constant wetting may result in microcracking, swelling or discolouration of the Fusion panel.

All drainage groove edges must be smooth and free of damage, cracks, dents or notches.

Drainage grooves are produced on a CNC machine using sharp ball cutters. Drainage grooves must not exceed 12mm in width

- Ⓢ Evidence of edge damage, cracks, dents or notches that contribute to cracks occurring from drainage grooves, will not be recognised under warranty.
- Ⓢ Cracks or any other failure attributable to non-compliant drainage grooves will not be recognised under warranty.
- Ⓢ Impact damage to Fusion Composite Solid Surfaces will not be recognised under warranty.

When routing drainage grooves, all precautions must be taken to protect the decorative surface of the Fusion panel from damage. The use of masking tape to mark out groove centres lines and protect the surface, is recommended.

Routed grooves may be hand sanded to a smooth finish using 240 grit sandpaper. All precautions must be taken to protect the decorative surface of the Fusion panel from damage.

The use of drainage grooves will reduce the thickness and therefore strength of the Fusion panel.

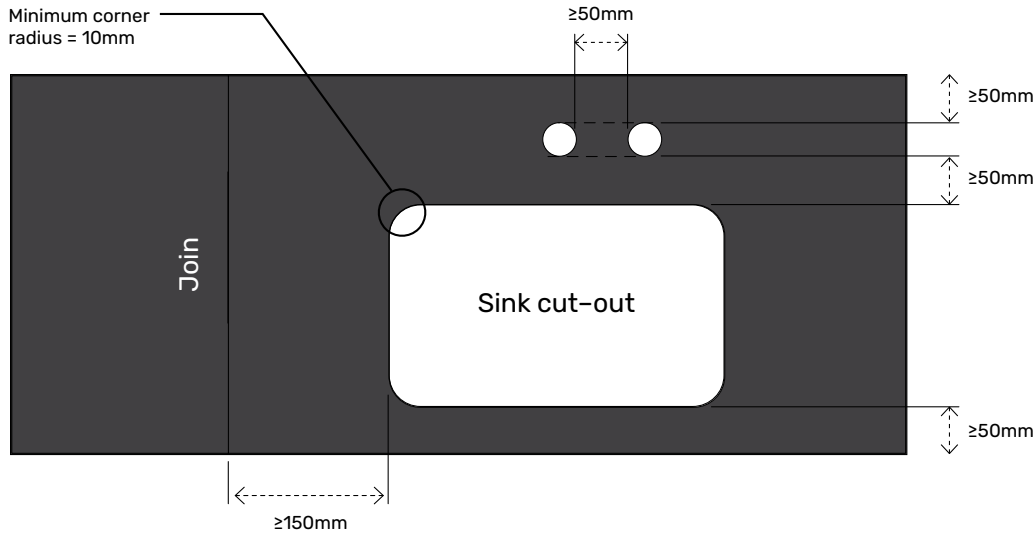
Hence, the use of an additional re-enforcing structure to support the sink when "under load", is required.

5.6.3 Taps and other holes in horizontal surfaces

Holes in horizontal surfaces, whether for tap insertion, cable access, water filter or garbage disposal units, soap dispenser or other access points must not be located closer than 50mm from any Fusion panel edge or the edge of any cut-out.

Holes, like any other cut-out, must not be closer than 150mm from a join.

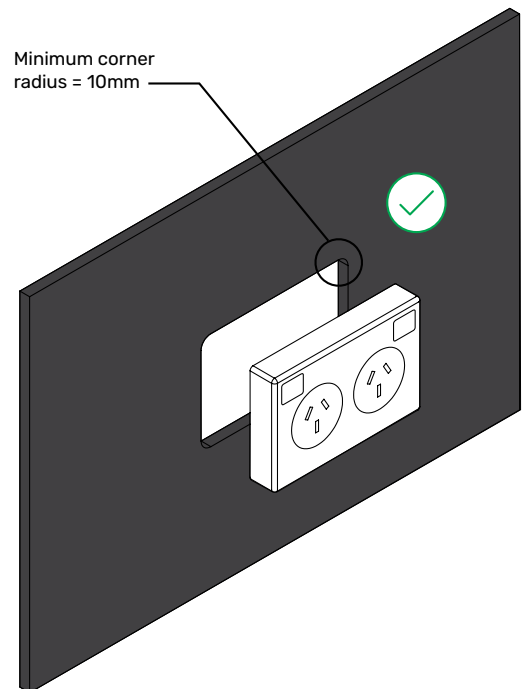
It is good practice to use a sacrificial wood block on the opposite side of a hole being drilled through the compact or a blind hole to provide support and prevent the possibility of stress cracking.



5.6.4 GPOs and other holes in vertical surfaces

Holes in vertical surfaces, whether for GPO electrical outlets, air conditioning vents, control panels, light switches or other access points must not be located closer than 150mm from a join or any Fusion panel edge.

It is good practice to use a sacrificial wood block on the opposite side of a hole being drilled through the compact or a blind hole to provide support and prevent the possibility of stress cracking.



5.6.5 Tabletops and Worktops

- Ⓜ ONLY 13mm Fusion Composite Solid Surfaces is suitable for use as a tabletop or worktop.

Fusion Composite Solid Surfaces must be supported by a structure that is able to take the weight of the product (20kg per m² for 13mm and 9.2kg per m² for 6mm) plus any additional load the tabletop or worktop could be subject to.

- Ⓜ Cracks or dimensional flexing/bowing occurring in the product will not be recognised where inadequate support is found.

For blind fixing, a minimum of 2mm thickness must remain between the bottom of the drill hole and the reverse decorative face. Swarf and dirt must be cleared from all penetrations. Failure to do so may result in non-compliant expansion allowances.

A combination of fixed and floating fixing points should be employed to evenly distribute unimpeded dimensional movement. Use one (1) fixed point, with the remaining fixings to be floating points.

A fixed fixing point should be located centrally with no clearance around the fixing device.

A floating fixing point should have a hole 2mm to 3mm larger than the fixing device, as a minimum. Note the head of the screw should cover the hole bore.

The use of brass conical inserts (sometimes described as spreading sleeves or spreader dowels) is recommended.

The maximum overhang distance between the fixing point and the outer edge is not to exceed 200mm.

The distance between fixings (mounting distance) should take into consideration the dimensions of the horizontal surface and the weight/load that is likely to be supported. The maximum mounting distance employed should not exceed 450mm.

5.6.6 Edge detailing

Fusion Composite Solid Surfaces is available in numerous core colours, from white through to black. Dark core colours will better mask discolouration/staining of an exposed coloured edge. Lighter core colours will result in a high contrast between any discolouration/staining when compared to original core colour. Hence, core colour selection should always be taking into consideration when using exposed edges. Lighter core colours should not be used where such discolouration/staining will be unsightly.

- Ⓜ Staining and/or discolouration of Fusion Composite Solid Surfaces edges will not be recognised under warranty.

5.6.6.1 Edge shaping

The edges of Fusion Composite Solid Surfaces can be shaped into different profiles using either a CNC machine or manual operated routing cutter.

Diamond tipped tools are recommended for processing Fusion Composite Solid Surfaces due to the high density of the product.

The use of tungsten carbide high speed tools, while commonly used to process material such as Fusion Composite Solid Surfaces, will require disciplined tool inspection, quality suitability assessment and sharpening protocols, as incorrect tool selection, maintenance and equipment setup can result in the generation of frictional heat, leading to smouldering, odour and/or edge discolouration. The use of tungsten carbide high speed tools should be restricted to sizing cuts only.

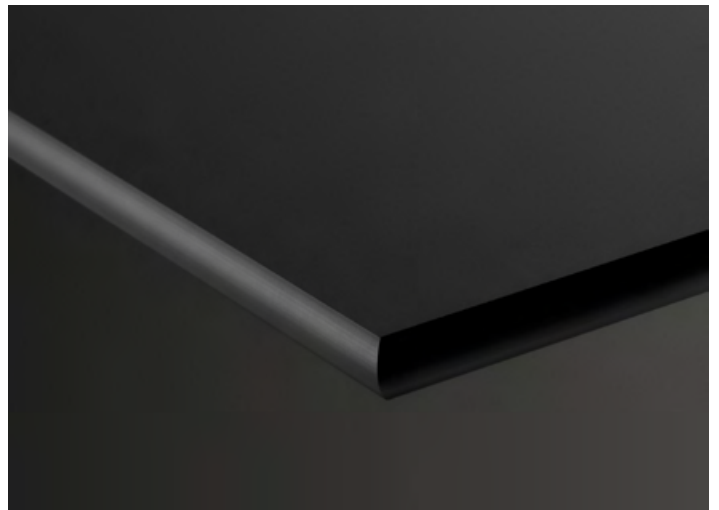
To achieve a quality cut edge finish, the use of diamond tipped tooling is recommended for all finishing cuts.

Unacceptable cut quality as a result of failure to use recommended cutting equipment or failure to maintain cutting tools, will not be recognised under warranty.

Typical shapes include, but are not limited to the following: bullnose, sharknose, arris.

The profile design can reduce the durability of the edge material. Profiles that reduce the Fusion panel thickness will reduce the impact resistance performance of the edge. The radius of profiles should not be such that the surface decorative layer is reduced in thickness that it becomes susceptible to feathering and lifting.

Ⓜ Edge durability of Fusion Composite Solid Surfaces will not be recognised under warranty.



Bullnose



Sharknose



Arris

5.6.6.2 Edge bonding

The front edge of a benchtop can be given a thicker visual appearance by bonding multiple Fusion panel components together.

All components must be assembled in a manner that maintains the consistent alignment of directional orientation. Compliance to directional orientation guidelines is mandatory.

Joins that are likely to be subjected to vibration, impact, weight point loads or similar, should be reinforced with mechanical fixing to reduce the effects of joint stress.

Prepare join surfaces by slightly roughening the complete area using a scotch bright pad or fine sandpaper. Remove any dirt or dust from the join surfaces.

Wipe down the join surfaces with a solvent such as Isopropyl alcohol to remove any grease residue. Ensure all solvent residues have evaporated before applying any adhesive.

The Unika ColourJoint adhesive system is recommended for edge bonding of Fusion Composite Solid Surfaces.

The recommended adhesive must be laid down in a straight line of consistently equivalent bead size,

DO NOT use a squiggle or criss-cross pattern. Because polyurethane glue systems require moisture to cure, the glue bead should be no wider than 50mm, as cured adhesive will prevent moisture to penetrate and continue curing a wider glue bead.

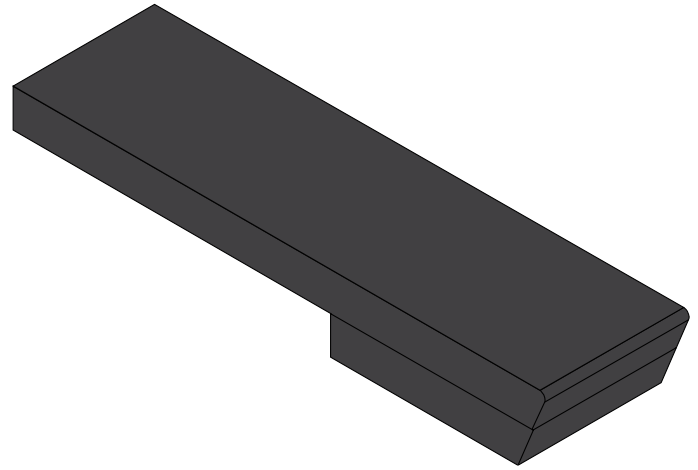
DO NOT move the join while the adhesive is curing as this will weaken the bond strength.

Follow adhesive supplier guidelines which instruct correct surface preparation and glue application to achieve the best bonding results.

Edge doubling

Strips of Fusion Composite Solid Surfaces can be glued along the edge to increase the depth of the core colour.

Note: This technique may result in a visible line within the edge build-up.



Edge dropdown (or upstand)

To maintain continuity of the surface decorative design, a dropdown or upstand edge may be employed (Figure 1).

This can be done by mitring the edge of the two components to be joined at a 45° angle. Carefully place the two components on a level surface, with the mitre ends touching. Use an adhesive tape to keep the components secured in place. Apply the adhesive bead to one side of the joint only (Figure 2). Flip the short leg of the dropdown (or upstand) to bring the two mitres together. The components must be held in place while the adhesive is setting (Figure 3).

DO NOT move the joint during the adhesive setting process.
DO NOT leave the joint unsupported during the adhesive setting process.

Ⓜ Edge join quality Fusion Composite Solid Surfaces will not be recognised under warranty.

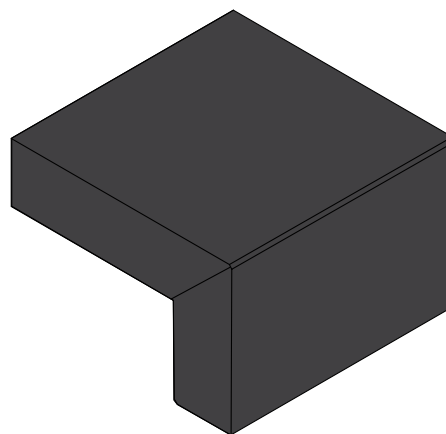


Figure 1

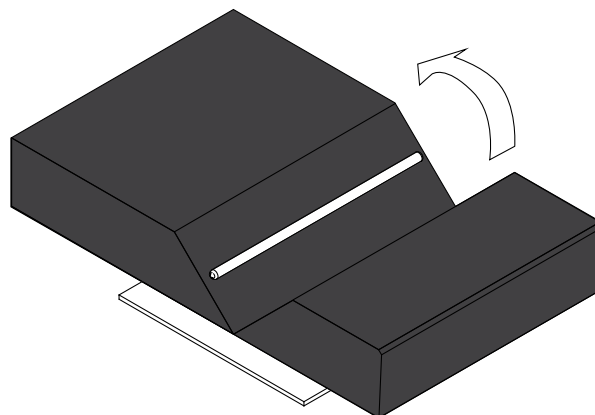


Figure 2

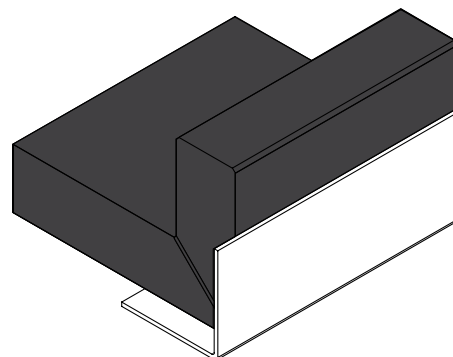


Figure 3

6 – Installation

Fusion Composite Solid Surfaces will expand and contract in response to environmental changes in moisture and temperature.

Expansion and contraction in the cross-direction (CD) is twice that of movement in the longitudinal direction (LD). The maximum expansion and contraction of the material is approximately 2.5mm/m in the longitudinal direction (LD) and 5mm/m in the cross-direction (CD), regardless of the panel thickness.

Fusion Composite Solid Surfaces installations can be subject to conditions that can affect product performance, including but not limited to building movement, settling of foundations, rising damp, appliance malfunctions or any other environmental influence that may result in product performance outcomes that are not attributable to a manufacturing fault.

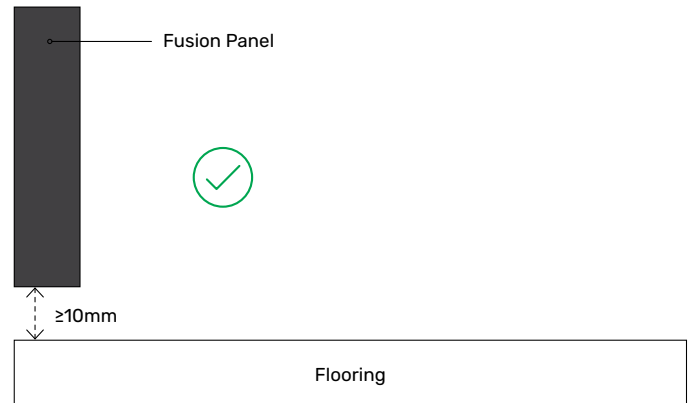
- Ⓜ Cracks, joint opening, warpage, bowing or any other failure attributable to the installation environment will not be recognised under warranty.

6.1 Expansion gaps and dimensional tolerance

Fusion Composite Solid Surfaces will expand and contract in response to environmental changes in moisture and temperature. Fusion Composite Solid Surfaces will expand and contract in the cross-direction twice that of movement in the longitudinal direction. The maximum expansion and contraction of the material is approximately 2.5mm/m in the longitudinal direction (LD) and 5mm/m in the cross-direction (CD), regardless of the panel thickness.

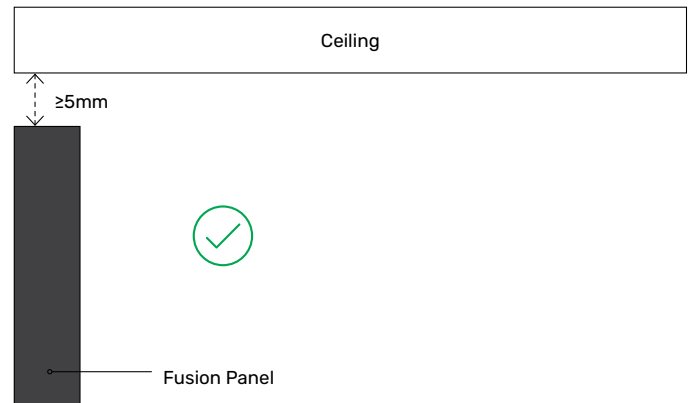
Fusion panel to floor interface

A minimum expansion gap of 10mm MUST be left between the top surface of the primary floor and the bottom edge of the Fusion panel. Fixings of moulding / skirtings must maintain the unimpeded 10mm gap.



Fusion panel to ceiling interface

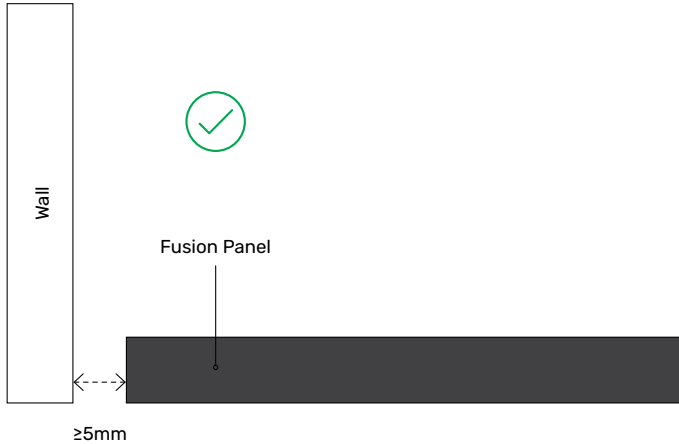
A minimum expansion gap of 5mm MUST be left between the top edge of the Fusion panel and the primary ceiling. Fixings of a cornice or moulding must maintain the unimpeded 5mm gap.



6.2 Benchtops

Fusion panel to wall interface

A minimum expansion gap of 5mm MUST be left between the top edge of the Fusion panel and the primary ceiling. Fixings of a cornice or moulding must maintain the unimpeded 5mm gap.



Panel to fixture interface

A fixture is defined as any permanent structure affixed to the wall, floor or ceiling, including architraves. A minimum expansion gap of 10mm MUST be left between the edge of the Fusion panel and the fixture.

- Ⓜ Expansion gap allowance non-compliance will not be recognised under warranty.

6.2.1 Joining

Fusion Composite Solid Surfaces can be connected using a combination of fixing and gluing methods in conjunction with metal splines, biscuits or interlocking grooves.

Fusion Composite Solid Surfaces connections must ensure compliance to all directional orientation requirements, as set out in this document.

6.2.1.1 Toggle bolts and biscuits

Fusion panels can be joined using masons mitre or butt joint techniques that utilise biscuits and toggle.

Toggle bolts of 20mm in diameter and 7mm in thickness are recommended for use with 13mm Fusion panels. Toggle bolts are positioned on the underside of the benchtop and should not be over tightened, as the benchtop edges only need to be brought together and made firm.

JOIN LENGTH (MM)	NO. OF TOGGLES (MIN-MAX)
900	4-5
600	3-4

For a permanent join, apply a continuous bead of adhesive to one face only of the fabrication join, some adhesive can be applied to the biscuit slot (#20 biscuits made of recycled wood or thin compact laminate is recommended), then bring the edge faces together.

Wipe off any excess adhesive by wiping across the join, not down the length of the join. Clean up any excess residues with white spirit on a clean lint free cloth. Ensure the decorative surface of the Fusion panel is protected from contact with the adhesive, as residues and cleaning methods may result in irreparable damage.

Unika Innovations

Toggle bolts available from:

Amorini Pty Ltd
28 Starr Avenue
North Plympton, SA

amorini.com.au

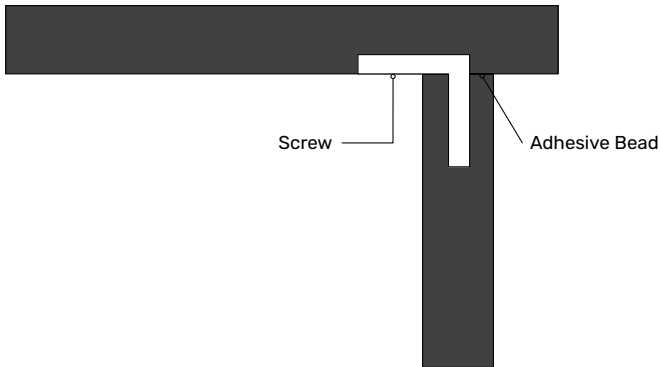
6.2.1.2 Metal splines, channels and brackets

The use of metal angle splines, channels and brackets must be used to reinforce critical joins, such as butt joints and waterfall ends. It is important that the support structure allows for unimpeded movement as the Fusion panels respond to environmental changes.

Butt joints and waterfall ends require the inclusion of a 25mm x 25mm x 3mm 90 - degree extruded aluminium angle.

For butt joints, one edge of the aluminium angle sits into a routed rebate and is screwed into the benchtop. The other end of the angle slides into a routed slot in the end of the Fusion panel upright. For a permanent join, apply a light bead of flexible polyurethane adhesive to one face and join them together, do not glue the aluminium inserts into the routed slot. It must be allowed to float in the slot. The depth of the slot into which the aluminium channel is inserted, should be 2mm-3mm deeper than the tongue of the angle, to allow for Fusion panel movement. The slot should not extend closer than 75mm to the edge of the Fusion panel and should be 1mm wider than the thickness gauge of the angle.

For waterfall ends, slots are routed into both the horizontal and vertical mitre ends of the Fusion panel, into which the aluminium angle is slid. For a permanent join, apply a light bead of flexible polyurethane adhesive to one face and join them together, do not glue the aluminium insert into the routed slot. It must be allowed to float in the slot. The depth of the slot into which the aluminium channel is inserted, should be 2mm-3mm deeper than the tongue of the angle, to allow for Fusion panel movement. The slot should not extend closer than 75mm to the edge of the Fusion panel and should be 1mm wider than the thickness gauge of the angle.



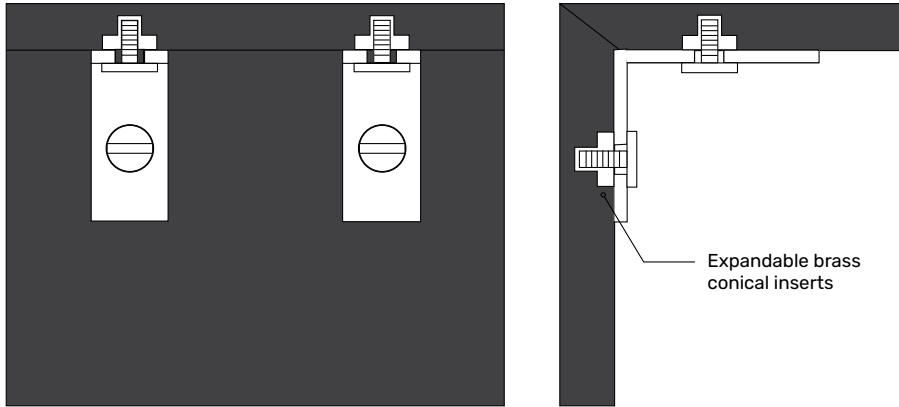
Typical Butt Joint



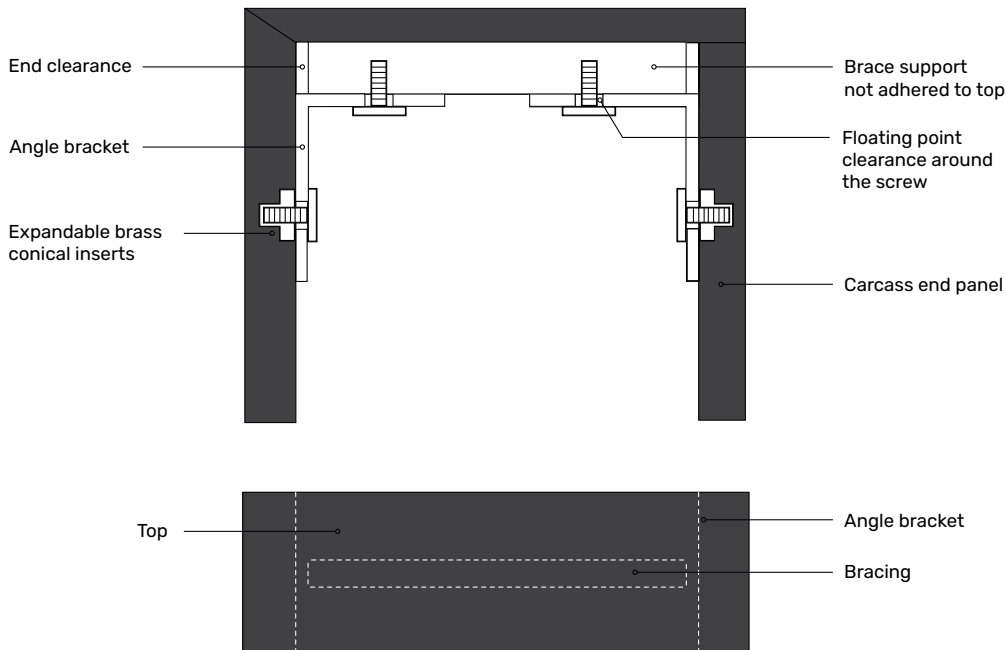
Typical Waterfall end

Freestanding waterfall and butt join ends cannot be employed without robust bracing. Use brass conical inserts when securing bracing to the Fusion panel to avoid splitting. Drill screw fastening holes with 3mm clearance to provide slippage points and tighten bracket screws firmly but do not overtighten.

Freestanding ends require bracing to secure the vertical position. The installation of 90° angle brackets positioned centrally to mask their visibility, is essential.



Unsupported spans may sag or deflect under the weight of the top or additional loads placed on the benchtop surface. The installation of a support beam centrally located under the top secured with angle brackets should be used. The brace is not adhered to the top.



When securing the vertical end to the floor, it is important to note that Fusion Composite Solid Surfaces is NOT suitable for use in any application where water pools or is trapped in contact with the surface or core of the product.

The use of a floor mounted runner channel that enables a 10mm gap between the end of the Fusion panel and the surface of the primary floor, is required to prevent moisture from accumulating.

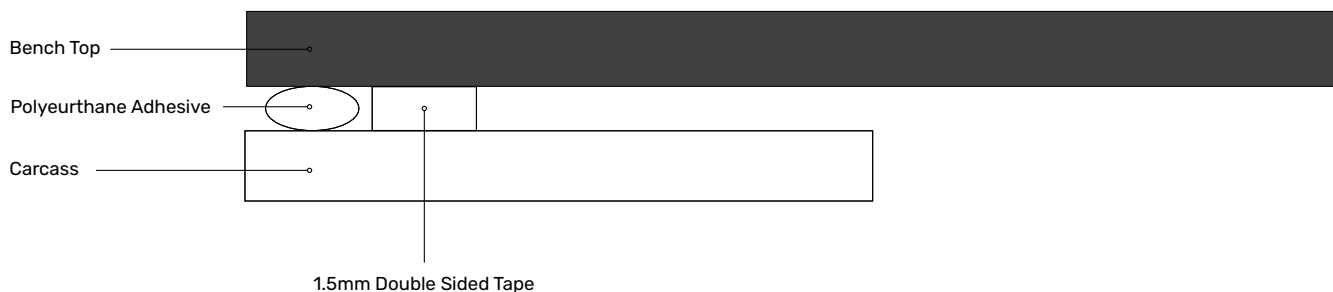
For installations where there is a high likelihood of water ingress into the Fusion panel, the channels employed must have drain holes drilled so water does not pool.

- Ⓢ Any Fusion Composite Solid Surfaces claim attributable to damage resulting from water ingress whether via the decorative surface or core material will not be recognised under warranty.

6.2.1.3 Bonding and gluing

Adhesion of the Fusion benchtop to the box frame lattice support cabinetry is achieved by applying a 1.5mm thick double-sided tape to the top of all carcass support frame surfaces. This tape is used as a spacer and is adhered to the carcass only. Hence the protective film on the benchtop side of the tape is not removed, as it is not glued to the benchtop, but used as a spacer.

Apply a bead of flexible polyurethane adhesive adjacent to the strips of double-sided tape. It is recommended to use Sikaflex 252, as this provides a strong and flexible bond allowing for natural movement.



6.3 Splashbacks

Fusion Composite Solid Surfaces will react to changes in ambient conditions, affecting the moisture content of the product and may result in expansion and/or contraction of the product. Exposure to high humidity, free water or dampness that unbalances the panels can result in, but is not limited to, bowing or warping of panels, join failure or build-up of internal stresses that release in the form of cracks.

Fusion Composite Solid Surfaces will react to changes in ambient conditions, affecting the moisture content of the product and may result in expansion and/or contraction of the product. Exposure to high humidity, free water or dampness that unbalances the panels can result in, but is not limited to, bowing or warping of panels, join failure or build-up of internal stresses that release in the form of cracks.

Fusion Composite Solid Surfaces will expand and contract in the cross-direction twice that of movement in the longitudinal direction. The maximum expansion and contraction of the material is approximately 2.5mm/m in the longitudinal direction (LD and 5mm/m in the cross-direction (CD), regardless of the panel thickness.

Hence, the following expansion gap and dimensional allowances are stipulated.

Fusion panel to panel interface

A minimum expansion gap of 2.5mm MUST be left between adjacent Fusion panels.

Panel to fixture interface

A fixture is defined as any permanent structure affixed to the wall, floor or ceiling, including architraves. A minimum expansion gap of 10mm MUST be left between the edge of the Fusion panel and the fixture.

Fusion panels must be joined in a manner that ensures the directional orientation (longitudinal or cross direction) remains consistent throughout the wall panelling installation.

- Ⓜ The use of Fusion panels in opposing directional orientations is not recommended, nor protected under warranty.
- Ⓜ ONLY use 6mm Fusion Composite Solid Surfaces for Splashback applications.

6.3.1 Substructure and ventilation

It is essential that walls and substructures be completely dry before any Fusion panel is installed. Fusion Composite Solid Surfaces require a suitable substructure or batten system to provide a minimum unobstructed 20mm gap behind the mounted Fusion panel for the adequate circulation of air. Fusion Composite Solid Surfaces should not be exposed to trapped moisture.

The substructure or batten system must be designed to support the weight of the Fusion panels and provide unimpeded vertical air flow from floor to ceiling. The front and back surfaces of Fusion panels must remain in equilibrium to avoid panel distortion. The installation should be vented into the room.

6.3.1.1 Fixing to wet construction walls

Wet construction walls are those built with materials including, but not limited to, concrete, cement natural stone, brick, block work or masonry.

Battens (treated timber or aluminium) or furring channels (a top-hat shaped corrosion resistant framing batten used to furr/flatten & smooth out wall assemblies) should be employed. Fasten battens or channels to the wall surface using concrete nails or power-driven fasteners per instructions supplied with the fixings.

The battens/furring channels should be fitted vertically at approximately 450mm apart to promote airflow behind the Fusion panels.

Ⓢ Direct fixing to wet construction wall is not permitted and will not be recognised under warranty.

If Fusion panels are to be used for partial wall height installations, place a noggin just below the top edge of the panel for support.

Before mounting any Fusion panels, check that battens/furring channels are straight and true with a spirit level and amend any irregularities.

6.3.1.2 Fixing to timber stud and/or steel framed substructure walls

Studs must be spaced at no more than 450mm centres. Ensure the studs are checked using a stud finder to locate and verify suitability of the underlying wall frame.

Where sheets will need to be joined between studs place a noggin at 450mm to support the join.

If Fusion panels are to be used for partial wall height installations, place a noggin just below the top edge of the panel for support.

Before mounting any Fusion panels, check that the frame is straight and true with a spirit level. Any amendment to a frame required to rectify irregularities, must be conducted by a qualified trades person.

6.3.1.3 Fixing to plaster walls

When installing Fusion Composite Solid Surfaces on an existing plastered wall, it is vital that the studs are located. The studs are to be used as fixing points during installation.

Battens (treated timber or aluminium) or furring channels (a top-hat shaped corrosion resistant framing batten used to furr/flatten & smooth out wall assemblies) should be employed. Fasten battens or channels through the plaster surface securely into the framing behind, using screws or power-driven fasteners per instructions supplied with the fixings.

The battens/furring channels should be fitted vertically at approximately 450mm apart to promote airflow behind the Fusion panels.

Ⓢ Direct fixing to plaster wall is not permitted and will not be recognised under warranty.

If Fusion panels are to be used for partial wall height installations, place a noggin just below the top edge of the panel for support.

Before mounting any Fusion panels, check that battens/furring channels are straight and true with a spirit level and amend any irregularities.

6.3.2 Fixing methods

6.3.2.1 Glue fixing

Ensure the surface of studs, joint noggings battens or furrings are even and flat. Prepare surfaces for gluing by slightly roughening the complete area using a scotch bright pad or fine sandpaper. Remove any dirt or dust from all surfaces.

Wipe down the Fusion panel surfaces with a solvent such as Isopropyl alcohol to remove any grease residue. Ensure all solvent residues have evaporated before applying any adhesive.

It may be necessary to apply a primer to wooden battens as a barrier to moisture that may adversely affect the adhesive bond strength. Follow recommendations of the adhesive manufacturer, if required.

Apply a single uninterrupted strip of 3mm double-sided tape along the entire vertical length on each side of the batten/furring.

Apply a single uninterrupted bead of adhesive along the entire vertical length on each side of the batten/furring. Maintain a 5mm gap between the edge of the batten/furring each strip of double-sided tape.

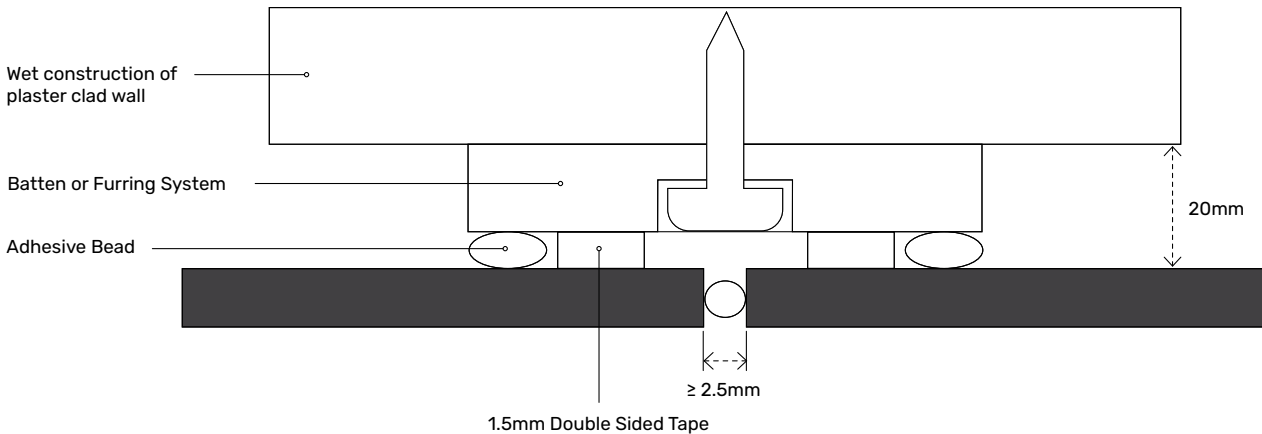
Do not run a bead of adhesive horizontally along the top or bottom of the panel as this will obstruct free air flow and inhibit adhesive curing.

Remove the protective film from the double-sided tape.

Using suction cups to lift the Fusion panel, align the panel into the allocated installation position, ensuring all expansion gap allocations are met. Push the panel onto the wall and maintain pressure until there is contact with the double-sided tape.

Note: The double-sided tape is only providing temporary support until adhesive curing is complete.

Keep panels supported for >24hours to ensure the adhesive has cured and full adhesive strength been achieved.



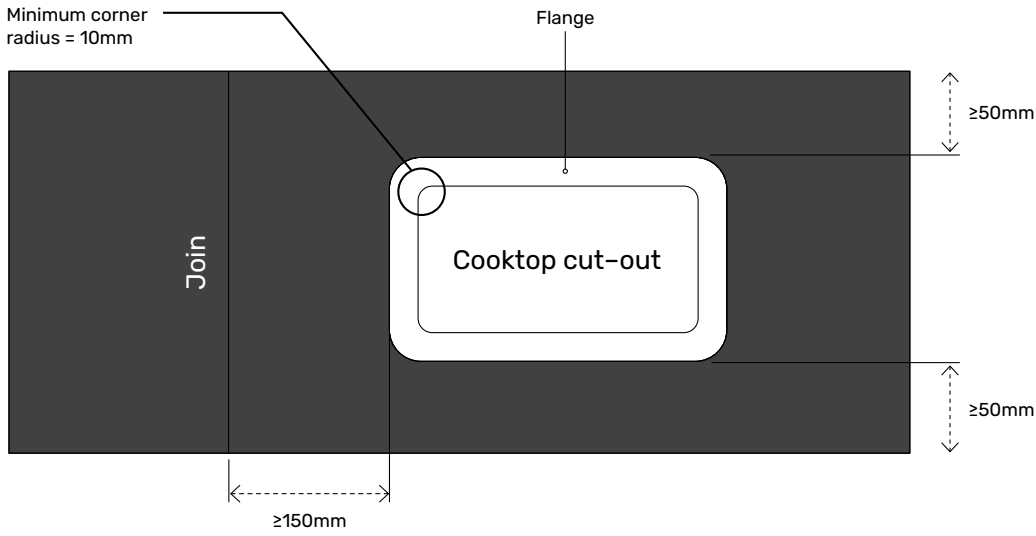
6.3.3 Setback distances

It is important that all splashback installations (including upstands) comply with setbacks stipulated by all relevant cooktop standards and regulations, and the requirements set out in this fabrication and installation manual.

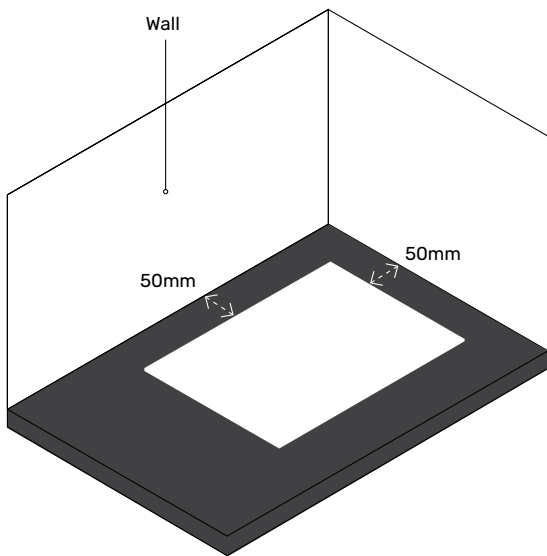
6.3.3.1 Induction and electric cooktops

Fusion Composite Solid Surfaces is suitable as a splashback behind an induction or electric cooktop. The width of the splashback material and approved mounting system must be accounted for when ensuring a 50mm setback is achieved between the front face of the installed splashback material and the rear edge of the appliance.

Note: A minimum of 300mm should be provided on either side of an appliance to ensure adequate working space.



Note: The 50mm setback applies to both rear and side walls.



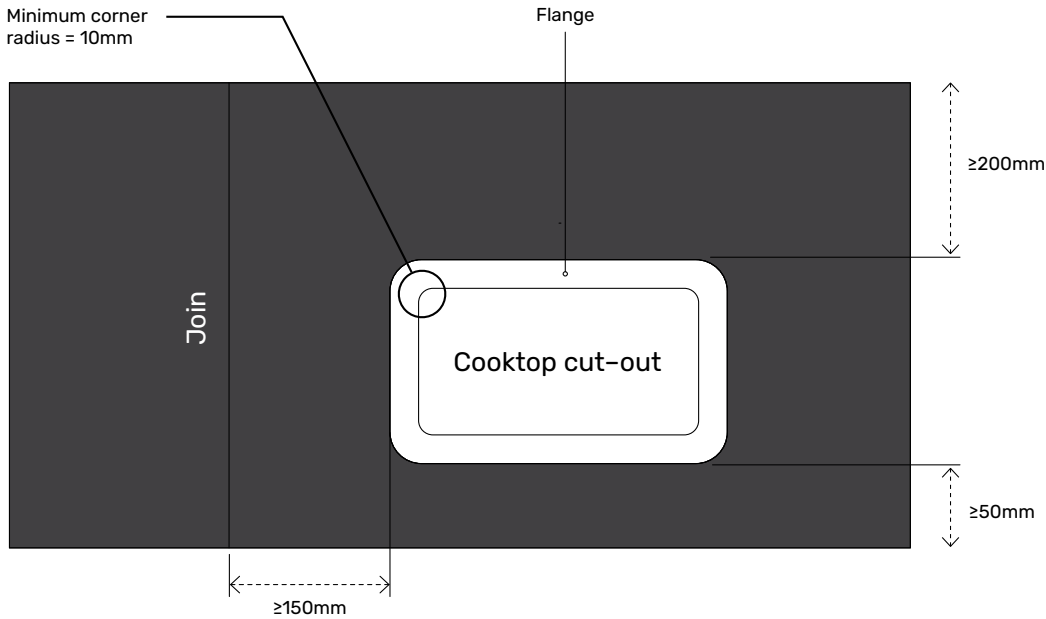
Note: A minimum of 300mm should be provided on either side of an appliance to ensure adequate working space.

6.3.3.2 Gas cooktops

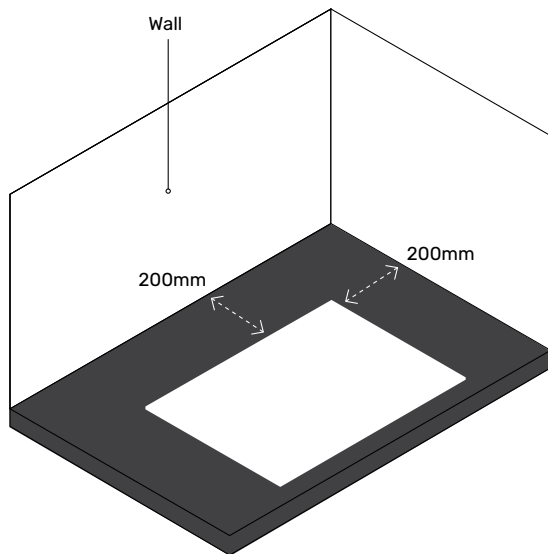
When a material is used for splashback applications, the installation must conform to the minimum Australian/New Zealand Standards for installation behind gas cooktops, for clearances in relation to combustible materials and appliances generating heat. Please refer to AS/NZS 5601 Gas installations and AS/NZS 4386 Cabinetry in the built-in environment - Commercial and Domestic.

Fusion Composite Solid Surfaces DO NOT comply with the minimum Australian/New Zealand Standards for installation behind gas cooktops ANY CLOSER than a 200mm setback. The width of the splashback material and approved mounting system must be accounted for when ensuring the 200mm setback is achieved between the front face of the installed splashback material and the rear edge of the appliance.

Note: A minimum of 300mm should be provided on either side of an appliance to ensure adequate working space.



Note: The 200mm setback applies to both rear and side walls.



Note: A minimum of 300mm should be provided on either side of an appliance to ensure adequate working space.

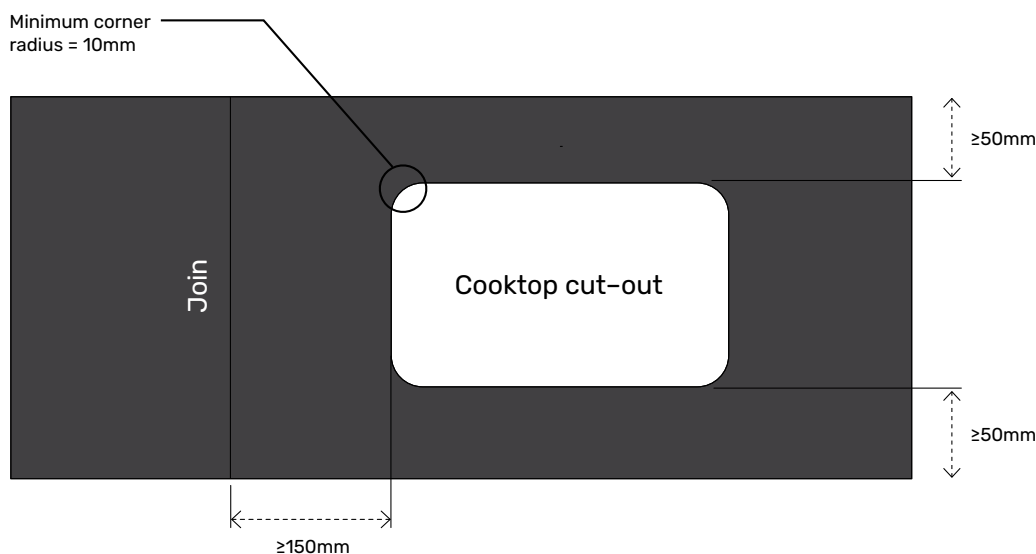
6.4 Cooktops

It is important that all cooktop installations comply with splashback setbacks stipulated by all relevant cooktop standards and regulations, and the requirements set out in this fabrication and installation manual.

Any cooktop opening greater than 600mm wide, must employ additional under-bench rail support on all 4 sides.

- Ⓢ Any failures attributable to the use of “over-sized” cooktops or inadequate cooktop support will not be recognised under warranty.

Cooktop installations require a minimum front and back rail distance of 50mm between the Fusion panel edge and the cut-out. Do not position a join closer than 150mm to a cut-out. Benchtop joins through a cooktop cut-out or any other heat generating device are not permitted.



6.5 Sinks

Fusion Composite Solid Surfaces is not suitable for submersion or applications where water or other liquids can pool at either the decorative surface or core.

Seamless under-mount sinks (where the benchtop material clads the inner walls of the sink reservoir) are not suitable for use with Fusion Composite Solid Surfaces.

- Ⓢ Impact damage to Fusion Composite Solid Surfaces will not be recognised under warranty.

Fusion Composite Solid Surfaces is not suitable for use with flush-mount sinks. The tight tolerances required for seamless integration of flush-mounts sinks does not comply with expansion gap allowances required for Fusion Composite Solid Surfaces. The Fusion panel to sink flange interface can trap water and dirt, causing swelling and discolouration.

Fusion Composite Solid Surfaces is suitable for use with top-mount sinks.

Any sink opening greater than 600mm wide, must employ additional under-bench rail support on all 4 sides.

- Ⓢ Any failures attributable to the use of "over-sized" sinks or inadequate sink support will not be recognised under warranty.

Black core Fusion Composite Solid Surfaces can be used with under-mount sinks.

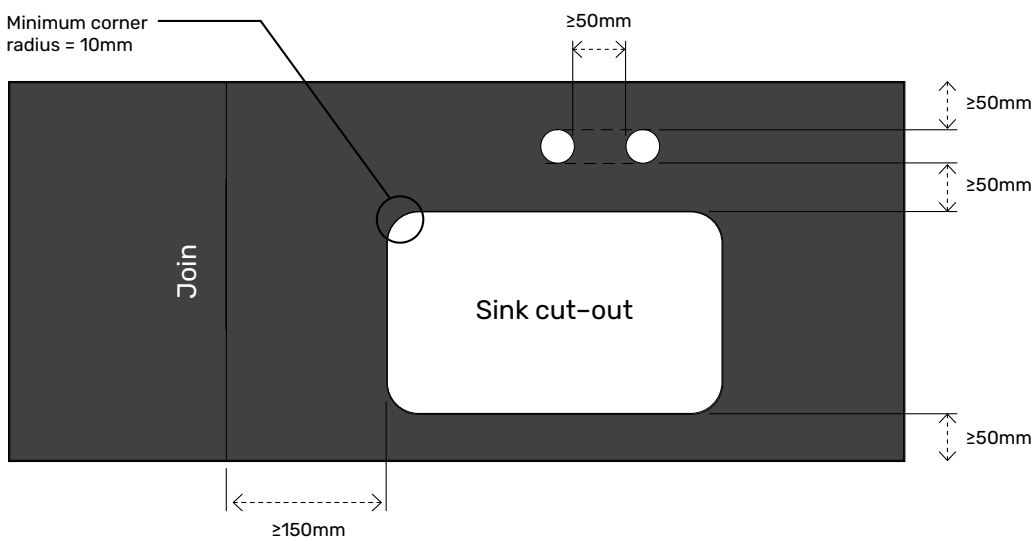
Sink installations require a minimum front and back rail distance of 50mm between the Fusion panel edge and the cut-out. Do not position a join closer than 150mm to a cut-out. Benchtop joins through a sink cut-out or any other heat generating device are not permitted.

For blind fixing, a minimum of 2mm thickness must remain between the bottom of the drill hole and the reverse decorative face. Swarf and dirt must be cleared from all penetrations. Failure to do so may result in non-compliant expansion allowances.

When mounting sinks, use brass insert spreading sleeves to mechanically support the structure rather than using thread cutting screws directly. Sink clip screws can be screwed directly into the inserts.

Note: When lightly tapping in the brass inserts, ensure the Fusion panel is well supported to prevent cracking. Always use the correct size pilot holes for screws and inserts.

When sealing the interface between the benchtop and the sink, use Sikaflex clear 252 or Unika Topseal to bed down the sink. Follow adhesive supplier guidelines which instruct correct surface preparation and glue application to achieve the best bonding results.



6.6 Under bench appliances

A minimum gap of 25mm must be maintained between the top and/or side of any heat generating under-bench appliance and the underside of the Fusion Composite Solid Surfaces benchtop. Any appliance with a motor or fan is considered to have the potential for heat emissions. Do not apply a full substrate across the top of dishwasher openings as is common for other materials such as stone.

6.7 Wall panelling

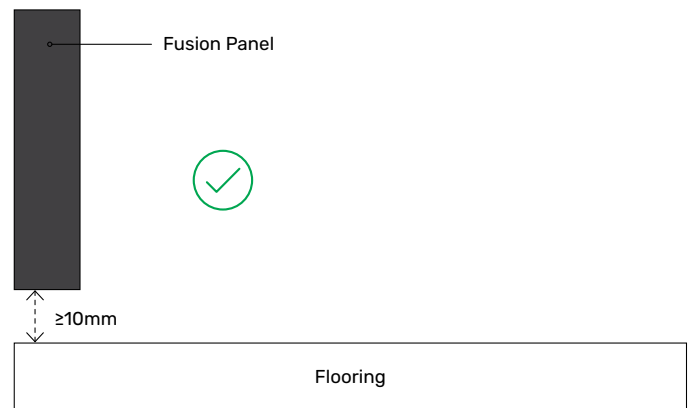
Fusion Composite Solid Surfaces will react to changes in ambient conditions, affecting the moisture content of the product and may result in expansion and/or contraction of the product. Exposure to high humidity, free water or dampness that unbalances the panels can result in, but is not limited to, bowing or warping of panels, join failure or build-up of internal stresses that release in the form of cracks.

Fusion Composite Solid Surfaces will expand and contract in the cross-direction twice that of movement in the longitudinal direction. The maximum expansion and contraction of the material is approximately 2.5mm/m in the longitudinal direction (LD) and 5mm/m in the cross-direction (CD), regardless of the panel thickness.

Hence, the following expansion gap and dimensional allowances are stipulated.

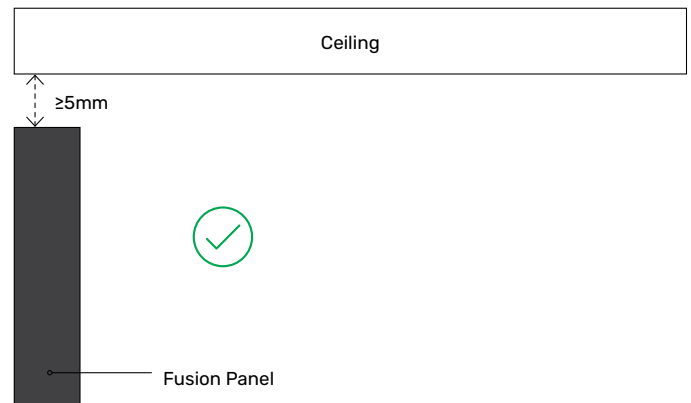
Fusion panel to floor interface

A minimum expansion gap of 10mm MUST be left between the top surface of the primary floor and the bottom edge of the Fusion panel. Fixings of moulding / skirtings must maintain the unimpeded 10mm gap.



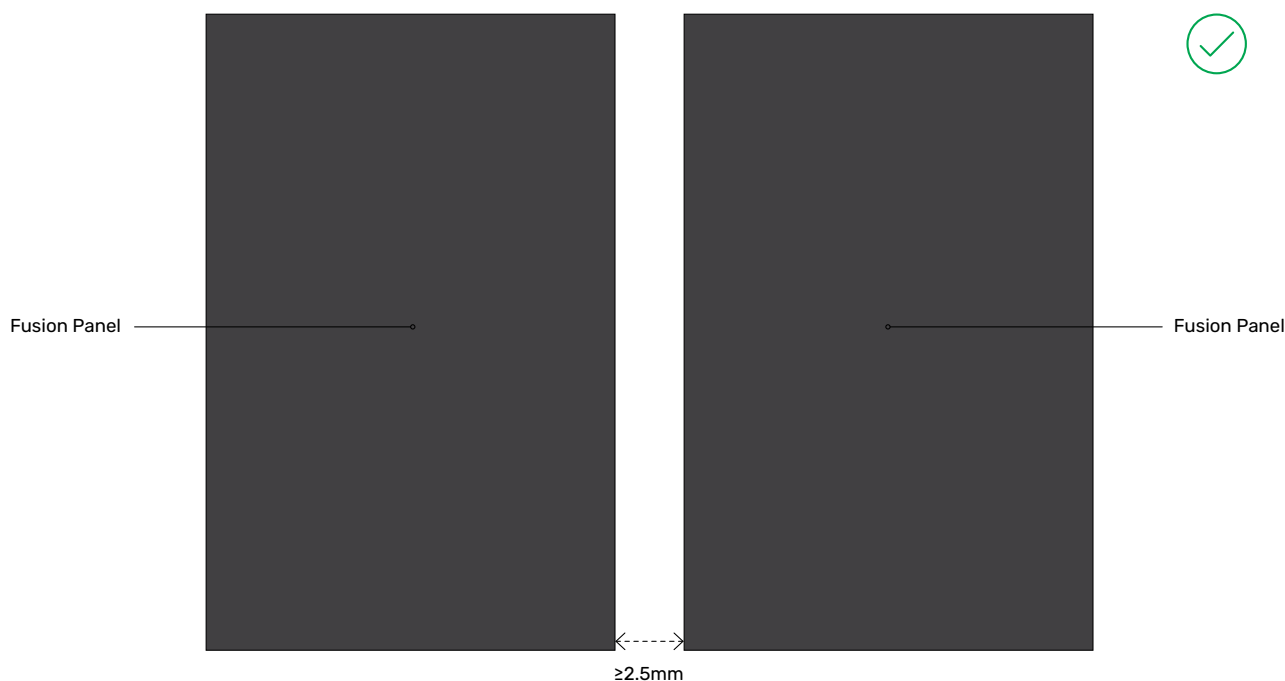
Fusion panel to ceiling interface

A minimum expansion gap of 5mm MUST be left between the top edge of the Fusion panel and the primary ceiling. Fixings of a cornice or moulding must maintain the unimpeded 5mm gap.



Fusion panel to panel interface

A minimum expansion gap of 2.5mm MUST be left between adjacent Fusion panels.



Panel to fixture interface

A fixture is defined as any permanent structure affixed to the wall, floor or ceiling, including architraves. A minimum expansion gap of 10mm MUST be left between the edge of the Fusion panel and the fixture.

Fusion panels must be joined in a manner that ensures the directional orientation (longitudinal or cross direction) remains consistent throughout the wall panelling installation.

- Ⓜ The use of Fusion panels in opposing directional orientations is not recommended, nor protected under warranty.
- Ⓜ ONLY use 13mm Fusion Composite Solid Surfaces for wall panelling applications.

6.7.1 Substructure and ventilation

It is essential that walls and substructures be completely dry before any Fusion panel is installed. Fusion Composite Solid Surfaces require a suitable substructure or batten system to provide a minimum unobstructed 20mm gap behind the mounted Fusion panel for the adequate circulation of air. Fusion Composite Solid Surfaces should not be exposed to trapped moisture.

The substructure or batten system must be designed to support the weight of the Fusion panels and provide unimpeded vertical air flow from floor to ceiling. The front and back surfaces of Fusion panels must remain in equilibrium to avoid panel distortion. The installation should be vented into the room.

6.7.1.1 Fixing to wet construction walls

Wet construction walls are those built with materials including, but not limited to, concrete, cement natural stone, brick, block work or masonry.

Battens (treated timber or aluminium) or furring channels (a top-hat shaped corrosion resistant framing batten used to furr/flatten & smooth out wall assemblies) should be employed. Fasten battens or channels to the wall surface using concrete nails or power-driven fasteners per instructions supplied with the fixings.

The battens/furring channels should be fitted vertically at approximately 600mm apart to promote airflow behind the Fusion panels.

Ⓢ Direct fixing to wet construction wall is not permitted and will not be recognised under warranty.

If Fusion panels are to be used for partial wall height installations, place a noggin just below the top edge of the panel for support.

Before mounting any Fusion panels, check that battens/furring channels are straight and true with a spirit level and amend any irregularities.

Note: For commercial high traffic areas studs must be spaced at not more than 450mm centres.

6.7.1.2 Fixing to timber stud and/or steel framed substructure walls

Studs must be spaced at no more than 600mm centres. Ensure the studs are checked using a stud finder to locate and verify suitability of the underlying wall frame.

Where sheets will need to be joined between studs place a noggin to support the join.

If Fusion panels are to be used for partial wall height installations, place a noggin just below the top edge of the panel for support.

Before mounting any Fusion panels, check that the frame is straight and true with a spirit level. Any amendment to a frame required to rectify irregularities, must be conducted by a qualified trades person.

Note: For commercial high traffic areas studs must be spaced at not more than 450mm centres.

6.7.1.3 Fixing to plaster walls

When installing Fusion Composite Solid Surfaces on an existing plastered wall, it is vital that the studs are located. The studs are to be used as fixing points during installation.

Studs must be spaced at no more than 600mm centres. Ensure the studs are checked using a stud finder to locate and verify suitability of the underlying wall frame.

Where sheets will need to be joined between studs place a noggin to support the join. This will require a disruption of the existing plaster surface. Please consult with qualified trades as required for this process. Caution should be taken not to impact or disrupt electrical wiring, plumbing or other services within the wall. Only qualified tradespeople should be involved in any modifications that are required to internal wall cavities.

Battens (treated timber or aluminium) or furring channels (a top-hat shaped corrosion resistant framing batten used to furr/flatten & smooth out wall assemblies) should be employed. Fasten battens or channels through the plaster surface securely into the framing behind, using screws or power-driven fasteners per instructions supplied with the fixings.

The battens/furring channels should be fitted vertically at approximately 600mm apart to promote airflow behind the Fusion panels.

Ⓢ Direct fixing to plaster wall is not permitted and will not be recognised under warranty.

If Fusion panels are to be used for partial wall height installations, place a noggin just below the top edge of the panel for support.

Before mounting any Fusion panels, check that battens/furring channels are straight and true with a spirit level and amend any irregularities.

Note: For commercial high traffic areas studs must be spaced at not more than 450mm centres.

6.7.2 Fixing methods

6.7.2.1 Through fixing

Mounting Fusion Composite Solid Surfaces is best designed from the centre of the panel, working outwards. This provides for one or two centrally located fixed mounting points leaving the other fastening locations as floating points. Therefore, the centre supports of the substructure should align to the centre of the Fusion panels.

At least one (1) or maximum two (2) fixed points are required for each Fusion panel and the remaining fixings must be floating points.

For floating points, screw must not be tightened to close to the surface to avoid movement obstruction of the panels.

Drill hole clearance requirements for fixed and floating fixings must be complied with.

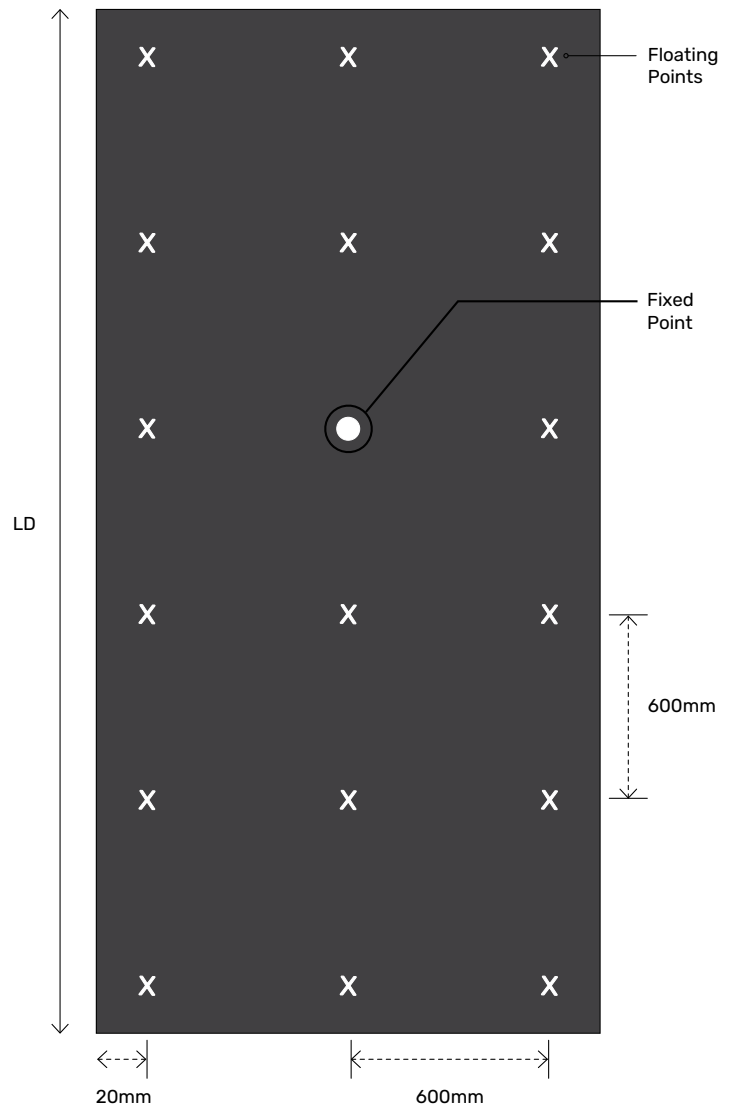
The distance between fixings takes into consideration the thickness of the panel and the directional orientation of the panel to be fixed (longitudinal or cross direction).

The vertical distance between fixings for 13mm product is 600mm.

The horizontal distance between fixings for 13mm product is 600mm.

Note: For commercial high traffic areas studs must be spaced at not more than 450mm centres.

The hole size of floating points should be enlarged by 2mm for every meter of panel length to overcome the accumulative effect of dimensional movement.



6.7.2.2 Bracket and rail system

Fusion Composite Solid Surfaces can be mounted using a robust bracket and rail system such as Z Rails.

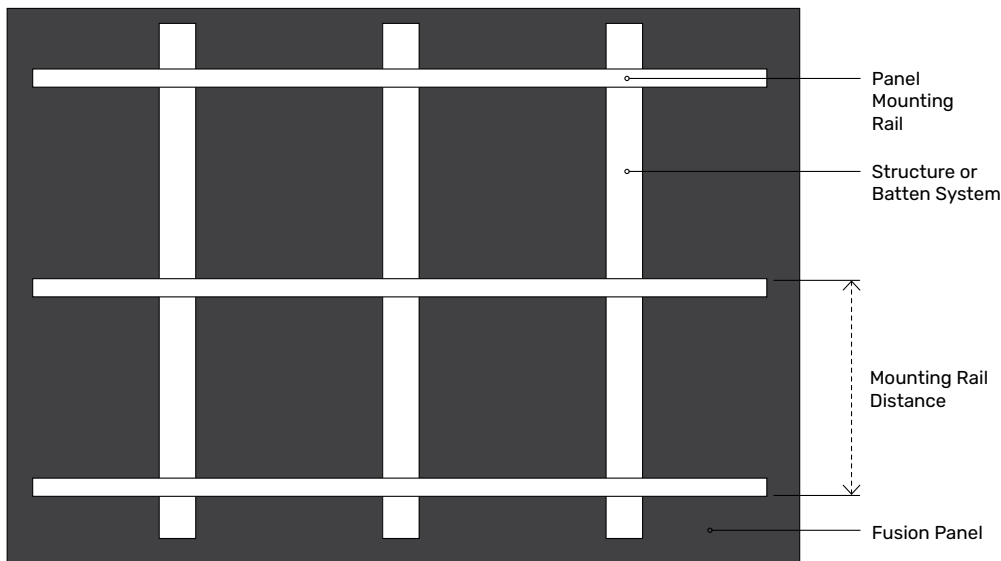
This type of system involves installing rows of rails onto the wall structure (lip up) and clips onto the back of the Fusion panel (lip down). The Fusion panel is then "hooked" into place.

- Ⓜ Bracket and rail fixing systems are not suitable for 6mm Fusion Composite Solid Surfaces and will not be recognised under warranty.

Bracket mounting distances shall be employed as follows:

PANEL THICKNESS	2 PANEL MOUNTING RAILS	3 OR MORE MOUNTING RAILS
13mm	850mm	1000mm

Central rails need to bear the principle weight of the installed panel.



Evenly space panel clips on the reverse side of the Fusion panel. Use thread cutting screws to mount the panel clips to the reverse side of the Fusion Panel.

For blind fixing, a minimum of 2mm thickness must remain between the bottom of the drill hole and the reverse decorative face. Swarf and dirt must be cleared from all penetrations. Failure to do so may result in non-compliant expansion allowances.

Gap allowances between Fusion panels must have at least 5mm clearance at the top and bottom of the panel and between the next panel. If panels are to be mounted in a longitudinal direction, leave a 10mm or greater gap between panels for effect.

Panel clips must not be mounted closer than 20mm to a panel edge, or further than 100mm from the panel edge.

Lift the Fusion panel into position to clip over the rail.

6.7.2.3 Glue fixing

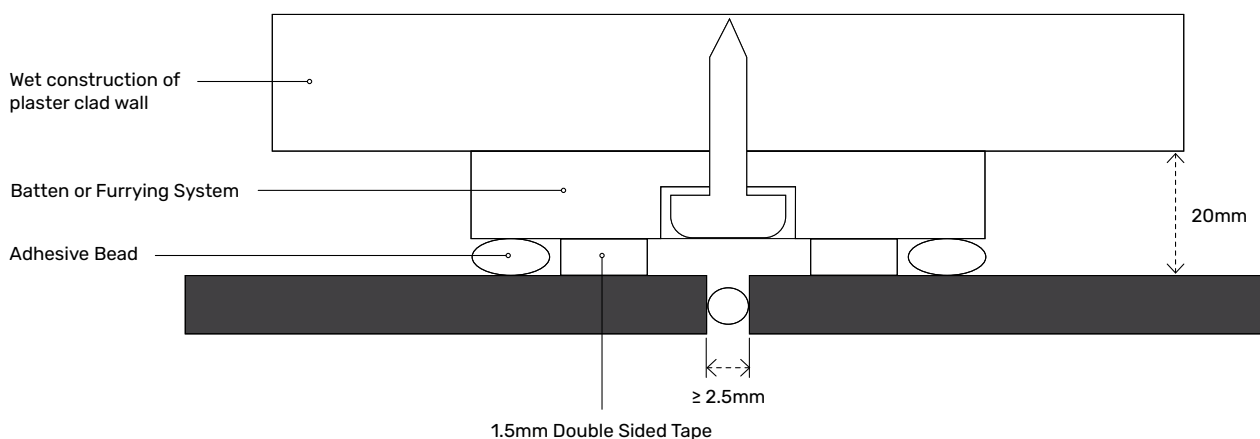
Ensure the surface of studs, joint noggings, battens or furrings are even and flat. Prepare surfaces for gluing by slightly roughening the complete area using a scotch bright pad or fine sandpaper.

Remove any dirt or dust from all surfaces.

Wipe down the Fusion panel surfaces with a solvent such as Isopropyl alcohol to remove any grease residue. Ensure all solvent residues have evaporated before applying any adhesive.

It may be necessary to apply a primer to wooden battens as a barrier to moisture that may adversely affect the adhesive bond strength. Follow recommendations of the adhesive manufacturer, if required.

Apply a single uninterrupted strip of 3mm double-sided tape along the entire vertical length on each side of the batten/furring.



Apply a single uninterrupted bead of adhesive along the entire vertical length on each side of the batten/furring. Maintain a 5mm gap between the edge of the batten/furring each strip of double-sided tape.

Do not run a bead of adhesive horizontally along the top or bottom of the panel as this will obstruct free air flow and inhibit adhesive curing.

Remove the protective film from the double-sided tape.

Using suction cups to lift the Fusion panel, align the panel into the allocated installation position, ensuring all expansion gap allocations are met. Push the panel onto the wall and maintain pressure until there is contact with the double-sided tape.

Note: The double-sided tape is only providing temporary support until adhesive curing is complete.

Keep panels supported for >24hours to ensure the adhesive has cured and full adhesive strength been achieved.

6.8 Sanitary and shower partitions

ONLY 13mm black core Fusion Composite Solid Surfaces is suitable for use as doors and panels within partitioning installations.

The installation design must ensure that Fusion panels are able to dry, do not standing in water and that the room has sufficient ventilation.

Fixtures and fittings used in the installation must not allow water to pool in contact with either the surface or core of the Fusion panels.

A minimum gap of 10mm MUST be left between the top surface of the primary floor and the bottom edge of the Fusion panel.

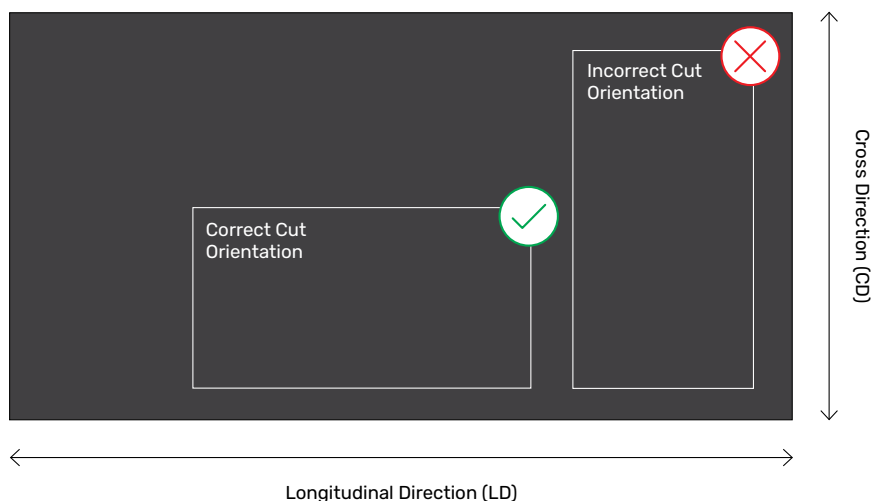
For full privacy installations, the use of a metal channel into which the Fusion panel is placed is allowed ONLY if the following conditions are applied:

- The channel is fitted with holes or other effective drainage method to prevent water from pooling.
- The Fusion panel is fixed into the channel at the required 10mm elevation above the internal base of the channel.

Fusion Composite Solid Surfaces will react to changes in ambient conditions, particularly changes in temperature and humidity, affecting the moisture content of the product and may result in expansion and/or contraction of the product.

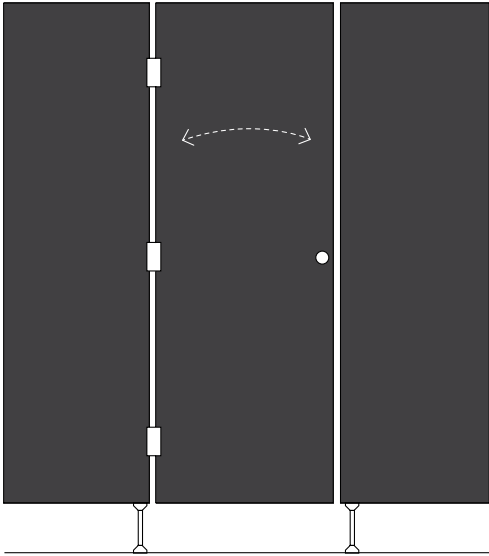
Fusion Composite Solid Surfaces must be conditioned prior to fabrication and at the job site prior to installation.

Partitioning doors and panels must be cut with the long edge aligned to the Longitudinal Direction (LD) orientation of the Fusion panel.

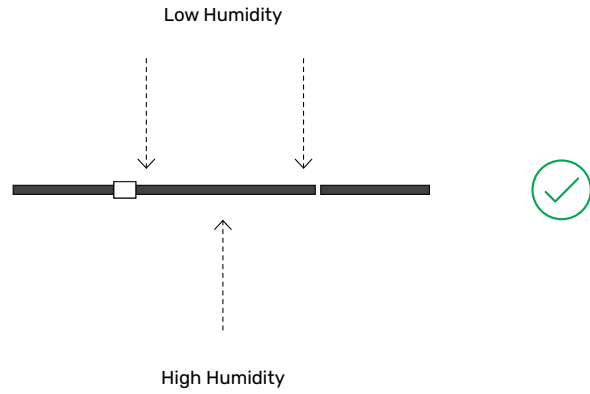


Correct Orientation

Door cut with the long edge aligned to the Longitudinal Direction (LD) orientation of the Fusion panel. Hence, warpage in response to environmental conditions occurs vertically occurs horizontally.



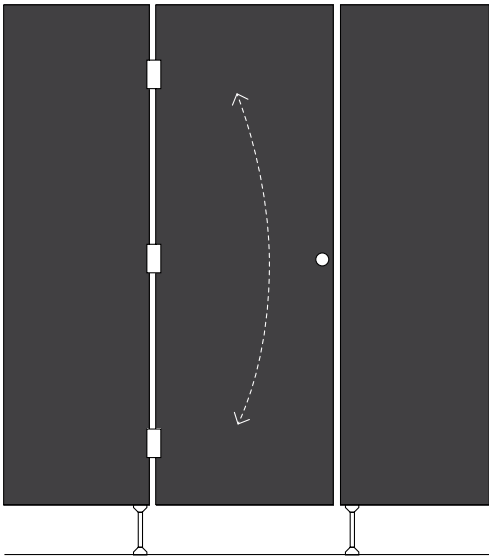
Front View



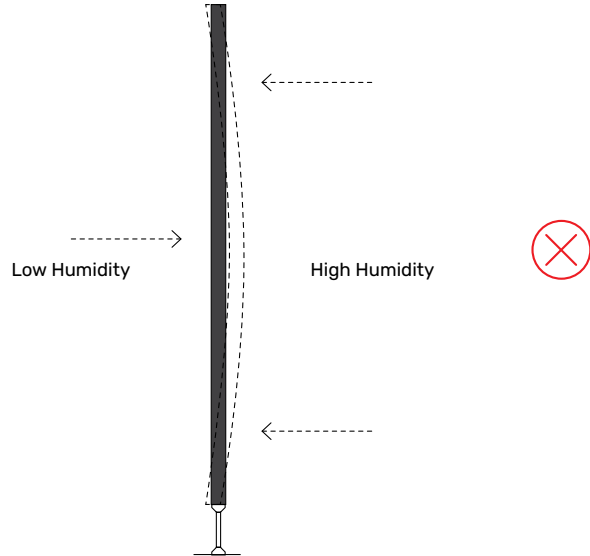
Top View

Incorrect Orientation

Door cut with the short edge aligned to the Cross Direction (CD) orientation of the Fusion panel. Hence, warpage in response to environment conditions occurs vertically.



Front View



Side View

When both decorative faces of Fusion Composite Solid Surfaces doors or panels are not exposed to the same temperature and/or humidity level, warping and bowing can occur. The degree of deformation will be proportional to the size of the door or panel.

This is not a product fault, but rather an inability to adequately control the environment within which the product is installed.

It is important that ambient conditions on each decorative face are the same, as an imbalance will result in each decorative face expanding (moisture gain) or contracting (moisture loss) at different rates. Hence, resulting in differential movement in response to the installation environment.

Where panels are mounted on a wall or enclosed in a cabinet, it is essential that adequate ventilation is provided to achieve equilibrium between the front and back faces in response to the temperature and humidity in the environment.

Suitable hinge quantities should be employed to brace the material and minimise the occurrence of warp or bow. For example, cubical doors greater than 1500mm high should have a minimum of 3 hinges. Additional hinges may need to be employed, depending on the design and environmental conditions.

7 – Finishing

7.1 Clean up

Adhesive overruns should be cleaned up immediately using a clean dry lint free cloth and white spirit (Methylated Spirits, Isopropyl Alcohol).

- Ⓢ DO NOT use any product containing high levels of bleach, ammonia, or use any solvents, thinners, acetone or strongly acidic or alkaline cleaners or commercial cleaners as this may damage the surface of the Fusion Composite Solid Surfaces.
- Ⓢ DO NOT introduce waxes or polishes as they can change the surface gloss level.
- Ⓢ DO NOT use any abrasive cleaners even those in liquid form as they may damage the surface.
- Ⓢ Claims arising from damaged or etched or chemically damaged surfaces are not covered under warranty.

For general cleaning post installation use an all-purpose cleaner such as Windex spray cleaner to remove streaky marks or general surface contamination.

- Ⓢ DO NOT use Spray and Wipe as it is unsuitable for the decorative face of Fusion

Care should be taken with clean up that cross contamination especially from chemicals used on an installation site does not occur. Always use a clean lint free cloth.

7.2 Care and maintenance

Minor Scratch and Scuff removal can be achieved using a Melamine Sponge (commonly known as a 'magic sponge'). Please test on an offcut for suitability before using on the finished Fusion Composite Solid Surface.

- Ⓢ DO NOT use any kind of abrasive pad to remove scratches or contaminants stuck to the surface.
- Ⓢ DO NOT drag tools or equipment across the surface – always place or lift objects from the surface. If tool use on the decorative face is unavoidable place a protective barrier down to avoid damaging the surface.
- Ⓢ Darker colour will show scratches and marking more readily than lighter colours and therefore require more care.
- Ⓢ DO NOT permit chemicals, adhesives, tools, or equipment used by other trades to contact the surface of the finished Fusion panels. Protective film or coverings should be employed to prevent post installation damage.

Important information

NOTE	DETAILS
Ⓜ ONLY use for internal applications	Claims arising from Non-Internal applications are not covered under warranty
Ⓜ Do NOT expose to heat or moisture	Claims arising from frequent or excessive exposure to moisture are not covered under warranty
Ⓜ DO NOT expose to prolonged direct or indirect UV light	Claims arising from prolonged exposure to UV light, (Natural or artificial sources) resulting in shrinkage, warping, fading or discolouration are not covered under warranty
Ⓜ Causes of bowing or deflection	Claims arising from incorrect conditioning, poor storage, exposure to humidity changes, incorrect installation, are not covered under warranty
Ⓜ ONLY use recommended storage and handling methods	Claims arising from incorrect storage and handling are not covered under warranty
Ⓜ ALWAYS protect exposed coloured edges from coloured staining agents and moisture	Claims arising from discolouration of exposed edges or routed grooves are not covered under warranty
Ⓜ ALWAYS comply with use recommended installation methods	Claims arising from incorrect installation methods are not covered under warranty
Ⓜ ONLY use recommended Care and Maintenance methods	Claims arising from staining or damage attributable to not following Care & Maintenance instructions are not covered under warranty
Ⓜ ALWAYS comply with expansion gap allowances	Claims relating to movement, bowing, deflection or other misalignments of the sheet or failure to follow the expansion gap requirements are not covered by warranty
Ⓜ ALWAYS follow the correct cutting orientation in the sheets	Claims arising from failure to correctly identify and cut sheets in the correct orientation are not covered by warranty
Ⓜ ALWAYS follow recommended thickness and colour core applications for your project	Claims arising from applications using a restricted thickness or colour core are not covered under warranty
Ⓜ ALWAYS follow requirements for gas code and appliance set backs for splashback applications	Claims arising from failure to follow requirements and recommendations for heat generating appliances including but not limited to cooktops are not covered under warranty

Ⓜ Failure to follow this instruction may impact the protection offered by the Warranty.

8 – Appendix

Technical Data Sheet



Fusion Composite Solid Surfaces feature a soft SuperMatte surface, incorporating Protec+® microbial resistant performance and fingerprint resistance functionality, with a complimentary coloured core.

Applications

Benchtops

Vanities

Desktops + tabletops

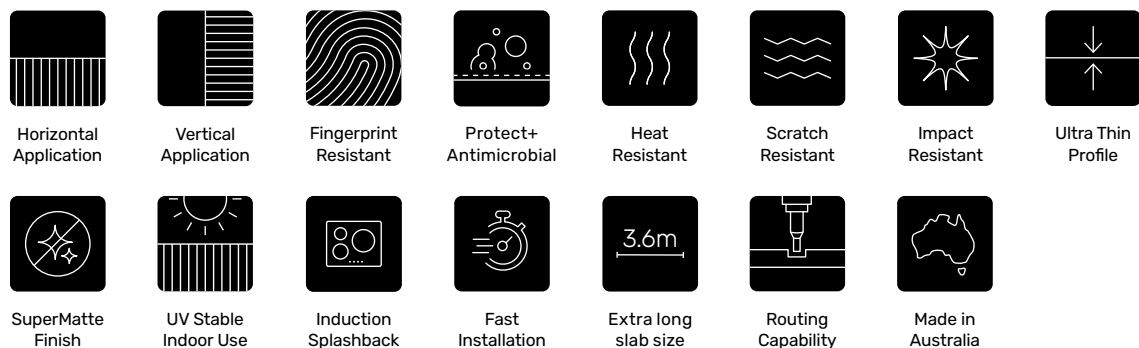
Induction splashbacks

Toilet partitioning

Lockers + seating

Wall panels

Product Attributes



Product Characteristics

PRODUCT CATEGORY	Composite Solid Surfaces	
SHEET SIZE (NOMINAL)	3600mm x 1500mm, 3600mm x 750mm	
THICKNESS (NOMINAL)	6mm	13mm
WEIGHT (KG/M ² APPROX.)	9.2	20
FINISH	SuperMatte	
CORE COLOUR	Black, White, Pewter	
DECORATED SURFACES	Double Sided	
COLOUR/PATTERN	To view the full range, please visit www.laminex.com.au	

Dimensional Tolerance (Tested to ISO 4586-2)

ATTRIBUTE	MEASUREMENT
THICKNESS	± 0.50mm (panels with nominal thickness 6mm) ± 0.60mm (panels with nominal thickness 13mm)
EDGE DEFECTS	Defect free length and width within the nominal sheet size minus 20mm
LENGTH AND WIDTH	+10mm / -0mm maximum deviation
STRAIGHTNESS OF EDGES	1.5mm/m maximum deviation
SQUARENESS	≤ 6mm (variation in diagonal measurement)
FLATNESS (MEASURED IN HORIZONTAL)	5mm/m maximum deviation (panels with nominal thickness 6mm) 3mm/m maximum deviation (panels with nominal thickness 13mm)

Surface Quality (Tested to ISO 4586-2)

ATTRIBUTE	MEASUREMENT
INSPECTION GUIDELINES	Viewing distance 0.75 to 1.5m from panel surface. Viewing shall be conducted at 90° to the panel surface. Acute inspection angles shall not be used. Light intensity approximately 800 to 1000 lx at the panel surface. Illuminated by non critical light of intensity approximately 800 to 1000 lx at the panel surface.
DIRT, SPOTS & SIMILAR SURFACE DEFECTS	The admissible size of defects is based on a maximum contamination area equivalent to 1.0mm ² /m ² and is proportional to the sheet size under inspection.
	The total admissible area of contamination may be concentrated in one spot or dispersed over an unlimited amount of smaller defects.
FIBRES, HAIRS & SCRATCHES	The admissible size of defects is based on a maximum contamination length equivalent to 10mm/m ² and is proportional to the sheet size under inspection.
	The total admissible length of contamination may be concentrated in one defect or dispersed over an unlimited amount of smaller defects.
INDENTATIONS	The admissible size of defects is based on a maximum contamination area equivalent to 2.0mm ² /m ² and is proportional to the sheet size under inspection.
	The total admissible area of contamination may be concentrated in one spot or dispersed over an unlimited amount of smaller defects.

Surface Performance (Tested to ISO 4586-2)

ATTRIBUTE	MEASUREMENT		
RESISTANCE TO SURFACE WEAR	Initial wear \geq 150 cycles. Average wear \geq 350 cycles		
RESISTANCE TO IMMERSION IN BOILING WATER	Mass Increase	Maximum 2.0 %	
	Thickness Increase	Maximum 2.0 %	
	Appearance	Appearance rating not worse than 4 <i>Slight change of gloss and/or colour, only visible at certain viewing angles</i>	
RESISTANCE TO WATER VAPOUR	Appearance rating not worse than 4 <i>Slight change of gloss and/or colour, only visible at certain viewing angles</i>		
RESISTANCE TO WET HEAT AT 100°C	Appearance rating not worse than 4 <i>Slight change of gloss and/or colour, only visible at certain viewing angles</i>		
RESISTANCE TO DRY HEAT AT 180°C	Appearance rating not worse than 4 <i>Slight change of gloss and/or colour, only visible at certain viewing angles</i>		
DIMENSIONAL STABILITY AT ELEVATED TEMPERATURE	Longitudinal direction: Maximum cumulative change 0.40 % Transverse direction: Maximum cumulative change 0.80 %		
DIMENSIONAL STABILITY AT AMBIENT TEMPERATURE	Longitudinal direction: Maximum cumulative change 0.40 % Transverse direction: Maximum cumulative change 0.80 %		
RESISTANCE TO IMPACT BY LARGE DIAMETER BALL	Drop height \geq 1200 mm		
RESISTANCE TO CRAZING	Appearance rating not worse than 4 <i>Surfaces unchanged, with slight hairline edge cracks visible to the naked eye</i>		
RESISTANCE TO SCRATCHING	Rating = 3 (Force \geq 2 Newton)		
RESISTANCE TO STAINING	Groups 1 & 2	Acetone Coffee (120g of coffee per litre of water)	Appearance rating not worse than 5 <i>No visible change</i>
	Group 3	Sodium hydroxide (25% solution) Hydrogen peroxide (30% solution) Shoe polish	Appearance rating not worse than 4 <i>Slight change of gloss and/or colour, only visible at certain viewing angles</i>
LIGHTFASTNESS	Contrast: Grey scale rating \geq 4 <i>When tested in contrast with Blue wool 6 Ref: ISO 105-A02</i>		
GLOSS LEVEL AT 60°C ANGLE <i>AS/NZS 1580.602.2</i>	\leq 8 gloss units		
COLOUR VARIATION <i>ISO 105-A05</i>	Surface material "batch to batch" colour variation of $\Delta E \leq 1$		

Core Performance

ATTRIBUTE	MEASUREMENT		BLACK	OTHER
RESISTANCE TO STAINING (TESTED TO AS/NZS 2924.2)	Groups 1 & 2	Acetone	Rating \geq 5 <i>No visible change</i>	Rating \geq 5 <i>No visible change</i>
		Coffee <i>(120g of coffee per litre of water)</i>	Rating \geq 5 <i>No visible change</i>	Rating \geq 3 <i>Moderate change of gloss sand/or colour</i>
	Group 3	Sodium hydroxide <i>(25% solution)</i>	Rating \geq 4 <i>Slight change of gloss and/or colour, only visible at certain viewing angles</i>	Rating \geq 5 <i>No visible change</i>
		Hydrogen peroxide <i>(30% solution)</i>	Rating \geq 5 <i>No visible change</i>	Rating \geq 5 <i>No visible change</i>
		Shoe polish	Rating \geq 5 <i>No visible change</i>	Rating \geq 3 <i>Moderate change of gloss sand/or colour</i>
RESISTANCE TO STAINING (TESTED TO AS/NZS 4266.2)	Beetroot Juice Black Marking Pen Red Wine Curry Paste		Rating \leq 1 <i>Complete removal of staining agent from surface</i>	Rating \leq 4 <i>Only partial removal of stain</i>
	Tomato Sauce		Rating \leq 1 <i>Complete removal of staining agent from surface</i>	Rating \leq 2 <i>Faint stain left on surface</i>
	Soy Sauce		Rating \leq 1 <i>Complete removal of staining agent from surface</i>	Rating \leq 3 <i>Slight stain left on surface</i>
	Shoe Polish		Rating \leq 1 <i>Complete removal of staining agent from surface</i>	Rating \leq 3 <i>Faint stain left on surface</i>
LIGHTFASTNESS	Contrast: Grey scale rating \geq 4 <i>When tested in contrast with Blue wool 6 Ref: ISO 105-A02</i>			
COLOUR VARIATION <i>ISO 105-A05</i>	Surface material "batch to batch" colour variation of $\Delta E \leq 1$			

Specialty Performance

ATTRIBUTE	TESTED TO:	TYPICAL VALUES	
FIRE HAZARD PROPERTIES	AS/NZS 3837 (In accordance to AS5637.1)	Group Number	3
		Average Specific Extinction Area (ASEA)	65 m ² /Kg (Black core) 4 m ² /Kg (Other core colours)
FINGERPRINT RESISTANCE	Laminex Internal Method	Appearance rating not worse than 4 <i>Slight change of gloss and/or colour, only visible at certain viewing angles</i>	
PROTEC+ [®] ANTIMICROBIAL SURFACE	Protec+ [®] antimicrobial surface technology, prevents growth of bacteria and inhibits fungus on decorative surfaces. Protec+ [®] provides enhanced antimicrobial protection for the expected life of the product.		
ANTIBACTERIAL ACTIVITY AND EFFICACY (24 hours)	JIS Z 2801 Referred to in ISO 22196	PASS = R value > 2.0 orders of magnitude difference between a treated sample and an inert surface	
	BACTERIAL STRAINS TESTED: Staphylococcus aureus (ATCC 6538P) Escherichia coli (ATCC 8739) Methicillin resistant Staphylococcus aureus (NCTC 12493) Pseudomonas aeruginosa (ATCC 15442) Salmonella choleraesuis (ATCC 10708)		
ANTIFUNGAL (INCUBATION CONDITION: 30°C FOR 28 DAYS AT 90% RELATIVE HUMIDITY)	ASTM G21	Rating ≤ 1 1 = Traces of growth (less than 10%) 0 = None	
	FUNGAL STRAINS TESTED: Aspergillus niger (ATCC 9642) Penicillium pinophilum (ATCC 11797) Chaetomium globosum (ATCC 6205) Gliocladium virens (ATCC 9645) Aureobasidium pullulans (ATCC 15233)		

Emissions & Environmental Performance

ATTRIBUTE	TESTED TO:	UNITS	MEASUREMENT
FORMALDEHYDE	ISO 12460-3	mg/m ² h	≤ 1.0
VOLATILE ORGANIC COMPOUNDS (VOC'S)	ASTM D5116	mg/m ² h	≤ 0.5

Important Information

This document must be referenced in conjunction with the latest version of the following documents, accessible at Laminex.com.au

- Fusion Composite Solid Surfaces Fabrication and Installation Manual
- Fusion Composite Solid Surfaces Care and Maintenance
- Fusion Composite Solid Surfaces Warranty

Note: Please refer to full suite of supporting documentation for product limitations (E. & O. E.).

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Care + Maintenance



Fusion Composite Solid Surfaces have a fingerprint resistant and antimicrobial surface that requires special cleaning considerations. To retain the antimicrobial and fingerprint resistant functionality, it is important that the surface is regularly cleaned of food scraps and oily residues.

If your surface is contaminated with oils, the fingerprint resistance property will be prevented from operating effectively. Note that the fingerprint resistance functionality of the Fusion Composite Solid Surfaces is limited to normal fingerprint sebum. Fingerprints which are heavily contaminated with oils, fats, or commercial greases, will remain evident as glossy stains on the Fusion Composite Solid Surfaces.

General Cleaning Instructions

NOTE	DETAILS												
DAY TO DAY CLEANING	<p>STEP 1 USE a mild dishwashing liquid diluted in clean, warm water to remove greasy marks. Dab with a microfibre cloth, wait and wipe away. Final wipe down with a clean dry cloth (microfibre cloth for best results).</p> <p>STEP 2 USE Methylated Spirits or Isopropyl Alcohol (“rubbing alcohol”) on a clean microfibre cloth to remove oily marks and fingerprints that may disrupt the surface appearance. Dry with a clean dry cloth (microfibre cloth for best results) after any cleaning. Repeat if necessary. Note: Dark colours are more susceptible to showing streaks.</p> <p>STEP 3 USE Windex GLASS cleaner if required to resolve any streaky marks left from cleaning STEPS 1 and 2.</p> <table border="1" data-bbox="367 766 1516 1451"> <tr> <td data-bbox="367 766 917 909">Ⓜ DO NOT use “Spray & Wipe” or similar spray style cleaners as these are found to cause glossy marks on the unique AbsoluteMatte surface</td> <td data-bbox="917 766 1516 909">Claims arising from damaged, dull or etched surfaces are not protected under warranty</td> </tr> <tr> <td data-bbox="367 909 917 1011">Ⓜ DO NOT use solvents, strongly acidic (e.g. vinegar) or alkaline cleaners</td> <td data-bbox="917 909 1516 1011">Claims arising from damaged, dull or etched surfaces are not protected under warranty</td> </tr> <tr> <td data-bbox="367 1011 917 1134">Ⓜ DO NOT use commercial cleaning agents as they can contain higher concentrations of strong chemicals</td> <td data-bbox="917 1011 1516 1134">Claims arising from a change of surface gloss are not protected under warranty</td> </tr> <tr> <td data-bbox="367 1134 917 1236">Ⓜ DO NOT use waxes or polishes as they can change the surface gloss level</td> <td data-bbox="917 1134 1516 1236">Claims arising from damaged or etched surfaces are not protected under warranty</td> </tr> <tr> <td data-bbox="367 1236 917 1359">Ⓜ DO NOT use any product containing high levels of bleach, ammonia, or any solvents or thinners</td> <td data-bbox="917 1236 1516 1359">Claims arising from damaged or etched surfaces are not protected under warranty</td> </tr> <tr> <td data-bbox="367 1359 917 1451">Ⓜ NEVER use abrasive cleaners – even those in liquid form – as they will mark the surface</td> <td data-bbox="917 1359 1516 1451">Claims arising from damaged or etched surfaces are not protected under warranty</td> </tr> </table>	Ⓜ DO NOT use “Spray & Wipe” or similar spray style cleaners as these are found to cause glossy marks on the unique AbsoluteMatte surface	Claims arising from damaged, dull or etched surfaces are not protected under warranty	Ⓜ DO NOT use solvents, strongly acidic (e.g. vinegar) or alkaline cleaners	Claims arising from damaged, dull or etched surfaces are not protected under warranty	Ⓜ DO NOT use commercial cleaning agents as they can contain higher concentrations of strong chemicals	Claims arising from a change of surface gloss are not protected under warranty	Ⓜ DO NOT use waxes or polishes as they can change the surface gloss level	Claims arising from damaged or etched surfaces are not protected under warranty	Ⓜ DO NOT use any product containing high levels of bleach, ammonia, or any solvents or thinners	Claims arising from damaged or etched surfaces are not protected under warranty	Ⓜ NEVER use abrasive cleaners – even those in liquid form – as they will mark the surface	Claims arising from damaged or etched surfaces are not protected under warranty
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COLOUR-CORE EDGE CARE	The exposed colour-core edge of Fusion Composite Solid Surfaces may be subject to a different level of staining to the primary decorative surface and will require additional maintenance particularly for medium and light colours. It is important to IMMEDIATELY remove any spill from the surface. Failure to protect the exposed colour core may result in staining that is permanent or difficult to remove.												
REJUVENATE THE SURFACE (FOR OCCASIONAL CLEANING)	If any stains remain from the above cleaning processes, use a melamine sponge with a small amount of dishwashing liquid in clean water to gently spot clean any residual marks on the surface. Gently clean the entire panel using the melamine sponge, regularly rinsing the sponge in the soapy water to remove oils. Once stains are removed, use the melamine sponge to wipe down the entire panel in parallel sweeps. Allow to air dry. Melamine sponges are available from supermarkets and hardware stores, and are typically white in colour and often marketed as “magic sponges” or “magic erasers”. (Be careful not to use a scourer sponge or crème cleanser (e.g. Jif) on the Fusion Composite Solid Surfaces as these will abrade the surface and cause permanent damage).												

General Cleaning Instructions

NOTE	DETAILS	
MANAGING SURFACE SPILLS	<p>Ⓜ IMMEDIATELY clean spills that contain strong pigments or colourants (artificial or natural), such as: beetroot, turmeric and strongly coloured spice preparations, artificial dyes, hair colouring and solvent based pen ink.</p>	<p>Claims arising from staining due to artificial or natural pigments are not protected under warranty.</p>
	<p>Ⓜ IMMEDIATELY clean spills that contain chemicals (artificial or natural), that can etch the surface, such as: grape and berry juices, first aid preparations, concentrated bleach, oven cleaners and concentrated dishwasher detergents and blocks.</p>	<p>Claims arising from chemical surface damage are not protected under warranty.</p>
	<p>Ⓜ IMMEDIATE action is required to remove specialty glues such as Super Glue. Remove straight away with non- acetone nail polish remover. Wash effected area down with water and dry with a soft cloth. If glue has dried, first try gently removing with a plastic (not metal) scraper.</p>	
CAUTION!	<p>Common household staining agents include but are not limited to: turmeric, curry and spice mix, bottled sauce and condiment mixtures with strong colouring, beetroot, coloured cordial bases including frozen ices, medical preparations e.g. Betadine, marker pens, hair & cosmetic dyes, leaking batteries.</p>	
REMOVING STUBBORN SURFACE STAINS	<p>IMPORTANT Please note that use of bleach or abrasive cleaners may irreversibly damage the decorative surface. The warranty will not protect against surface damage from these extreme cleaning methods, caution is advised.</p>	
	<p>Ⓜ If a stain cannot be removed with warm soapy water, try Methylated spirits or Isopropyl Alcohol. Dab the stain, leave for 3 minutes then wash off with clean, soapy water (dilute dishwashing liquid) and dry. Finish off with a clean dry cloth (microfibre cloth for best results).</p>	
WATER MARKS	<p>The minerals in water may leave visible trace marks particularly on dark surfaces. Always dry water from surfaces with a clean dry cloth. Microfibre cloths are particularly effective for simple routine maintenance of this condition.</p>	

Preventative Maintenance

NOTE	DETAILS	
PREVENTION TIPS	IMPORTANT In caring for your decorative surfaces, prevention is the best way to look after your investment.	
DARK SURFACES	Darker colours will show scratches & marking more readily than lighter colours and therefore require more care and maintenance.	
PREVENTING SCRATCHES	(W) DO NOT use scouring pads, metal brushes, steel wool or abrasive/gritty cleaners (even those in liquid form) as they will damage the surface.	
	(W) DO NOT cut directly on the surface. Always use a cutting board.	
	(W) DO NOT drag or slide objects (including: utensils, knives and unglazed pottery) across the surface. Always place and lift objects from the surface.	
PREVENTING HEAT DAMAGE	(W) DO NOT place hot objects, electrical appliances or pots straight from the oven or cooktop on to the Fusion Composite Solid Surface. Always use a protective heat pad or trivet with rubber feet.	Care should be taken with oversize pots and pans that protrude past the cooktop particularly with gas appliances. Heat may deflect onto the decorative benchtop surface. Damage caused by excessive heat is not protected under warranty.
PREVENTING CHEMICAL DAMAGE	(W) DO NOT use any of the following products to clean or permit contact with your Fusion decorative surface: Commercial Cleaning Products, Undiluted bleach, Oven Cleaner, Toilet Cleaners, Solvents, Thinners, Turpentine, Graffiti Cleaners (including Easy-Off BAM, Muck Off), Ammonia, Acetone, Jewellery Cleaning Solutions, Petrol, Acids, Rust & Limescale Remover including CLR.	When using your decorative surface as a work area, exposure to a range of potentially damaging products is possible. Use protective mats or boards, keeping these in the area nearby for ease of access and always using them to protect the surface. Attend to any chemical spill immediately and flush the area with water as soon as noticed.

(W) Failure to follow this instruction may impact the protection offered by the Warranty.

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Limited Product Warranty



7 Year Limited
Warranty



Definitions

'Laminex'	Laminex Group Pty Limited ABN 98 004 093 092 trading as The Laminex Group.
'Residential'	Any product application installed in a residential setting, including but not limited to houses, townhouses or multi-residential apartments.
'Commercial'	Any product application installed in non-residential premises such as, but not limited to, offices, restaurants, bars, religious buildings, educational, healthcare, private business or retail outlets.
'Warranty Term'	<p>Commences on the earlier of the date of delivery or payment in full until the end of the Warranty Term for Fusion Composite Solid Surfaces. Subject to the terms and conditions outlined in this document and the terms and conditions of sale:</p> <ol style="list-style-type: none">1 Laminex warrants to the original purchaser of Fusion Composite Solid surfaces product used for residential or commercial use, the product(s) will, under normal use be free from manufacturing defects during the 7 year Warranty Term; and2 Where a manufacturing defect arises, Laminex will, at its discretion, repair or replace the Laminex product without charge if it is defective directly as a result of manufacture or supply by Laminex.

Terms & Conditions of Warranty

1. **This warranty does not cover any defect/damage caused by:**
 - a. Any act of God, any natural occurrence, third party act or omission or other circumstances beyond Laminex's control;
 - b. Physical abuse, negligence, vandalism, misuse or accidents;
 - c. Exposure to excessive direct or radiant heat;
 - d. Exposure to moisture, including damage from steam or hot water - water ingress from cleaning, water pooling at or near edge of panel or any other exposure to liquids causing panels to deform as a result;
 - e. Staining, discolouration or micro-cracking of the colour-core exposed edge;
 - f. The use of solvents or inappropriate cleaning products/materials;
 - g. Exposure to chemical products and acidic or corrosive materials;
 - h. Normal 'wear and tear', including without limitation, scratches, scuffs, burns, stains, wipe marks, chipping, dents, cuts on the product;
 - i. General fading or discolouration due to direct or indirect UV light exposure;
 - j. Variation in colour, pattern or shade of material against sample material, displays and/or printed illustrations;
 - k. Failure of any adhesive, caulk, or other accessory, or failure of any caulked or filled joins or seams;
 - l. Faulty workmanship by any person other than Laminex;
 - m. Unauthorised modification/application;
 - n. Inappropriate transport, storage and handling prior to installation;
 - o. Failure to follow procedures/recommendations set out in the Fabrication and Installation Manual of the product published by Laminex at www.fusionsurfaces.com.au;
 - p. Failure to follow procedures/recommendations set out in the Care and Maintenance instructions of the product published by Laminex at www.fusionsurfaces.com.au;
 - q. Failure to follow any product procedures/recommendations set out in set out in any published documentation by Laminex at www.fusionsurfaces.com.au

2. This warranty does not cover:

- a. Anything that has been disclosed as a feature or limitation of the Laminex product in any literature published by Laminex;
- b. Outdoor & alfresco applications;
- c. Where a defect is trivial or insubstantial;
- d. Where the claimant is unable to provide proof of purchase or equivalent documentation from an authorised retailer of the Laminex product. Where, as at the date of notification of the defect to Laminex, the type or colour of the alleged defective product no longer forms part of Laminex's standard stock range and the person complaining of the defect does not agree to the supply of a replacement which is as close a type or colour match as is possible from Laminex's then prevailing stock range;

3. This warranty only applies to Fusion Composite Solid Surfaces product:

- a. That is purchased on or after 6th April 2021
- b. That has not been moved from their original place of installation;
- c. Where that part or parts of the Laminex product is affected by the manufacturing defect. Laminex will endeavour to repair to the same standard or replace with the same or substantially similar product and colour. Laminex is not obliged to repair or replace any other product(s);
- d. That has been designed, fabricated, installed, maintained, used and protected in the manner recommended by Laminex, in related literature found at www.fusionsurfaces.com.au (alternatively a copy of literature containing these recommendations can be ordered by writing directly to Laminex at the address below);
- e. Where Laminex has received notification of any manufacturing defect within 7 days of the first person to become aware of it; and
- f. Where the claim is made within the applicable Warranty Term.

4. Cost of claiming

- a. Laminex will bear the expense of reasonable labour charges which are necessary for the repair or replacement of the defective Laminex product;
- b. The person claiming the warranty will bear all other expenses of claiming this warranty.

5. Validity

- a. A claim may only be made against this warranty after Laminex has received payment by first purchaser in full for its product;
- b. A claim may only be made during the applicable Warranty Term;
- c. The Warranty Term does not restart if a claim is submitted; the original warranty commencement date applies; and
- d. The warranty is not transferable or assignable.

6. Limitations:

- a. If you are a consumer as defined under the Australian Consumer Law (ACL) the Laminex Products come with guarantees that cannot be excluded under the ACL. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. This warranty is in addition to your rights under the ACL.
- b. To the extent permitted by law, without limiting your consumer rights under the ACL, Laminex expressly limits its liability under this warranty and under any other statutory guarantee imposed at law to, at its option:
 - i. The replacement or repair of the defective product;
 - ii. A replacement product may not be reasonably available from Laminex in the same shape, type or colour as the original Laminex product covered by this warranty. If a replacement product of the same shape, type or colour is not reasonably available, Laminex reserves the right to provide a replacement product of as close a shape, type and colour match as is reasonably possible from Laminex's then prevailing product range in satisfaction of its obligations under this warranty.
 - iii. The payment of the cost of the defective product, or of repairing the defective product, or of acquiring an equivalent product.
- c. To the extent permitted by law, Laminex expressly excludes all conditions, warranties and undertakings in relation to the Laminex product, whether expressed or implied, including any implied warranty of merchantability or suitability for a particular purpose and notwithstanding any course of dealing between the parties or custom and usage in the trade to the contrary, except as set out in this document.

7. Enquiries

- a. Any enquiries regarding this warranty should be sent to Laminex Warranties, Laminex, P.O. Box 407, Doncaster, VIC 3108. Enquiries can also be made by calling 132 136, emailing enquiries@laminex.com.au or through our online warranty registration form at laminex.com.au.

8. Information required for claims:

- Your name, address, phone number and email;
- Place where the Laminex product was purchased and amount you paid for it.
- Provide a copy of your proof of purchase;
- If the Laminex product has been installed, the installers' business name, proof of purchase including sales order numbers and dates of purchase;
- Type and colour of products installed;
- The address where Laminex product has been installed, and the date of installation;
- Describe the product condition and when this concern was first identified. Supply photographs of the product concern;

9. Cross Reference Material

This document must be referenced in conjunction with the latest version of the following, which can be accessed at laminex.com.au

- Fusion Composite Solid Surfaces Fabrication and Installation Manual
- Fusion Composite Solid Surfaces Technical Data Sheet
- Fusion Composite Solid Surfaces Care and Maintenance

Note: Please refer to full suite of supporting documentation for product limitations (E. & O. E.).

Fusion Composite Solid Surfaces Warranty Registrations

Register your Fusion Warranty online at www.laminex.com.au/laminex-warranty
Remember to retain your proof of purchase.

Swatches & Free Samples

To download high resolution Fusion swatches or to order free samples visit fusionsurfaces.com.au

Call Us

For customer service please call 132 136

-FUSION®