



Reynobond® GRANDEZZA Interior aluminium composite panels

Fabrication and installation guidelines

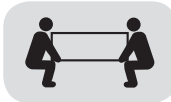
- **GUIDELINES:** The general instructions for the fabrication, handling and storage of our Reynobond® GRANDEZZA Interior panels are presented in this guide. However you must have regard to the laws and regulations of the country, where the activity is being carried out.
- **DO NOT REMOVE** the protective film before installation is completed as specified below. Protective film should be peeled-off immediately after the installation of the panels.
- **INSPECTION:** Any Reynobond® GRANDEZZA Interior panels that show visible damage (dents, impact damage, deep scratches through the protective film, etc.) should be rejected unless the damaged section is outside of the required usable area.



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1. Handling and storage

- In order not to damage the Reynobond® GRANDEZZA Interior panels, please handle them with care by supporting them at several points lengthwise according to the length and the weight. Do not slide the coated surfaces against each other. Insert cardboard between the panels and the pallet.
- Always transport Reynobond® GRANDEZZA Interior panels horizontally on a solid pallet that supports the entire length and a suitable flat trolley. Ensure that the panels are carefully strapped and protected with top and bottom coversheets to prevent damage.



2. Fabrication

- **Thermal expansion and dimensions:** Expansion and shrinkage behaviour must be considered when calculating dimensions. The expansion of a Reynobond® GRANDEZZA Interior panel corresponds to the same as a solid aluminium panel and must be considered when choosing the fixing system and calculating the sizes and the joint width.

The Reynobond® GRANDEZZA Interior panels may only be used at temperatures between -40°C and $+80^{\circ}\text{C}$

- **Panel inspection:** Inspect Reynobond® GRANDEZZA Interior panels for obvious signs of damage during transport or handling. Do not fabricate damaged panels unless the damaged section can be eliminated.
- **Batch:** Always use Reynobond® GRANDEZZA Interior panels from the same batch for one project, this will avoid any minor colour variations.
- **Product traceability:** Should be kept all through the transformation process in order to facilitate the future information research. Check that all panels of the same colour are from the same batch code. It is printed onto the back of the panel. The first six numbers refer to the date and the last four refer to the time.
- **Direction of coil-coating:** Panels can be fabricated to enable the grain direction to be both horizontal or vertical. Metallic coatings have a reflective or

1. Overall parcel inspection before unloading: Any defect detected should be notified to the carrier by writing on the official delivery document with a copy to Arconic Architectural Products SAS (AAP) within 24 hours.
 2. Inspection of the merchandise after unloading, when implementing: Any defect detected should be notified to the sales representative by providing precise traceability data (coil number, pallet number, etc.)
- **SAFETY:** For all handling, transformation and installation steps ensure that appropriate protective equipment is worn: eye protection, hearing protection and gloves. As a general precaution, safety boots are also recommended.



- Store the material in a dry, temperate place on a flat horizontal support whose dimensions are greater than or equal to the panels.
- You will need to take into account the protective film's requirements for the storage (refer to the Protective film section).
- Store the panels in a temperate workshop from 18°C to 20°C at least 24 hours before the transformation work begins in order to deal with dimensional changes due to weather and climate and to optimise the transformation work.
- Always make sure that the weight of the material does not affect the panels below.
- Maximum stacking height is 4.0m.

pearlescent finish, which is oriented in the longitudinal direction during the coil-coating process. This gives the panel "active colour" behaviour, dependent on the angle from which it is viewed. The same applies to the design coatings (wood, stone...). Directional arrows are printed onto protective film and should be used to maintain the same orientation for all panels and avoid shading differences between adjacent panels. This orientation must be taken into account when making panel optimisation calculations. Note the direction of the coating on any cut pieces left without arrows.

- Do not bring the Reynobond® GRANDEZZA Interior panels into direct contact with metals such as copper, brass, bronze or iron. In the case of a contact with a material other than aluminium, the contact surface should be protected by an impermeable coating in order to avoid the risk of interference.
- It's absolutely obligatory to square the panels on the 4 sides. To obtain this squareness, it's necessary to cut the panel only with a sawing (circular saw, CNC...) or milling solution and to consider a cutting width of minimum 5mm on the 4 sides of the panels.
- When temporarily storing panels between different phases of fabrication, use polystyrene or foamwedges.



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A) CUTTING GUIDELINES

Reynobond® GRANDEZZA Interior panels can be cut with traditional tools fitted with a suitable aluminium cutting blade – either tungsten carbide or high speed steel. Always use a dedicated aluminium-cutting blade for all straight cuts. Then you will avoid using a metal file to clean up any fine burrs on the cut edge.

Reynobond® GRANDEZZA Interior splashback panels are best fabricated on a solid work platform (bench or stable board that fully supports the length of the panel). Avoid cutting where the panel is only supported by trestles or posts. Movement of the panel during the cutting process must be avoided to ensure accurate dimensional finish and prevent damage.

IMPORTANT: Always ensure that the workplace is kept free of swarf and other hard objects that may damage the Reynobond® GRANDEZZA Interior splashback surface. The use of vacuum extraction is recommended to prevent build-up of swarf on the work piece or cutting equipment. If vacuum is not available, stop regularly and clear the swarf.

B) EQUIPMENT

The following cutting equipment can be used for cutting Reynobond® GRANDEZZA Interior panels as well as additional tools such as: glazier's suction cup x 2, silicone application gun, straight edge, builders angle, measuring tape, self tapping, metal file, metal roller for rolled over edge finish, 3 mm packers and spirit level.

- Handheld circular saw:

Particularly appropriate for use in a workshop or on site. Simple to use, it cuts panels at high speed. The use of a flat trapezoid toothed blade and a negative cutting angle gives good results when cutting aluminium. The feed speed will be of about 20 m – 25 m/min depending on the type of high-speed steel or carbide blade. A circular saw cuts with an upward direction of the blade, thus the decorated surface must be downwards.

- Router:

Hand-held machines allow groove cuts to be made on large surface panels or milling along the edge (folded edge, edge insert). The use of a guide rail or template allows better accuracy and repeatability of the operation. A handheld router cuts with a sideways action; however, because of the high level of dragging during operation, the decorated surface should be downwards.

- Milling machine:

All the conventional milling machines (universal, vertical or horizontal) are commonly used on Reynobond®. However, we recommend the use of

protection on the locking device to avoid it leaving marks where it was tightened on the panels. The wide-spaced teeth, the rounded, smooth grooves and the small cutting angle of the high-speed steel or carbide-tipped milling cutters makes this a suitable tool for machining Reynobond®. Cutting instructions: same as router.

- Jigsaw:

Allows the cutting of complex shapes or small cut-outs. It is not suited to sawing long straight lines. The maximum feed speed can be up to 6 m/min and must be adapted to the surface finish required. In this way, one or more parameters can be tested to obtain a better result. Cutting instructions: A jigsaw cuts with an upward action, so the panel should be cut with the finished face down.

- Handsaw:

A handsaw can be used for cutting Reynobond® GRANDEZZA Interior but must have a cutting blade meant for cutting metal (e.g. hacksaw). Cut with the decorated face upwards.

- Hole saw and drills:

Reynobond® GRANDEZZA Interior panels can be cut for plumbing and electrical installations. Cutting can be performed using hole saws or jigsaw. Allowance for a 3 mm expansion gap around joins is required. Reynobond® GRANDEZZA Interior panels are electrically conductive, so all electrical work must be performed by a licenced electrician and plumbing work by a licenced plumber or gas fitter.

- Tools for professional use:

- Vertical saw:

The best saw which is suitable for large runs of work and for better cutting accuracy. Certain models may be fitted with a milling device. A vertical saw cuts with a downward direction of the blade, thus the decorated surface must be upwards.

- CNC flat milling machine:

All the Reynobond® machining operations can be performed on a single machine: the numerically controlled flat milling machine. Cutting, machining and drilling operations etc. can be performed very rapidly with a high degree of accuracy thanks to a multiple tool holder head and of the reduction of handling of the panel between operations. The CNC milling machine is the most rational tool for machining Reynobond® in large runs or where a high degree of accuracy is required. Specific arc-shaped or elliptical cuts will be extremely accurate and the finish will be perfect. Any shape, any type of notch or indentation is possible. Cutting instructions: same as handheld router.

3. Design suggestions and types of fabrication guidelines

Reynobond® GRANDEZZA Interior panels can be fabricated in two main styles:

Folded corners and edges (page 3 – A: preferred method):

This is the aesthetic advantage of our products versus others: It can be folded into internal or external folded corners. A premium-seamless finish without joins or exposed cut edges gives an uncluttered style and it's also easier to clean especially behind cooktop. Panel temperature needs to be around 20 °C to ensure optimum edge appearance.



External corner

Internal corner

Rolled edge

Butt joined corners and edges (page 4 – B: alternate method):

Easier to install, because it requires minimum fabrication. It is composed of flat panels without any folding. This method does not allow for external folded corners around walls or seamless joins in corners similar to the traditional glass method of 2 sheets being butted together.

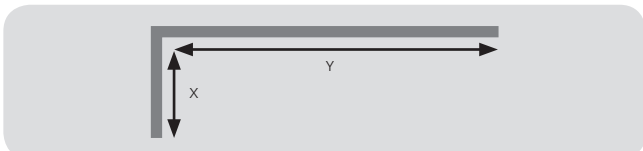


A) FABRICATION OF FOLDED INTERNAL CORNERS, ROLLED EDGES (preferred method):

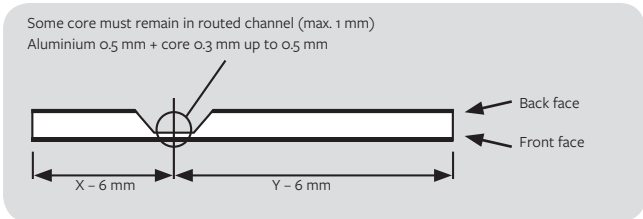
1. Folded internal corners:

For fabrications where the Reynobond® panel is folded into the corner of the kitchen this sequence is observed:

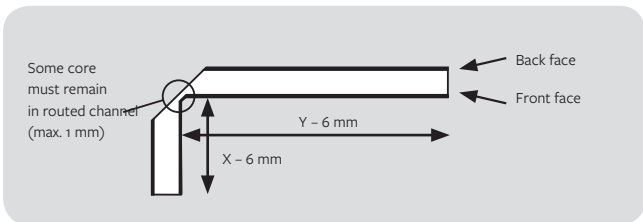
a) Measure the internal dimensions of the corner:



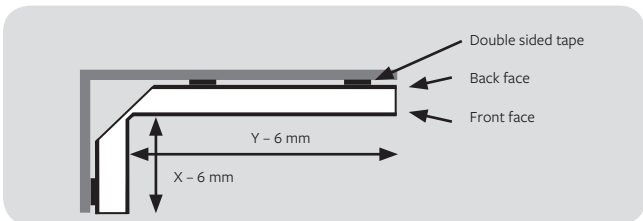
b) Allowance is made for the panel fold in the measurement as per below:



c) The backs of the panels are routed to create a groove, then folded to create the desired fold as shown below:



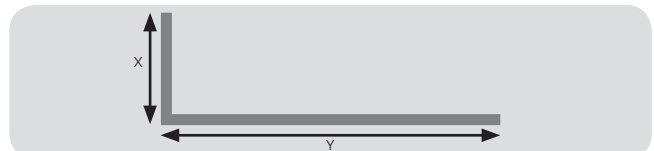
d) An installed folded internal corner:



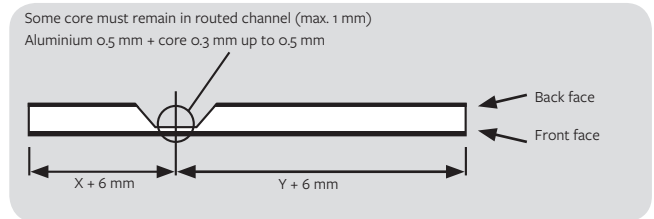
2. Folded external corners:

For fabrications where the Reynobond® panel is folded outwards around the outside corner of a kitchen, the following sequence is observed:

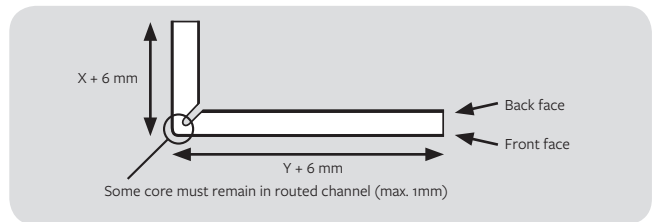
a) Measure the external dimensions of the corner:



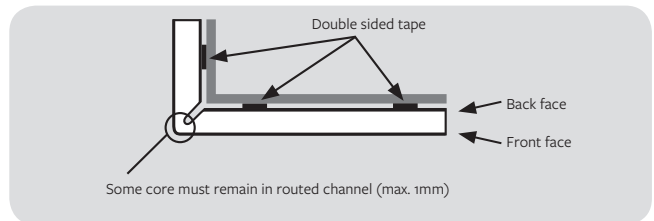
b) Allowance is made for the panel fold in the measurement as per below:



c) The backs of the panels are routed to create a groove, then folded to create the desired fold as shown below:



d) An installed folded external corner:



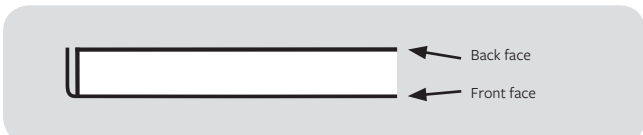
3. Folded rolled edges:

Folded rolled edges give a completely encapsulated finish to the panel, which hides the core of the panel from view. An edge roller tool can be used to assist in finishing rolled edges of the sheet. For big series and large panels, the professional tool “Alu Bender” by “Casadei Industria” is dedicated to edge rolling.

a) Allowance is made for the edge fold in the measurement as per below:



b) The external sheet should be pressed against the edge of the panel.

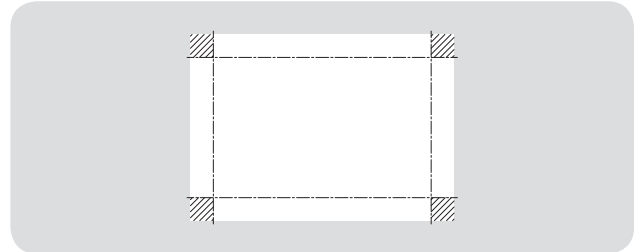
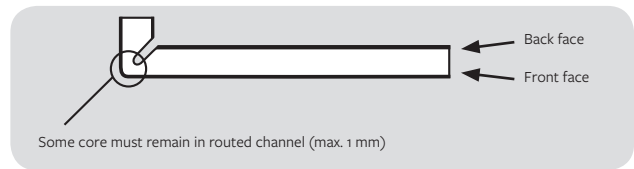


c) Note: The slight overlap of the fold is retained to allow for the thickness of the double sided tape and silicone fastening to the wall. This method is ideally suited to installations where more than one sheet is required to span the wall. It gives a premium join appearance by concealing the cut edge of the sheet.

4. Finished corner details:

Where the panel requires two rolled edges to meet on corners, the following method is used to allow for the edge folds to encapsulate the core:

1. Router the back of the panel as per previous detail for rolled edges allowing the two passes to criss-cross over the corner edge.
2. Remove the hatched areas using a shearing machine.
3. Fold the panels



B) FABRICATION OF BUTT JOINED PANELS (alternative method):

Reynobond® GRANDEZZA Interior panels can be butt joined together or into corners to give a simpler installation without any folding. Ensure that all gaps are maintained at 3 mm (with packers) to allow for silicone sealing and product expansion. If butt join occurs outside corner, suggest folding both edges to ensure best colour consistency at 3 mm expansion joint.

Butt joined corners and straight cut edges is the same method as glass splashback installation and offers a less sophisticated installation, without sacrificing the benefits of Reynobond® GRANDEZZA Interior panels:

- Joins will be visible and edges will be exposed.
- It requires only straight cuts, no routing.
- Provides a clean join in corner; straight joins in panels.
- No joining directly behind the cooktop.

Other installations:

Reynobond® GRANDEZZA Interior panels are suited for use in all splashback applications, when installed according to the installation part, for both gas and electric cooktops. Other applications suited to Reynobond® GRANDEZZA Interior include:

- Wall panels for wet areas (laundry, bathroom, toilets), saunas, pool surrounds and other areas of constant high humidity and dampness; nevertheless Reynobond® panels can't be immersed in the water and sealing joints are a must
- Wall panels for dry areas (commercial and domestic applications)
- Wall linings for commercial applications (lifts, displays, caravans, etc.)
- Lifts – either concealed, profile or screw through fixing
- Decorative vertical applications: door skins, desk fronts, panels, foyers, etc.
- Curved vertical installations: decorative roll bending – Reynobond® GRANDEZZA Interior panels can be roll formed to a minimum radius of 120 mm using mandrel rolling
- Cladding of many vertical applications such as cupboards or wardrobes



Butt joined

Without join

Butt joined

4. Kitchen splashback installations

ALWAYS follow the installation instructions as described here. Failure to follow the installation instructions may create a potential fire hazard to the consumer. DO NOT REMOVE the protective film before installation is completed, as specified in the installation section. Remove the protective film immediately after the installation of the panels. NOTE, for splashback applications, make sure the wall area is non-combustible.

- The minimum set back distance between the installed Reynobond® GRANDEZZA Interior panel and any cook top (gas, electric or induction) is 50 mm from the edge of the appliance. This is to prevent impact damage caused by oversized pots being used on the rear burner or element.

- The core of the fire should be from 85 mm to 105 mm far from the side of the cook top. Installations, where these minimum distances are not observed, create a risk of impact damage from the use of oversized cooking pots.

Figure 1: Electric hotplate clearances

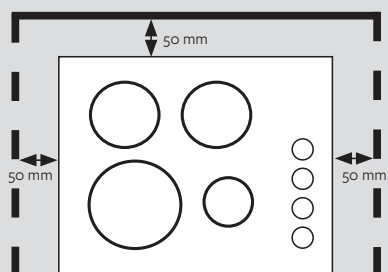
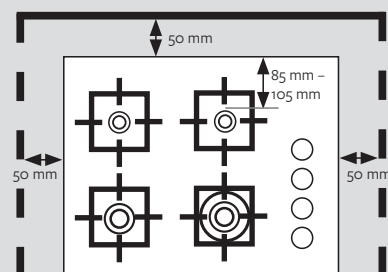


Figure 2: Gas hotplate clearances



A) WALL FLATNESS AND SQUARENESS:

The wall area should be checked for flatness and squareness before any splashback dimensions are taken. Tolerance for wall flatness is ± 2 mm/m vertically and horizontally. Wall squareness is $\pm 5^\circ$ from a right angle (90°).

- The wall area must be a dry and clean surface, free from any crumbling plaster, mortar, sand, grease or major surface damage. Crumbling plaster should be removed with a scraper blade or sanded off, or if severe, it must be repaired with plaster filler. Grease should be removed with isopropanol (IPO) or thinners and wiped dry. Residual mortar or plaster filler should be sanded or scraped off. Prepare the wall according to the suitable adhesive and follow manufacturer's instructions.
- Installation over ceramic tiles is not recommended. The flatness of the wall and condition of the tile adhesive cannot be controlled. It is recommended that the tiles are removed and the wall is relined for flatness.
- Electrical or plumbing penetrations should be cut to slightly oversized for ease of installation.

B) DIMENSIONAL MEASUREMENT:

Wall dimensions should be taken after wall preparation and/or corrections are complete. Measurements are to be to the nearest 1 mm, with allowance for diagonal variations. Check all measurements before transferring to the Reynobond® GRANDEZZA Interior panels surface. (Refer to fabrication section for the most suitable method of cutting to size.) Dimensions will depend on the selected method of installation (viz. folded vs. butt joined method).

C) TAPING:

Double-sided tape must be used to provide initial adhesion during the installation process. AAP recommends the use of 12.5 mm minimum width, 3M VHB 4991 or 3M Scotch tape 4008 tape (or equivalent) to assist in the installation process. The double-sided tape performs two key functions:

- Provides initial adhesion of panel to the wall during silicone cure.
- Allows a uniform dispersion of the silicone.

Double-sided tape should be applied vertically, spaced every 450 mm across the width of the panel, and down the full length of the wall. Do not remove the protective strip from the tape until after the correct positioning of the panel.

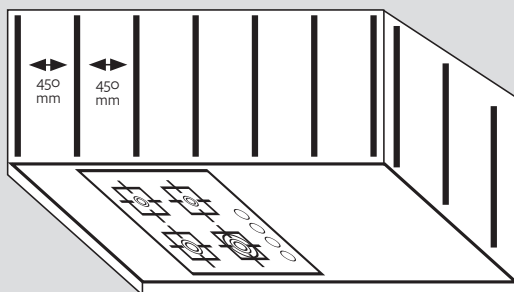


Figure 4: Application of double-sided tape to the wall

D) PANEL POSITIONING:

Reynobond® GRANDEZZA Interior panels should be dry fitted (without silicone) to the wall to check dimensional accuracy. The use of glazier's suction cups will assist in the handling of the panels. Once a satisfactory fit is achieved, the panel should be removed to allow silicone application.

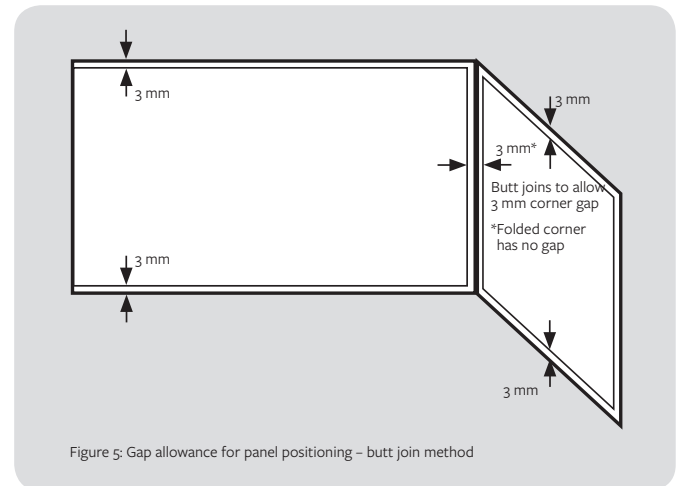


Figure 5: Gap allowance for panel positioning – butt join method

E) SILICONE ADHESIVE APPLICATION:

A 5 mm bead of Reynobond® GRANDEZZA Interior suitable neutral cure silicone adhesive should be applied to the wall using a zigzag pattern between the strips of double-sided tape. Always follow the manufacturer's instructions for use for wall panel adhesives.

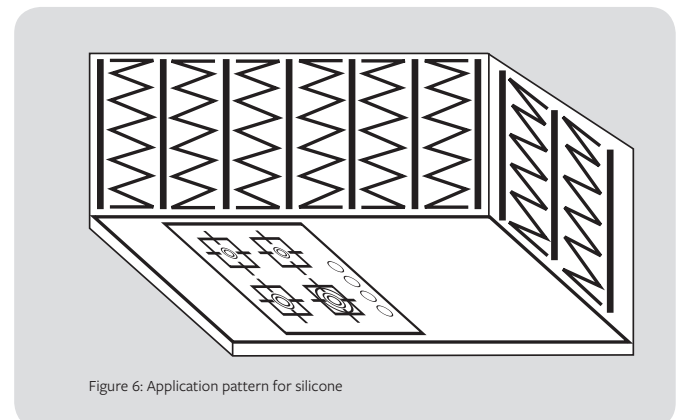


Figure 6: Application pattern for silicone

F) DOUBLE-SIDED TAPE PROTECTIVE STRIP REMOVAL:

Remove all of the protective strips from the double-sided tape, ready for panel installation. Make sure all the protective strips are removed, as there will not be an opportunity to remove once the panel is pressed onto the wall.

G) FITTING OF FOLDED AND BUTT JOINED CORNERS:

1. Fitting with folded corners (preferred method):

Install the panel against the wall, pressing firmly and evenly against the silicone bead until resistance from the double-sided tape is experienced. Both adjacent walls must be considered at the same time to ensure the panel is tightly fitted into the corner – so start at the corner. Ensure the whole panel is pressed evenly and check vertical trueness with a spirit level. Ensure gaps between the panel and overhead cabinets or benchtops are even. Allowance of 3 mm is required at each edge for silicone sealing.

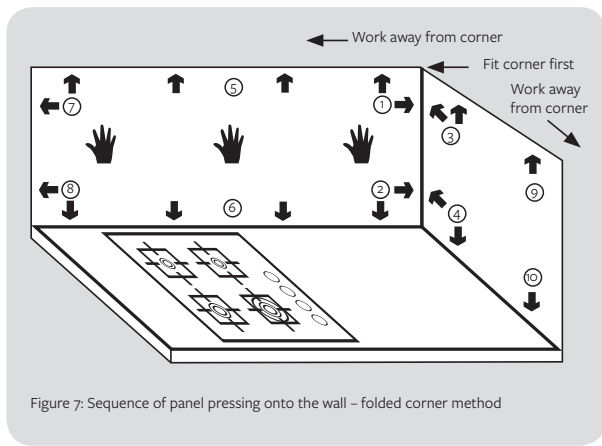


Figure 7: Sequence of panel pressing onto the wall – folded corner method

2. Fitting with butt joints (alternative method):

Butt joining of panels together requires a 3 mm gap between panels for silicone sealing. Each panel is installed and pressed separately, starting at one edge and working to the other. Ensure the whole panel is pressed evenly and check vertical trueness with a spirit level.

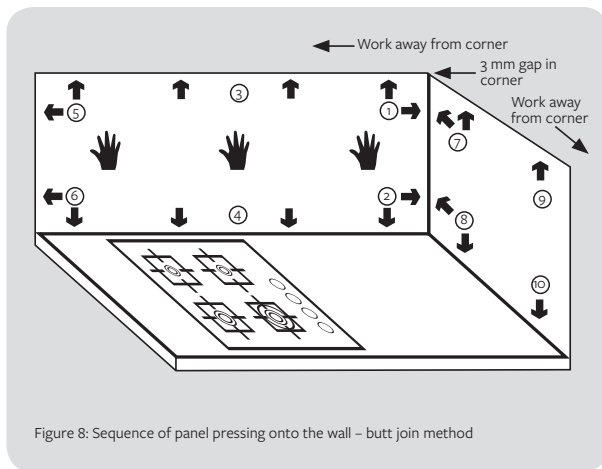


Figure 8: Sequence of panel pressing onto the wall – butt join method

H) REMOVAL OF PROTECTIVE FILM:

Once the panels have been installed onto the wall and all gaps are checked for spacing, the protective film can be removed. Take care to remove the protective film gently, immediately after the installation of the panels – DO NOT rip it from the panel with excessive force or it may move the sheet. Peel with a constant force and from one corner to the diagonal opposite. Remove the protective film immediately after the installation of the panels.

I) SEALING WITH SILICONE:

Apply the silicone into the gap between each panel, and between panels and overhead cabinets/benchtops. Follow the recommendations of the silicone manufacturer. Ensure, that sufficient silicone is used to completely fill the gap, with a small amount of excess silicone squeezing out of the joint. Joints will avoid water to penetrate behind the panel. Use water with a small amount of detergent and a soft micro-fibre cloth to clean up any excess silicone from the decorated surface before it cures.

5. Care and maintenance guideline

Reynobond® GRANDEZZA Interior panels require very little maintenance if installed according to the instructions above and cleaned according to the following guidelines:

Reynobond® GRANDEZZA Interior panels are easy to clean using mild detergent and a soft, abrasion free microfibre cloth. Cooking oil, fat and food splashes are easy to remove. Avoid placing metallic or sharp cooking/kitchen implements or appliances as well as pans directly against the surface.

The use of abrasive cleaners or pot scrubbing pads will scratch the surface, only use a soft, abrasion free microfibre cloth to clean the Reynobond® GRANDEZZA Interior surface. Clean the surface regularly to avoid food stuffs to build up on the surface or water to penetrate behind the panel. Do not use cleaning solutions that are highly acidic or caustic and do not clean the surface if it is hot.

Practical appliance usage: gas cook tops – general comments

Excessive heat from large burners that are poorly adjusted can scorch the surface. To avoid this damage consult the users guide for your cook top. Most manufacturers will give advice as follows.

How to use the burners: Bear in mind the following indications in order to achieve maximum efficiency with the least possible gas consumption.

- Use adequate pans for each burner – generally small pots and pans on small burners to low heat.
- Do not allow the flame to spread up the sides of the cooking vessel.
- When the pan comes to the boil, set the knob to the reduced rate position (small flame).
- Use only pans with a flat bottom and place a lid on the pans.

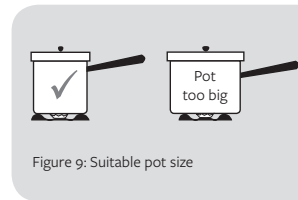


Figure 9: Suitable pot size

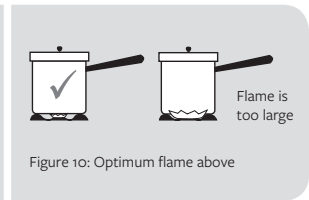


Figure 10: Optimum flame above

6. Disclaimer

As our customer, you are solely responsible for selecting the proper materials (AAP's products) based on your customer's demand, the intended utilization, the technical characteristics of the product integration in the project, the compatibility with other utilized material, and if applicable, how these products are incorporated into other products. Laws and building and safety codes governing the design and use of AAP's products, and specifically aluminium composite materials, vary widely. AAP does not control how AAP products are fabricated, transformed or otherwise configured or used, nor how AAP's products are combined with other materials. AAP assumes no responsibility for any of the foregoing. It is the responsibility of the owner, the architect, the general contractor, the installer and the fabricator / transformer, consistent with their roles, to determine the appropriate materials for a project in strict conformity to all applicable national, regional and local building codes and regulations. AAP is dependent upon Customer to provide true, accurate and complete information relating to product purchases. Reynobond is combustible; it could catch fire and burn. Any laboratory testing information provided by AAP applies only to the particular product or assembly tested and does not necessarily represent how products will actually perform in use. Reports and test data corresponding to a particular tested product sample or assembly are not a guarantee that the same product or assembly would always achieve the same test result. As Reynobond's reaction to fire varies according to its core, please ensure that the product is used in a system that complies with applicable fire safety regulation.



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