

6.0 JOINTING AND FINISHING SYSTEMS

Jointing and finishing of GIB® plasterboard is to be as per instructions to meet requirements of AS/NZS 2589:2017.

This section covers the basics of joint construction and finishing.

For details on the full GIB® compound and accessory range refer to p. 19–24.

Note: The use of correct GIB® materials and practices is critical to delivering adequate joint strength and resistance to cracking which in turn contributes to the performance of GIB® plasterboard bracing systems.

6.1 JOINTING – MATERIALS

GIB® Jointing Tapes

GIB® Paper Tape provides reinforcing and resistance to joint cracking. It is pre-creased for use in internal corners. The rougher side of the tape must face the wall surface when bedded in to the jointing compound.

GIB RocTape® is a fibreglass mesh tape suitable for flat joints.

Jointing Compounds.

There are two general types of jointing compound:

Plaster Based (Setting Compounds)

These compounds are powders based on plaster of paris. They have a specific working time before they start to set and harden when mixed with water in the recommended ratio.

Once the set time is reached, the product begins to harden as a result of chemical reaction between the plaster with water.

Plaster based compounds are mixed on site, enabling viscosity to be adjusted as it's mixed so that it's suitable for the chosen application method.

Product examples: GIB Tradeset® range (different set times), GIB Lite Blue® and GIB MaxSet®. Refer to p. 19–21 for details.

Air Drying Compounds

These compounds are pre-mixed pastes and are ready to use direct from their pails. They do not set but rather rely on evaporation of water to enable their polymer binder to cure.

These products are generally formulated to be softer and easier to sand, so are normally used for the third or top coat. Some air drying compounds are designed as multi-purpose so they can be used for all three coats. Please consult p. 19–21 before using a three-coat air drying compound system.

GIB® Jointing Tapes



Plaster Based Jointing Compounds



Air Drying Jointing Compounds



Product examples: GIB Trade Finish® range (Heavy Weight, Multi, Lite and Extra Lite), GIB Plus 4® or GIB Redifilla® range.

Refer to p. 19–21 for details of each compound's performance.



6.2 DETERMINING HOW MUCH YOU NEED

The table below gives the approximate usage rates for some joint compounds. These figures are approximate and will vary depending on wastage

and the actual thickness at which the product is applied.

APPROXIMATE COVERAGE OF JOINT COMPOUNDS

Coverage in lineal metres per package size

2 coats (taping plus second coat)	
GIB Tradeset®	200m (per 20kg bag)
GIB MaxSet®	260m (per 20kg bag)
GIB X-Block®	90m (per 25kg bag)
Second coat only	
GIB Lite Blue®	330m (per 17.5kg bag)
Top coat only	
GIB Plus 4®	75m (per 15L pail)
GIB Trade Finish® Heavy	70m (per 15L pail)
GIB Trade Finish® Multi	75m (per 15L pail)
GIB Trade Finish® Lite	75m (per 15L pail)
GIB Trade Finish® Extra Lite	75m (per 15L pail)
GIB® U-Mix Finishing Compound	375m (per 20kg bag)
All three coats (taping plus two coats)	
GIB Plus 4®	50m (per 15L pail)
GIB Trade Finish® Multi	50m (per 15L pail)
GIB Trade Finish® Lite	50m (per 15L pail)
GIB Trade Finish® Extra Lite	50m (per 15L pail)

*Skim coat at 1mm thick yields approximately 10m² per kg.

Note: These are estimated quantities, and can vary significantly due to site conditions and fixing practices. They are intended as a rough guide and should not be used for quoting purposes.

6.3 WEATHER AND VENTILATION

Weather Conditions

Understanding the part that weather conditions play in joint construction is critical for the creation of trouble free joints.

Cool Weather

In cool weather the rate of drying drops dramatically so achieving a dry coating in a commercially acceptable time becomes an issue. Under these conditions a thick coating of air drying compound also results in longer drying times, so most stoppers use a setting compound for the first and second coats followed by a thin top coat of an air drying compound.

As the overall amount of drying is diminished under cool weather conditions, it is wise to use a harder sanding finishing compound such as GIB Trade Finish® Multi, or GIB Trade Finish® Heavy which will sand with less risk of scratching or “swirling”.

In cold weather, issues such as partial freezing of the mixing water can result in poor feathered edge adhesion. Do not use below the minimum temperature stated on the bag or pail. The biggest issue here is the speed of drying of plaster. If it has not dried before the next coat is applied, it will shrink, and the result can be delayed shrinkage and hollow joints.

To minimise the above issues, the building needs a source of heating. One option is placement of one 2kW fan heater every 50m² of floor area. This will create slight air movement and take the chill off the air, thereby creating conditions more favourable to drying at a reasonable rate. These provide a gentle uniform heating effect. Always check with the main building contractor before doing this. Check the heater has a thermal overload and always remove all possible sources of combustion (bits of paper etc.) before using.

Try to avoid going above 18–20°C in any individual room in the building. Rapid drying through excessive heat can cause popping or movement of fasteners and joints.

Note: It is not a good idea to use air drying compounds for all coats in winter in an unheated building. Shrinkage will result if each coat has not dried properly, and the ability to dry in a reasonable time is significantly diminished in this situation.

Hot Weather

This may be defined as ‘any part of the job and/or the air around the area of stopping with a temperature at, or above, 25°C’.

In these conditions we recommend the use of GIB Tradeset® 90 or shorter set products such as GIB Tradeset® 45. Air drying compounds tend to be good in hot weather and dry out reasonably quickly.

Rooms that heat up to this extent during the morning should be taped in early so that the compound has a chance to fully set.

Digital thermometers are readily available at hardware stores, to accurately measure surface and air temperatures on site for more informed decision making.

Ventilation and Air Drying

Winstone Wallboards recommends:

- At least one window be opened at either end of the building. Even in wet weather this will allow airchanges and some drying throughout the building. The exception to this would be fog and continual rain. In colder weather these air changes are even more critical as the air carries less moisture
- If the building is locked shut with no air movement the air will dry the joints until such time it has reached 100% humidity and then the drying process will stop

Examples of Relative Humidity (RH) in New Zealand Homes

Averages			
Average ambient humidity (approx.)		=	70% RH
At 70% RH the moisture air can carry		=	30% moisture
Air temp	RH		Moisture air can carry
10°C	70%	=	2.7g /m ³
20°C	70%	=	5.1g /m ³
Typical house example			
Floor Area		=	190m ²
Cubic volume		=	450m ³ (approx.)
Plaster used on house (approx.)		=	100kg
Water required to mix plaster (approx.)		=	66ltrs
Water naturally retained in plaster (approx.)		=	10ltrs
Water to be evaporated from plaster (approx.)		=	56ltrs
Example #1 – House temp 10C and RH 70%			
House volume multiplied by 450m ³ x 2.7g/m ³		=	1.21kg
Moisture the air can carry		=	At 10°C/ 70% RH the maximum moisture the air inside this house can hold is 1.21kg
Example #2 – House temp 20C and RH 70%			
House volume multiplied by 450m ³ x 5.1g/m ³		=	2.30kg
Moisture the air can carry		=	At 20°C/ 70% RH the maximum moisture the air inside this house can hold is 2.30kg
Conclusion			
At 20°C / 70%RH it will take 24 complete air changes to remove the 56ltrs of moisture in this house. However at 10°C / 70%RH it will take even longer requiring 46 complete air changes.			

Setting Compounds

Plaster based compounds are generally used for the base and the second coats of a plasterboard jointing system.

When the setting compound is mixed with water it forms a paste which can be trowelled to form smooth flat joints and which subsequently sets hard.

Plaster requires a specific amount of water to fully set. In hot weather the mixed compound can dry and the water content can drop below this amount before it starts to set. The longer the compound's set time, the more likely it can dry too much before it sets. When dry, the end result can be a "soft" or "weak" bedding compound, poor tape adhesion and poor resistance to cracking.

Air Drying

To provide better plasterboard surface finish quality, sandable air drying compounds are used as the top coat on jointing systems. Some air drying compounds such as GIB Plus 4® are designed as multi-purpose and can be used for each coat in the entire joint system.

Air drying compounds contain powdered mineral fillers held together with a polymer binder (or glue) in a water emulsion. After applying air drying compound to a plasterboard surface, the water needs to evaporate to create a solid mass. This hardening, unlike setting compounds, is directly related to the speed (and temperature) at which the compound dries out. In winter with poor drying conditions, these products can take a very

GIB long time to thoroughly dry to a point where they are sandable. If it has not dried in total before painting, the product can shrink.

A minimum temperature is also required in order to form a film to bind the compound together. In most cases the minimum air and compound temperature for satisfactory application and performance of air drying compounds is 10°C.

If the compound dries below this minimum temperature, the end result is likely to be a much softer compound, that scratches readily when sanded, has poor adhesion to underlying compounds and poor paint adhesion properties.

Approximate Drying Times for Air Drying and Setting Compounds

Relative Humidity	Temperature				
	10° C	16° C	21° C	27° C	32° C
98%	26 days	18 days	12 days	9 days	6 days
94%	10 days	7 days	5 days	3 days	2 days
90%	6 days	4 days	3 days	49 hrs	36 hrs
80%	3 days	2 days	38 hrs	27 hrs	19 hrs
60%	42 hrs	29 hrs	20 hrs	14 hrs	10 hrs
40%	29 hrs	20 hrs	14 hrs	10 hrs	7 hrs

Indicates common weather conditions in New Zealand. Based on 1.5mm–2mm thickness of wet compound.

Drying And Shrinkage

At the time of usage all jointing compounds will contain water. As the excess water evaporates from the compound, varying degrees of shrinkage occurs depending on the type of compound.

Shrinkage is one of the more common failures seen and is usually the result of a coat of jointing compound not being adequately dried before the next is applied. It is avoidable however!

In general, air drying compounds shrink far more than plaster based compounds generally between 15-25%. As air drying compounds are typically applied quite thin, shrinkage does not tend to detract from the overall joint shape.

Setting compounds can shrink by 8-9% with around half of their shrinkage occurring between application and setting. The rest of the shrinkage occurs during the drying process and after setting. Setting compounds are typically used for the base coats and often are up to 1.4mm deep. Whilst the shrinkage percentage may be lower, the thicker amount means the actual amount of shrinkage can be noticeable.

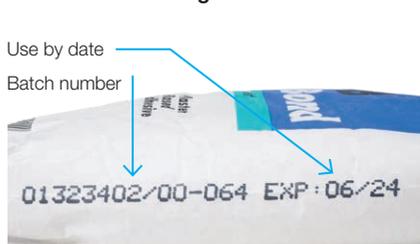
When all is considered the shrinkage that can occur if a coat is not dry before the next coat is applied is in the order of 0.2mm-0.35mm. These are tiny figures, however are detectable on a generally flat wall and quite obvious in critical or glancing light conditions.

6.4 IDENTIFYING PRODUCT USE BY DATES

5kg Bags and Pails



GIB® and Victor Bags



Note: The performance of GIB® and Victor compound products may be compromised if used after the date indicated.

6.5 STOPPING OF TAPERED OR RECESSED EDGE JOINTS – HAND TOOLS

These are the joints where the two tapered (recessed) edges of plasterboard meet.

Surface Preparation

- Ensure that all fixings, screws or nails, are seated just below the surface of the plasterboard. Any fixings that are driven too far into the plasterboard will cut the paper of the board causing problems such as ‘popping’ or ‘dimpling’
- Remove any dust or loose material from the plasterboard

Mixing Instructions

- Mixing instructions for GIB® compounds can be found on the back of the bag or pail
- If hand mixing, it is better to initially mix a setting compound too thick than too thin and add water to adjust. Adding more powder to a thin mixture tends to create lumps that are difficult to mix in by hand
- If machine mixing with a paddle and drill, use a paddle with vertical sides
- Use a slow speed drill. If possible ensure the entire mixing part of the blade is under the compound whilst it is mixing. This reduces the amount of air stirred in to the product, which in turn reduces the incidence of ‘pock marks’ and ‘pin holes’

Tips

- Paint mixing blades are not recommended (identified by the mixing part which looks like two flat wide curved ribbons). These work well in paint, but tend to mix a lot of air into the (thicker) jointing compounds
- A large battery drill is perfect for slow speed mixing, with less introduction of air to the mix compared to most relatively high speed mains power drills

Surface Preparation



Mixing Compounds



Tools Required

Some or all of the following tools will be required depending on the work being carried out.

- Rubber Spatula, or similar, for mixing plaster
- Plastic Pail
- 75mm Chamfered Broad-knife
- 100mm Chamfered Broad-knife
- 150mm Broad-knife
- 200mm Trowel (Optional)
- 280mm Trowel
- Sanding Float
- Corner Trowel
- Dust Mask

All tools must be clean and free of any old/set plaster. Remember that as these tools are being used to create a smooth finish, any kinks or scratches in the edge of the tool will cause rough areas in the plaster. To preserve edges, do not use broad-knives for opening paint cans, etc.



First (Taping) Coat

Using a 150mm broad-knife, fill the recess formed by the edges of the sheets with GIB® jointing compound.

Centre the GIB® tape along the joint and using a 150mm broad-knife press the tape down into the GIB® compound.

GIB® Paper Joint Tape has two distinct sides. The rougher side, facing out on the roll, is bedded into the compound toward the wall surface. GIB® Paper Joint Tape can be folded for use in internal corners.

GIB RocTape® is installed similar to paper joint tape on flat joints but is not recommended for corner joints.

Draw the broad-knife (held at approximately 45 degrees to the board surface), along the joint to remove any trapped air bubbles beneath the tape.

Ensure that sufficient compound is left behind the tape to achieve a good bond.

Immediately apply a thin coat of compound over the surface of the tape. This reduces the possibility of the tape curling and wrinkling, which can lead to edge cracking.

When the compound is set, scrape back any build-up of compound along the joint.

Allow this coat to dry.



Second Coat

Apply a second coat of jointing compound with a trowel. Ensure that this coat extends at least 25mm beyond the edge of the first coat.

Feather the joints to eliminate build-up of the compound at the edges.

Allow to thoroughly dry (at least 24 hours) and scrape back any build-up of compound along the joint.

If a sandable second coat is desired: use GIB Lite Blue®, an easy sanding plaster-based compound with a 90 minute set time, developed for second coating.



Top Or Finishing Coat

Apply a finishing coat of GIB® Air Drying compound with a 280mm trowel. Joint edges should be feathered at least 25mm beyond the edges of the previous coat. Allow at least 24 hours to dry.

Using 220 grit sand paper (or finer sandpaper), lightly sand in the same direction as the joint. Take care not to scuff the face paper of the GIB® plasterboard when sanding the joint.

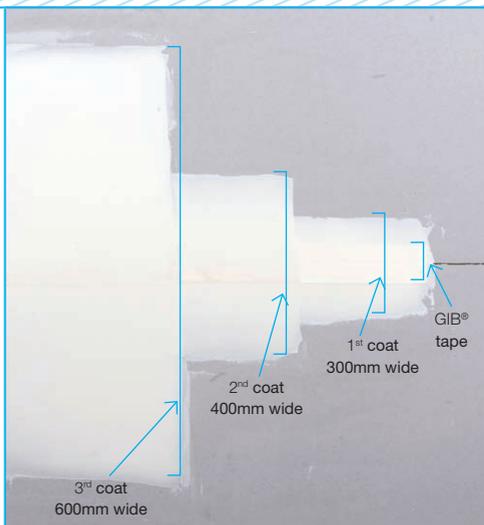
Tip: The finishing compound should not be harder to sand than the second coat. Refer to p. 98



6.7 STOPPING OF END JOINTS / BUTT JOINTS AND CUT EDGES – HAND TOOLS

End Joints / Butt Joints And Cut Edges

- Where possible ensure the plasterboard sheets are fixed so that the butt joint sits mid span and not on framing. If the board is already fixed, use the technique described on p. 47 (where possible) to ensure a joint recess is created
- When jointing two cut edges or sheet ends which are not recessed, care must be taken to ensure the surface build-up of compound is minimised (whilst still creating a strong joint)
- The same procedure should be followed for tapered edge joints, except that the width of each stage is double that required for the tapered edge method. This results in a joint that is around 600mm wide
- Use GIB Tradeset® 45 for the first coat and tape in
- Take extra care when bedding in the tape to ensure that sufficient compound remains behind the tape
- Blending the resultant “bump” from stopping on an un-recessed surface is an issue, especially where critical light comes into play. The wider the joint is, the less the angle it presents to the critical light, so it is less likely that a shadow will show on the side of the joint opposite the light source



6.8 JOINTING TECHNIQUES – MECHANICAL TOOLS

The mechanical tools referenced in this guide are for representative purposes only and do not preclude the use of alternatives. These include pneumatic taping machines and spring loaded flat boxes. All tools must be used in strict accordance with the relevant manufacturer's recommendations.

Tools Include

Banjo – a taping tool containing a roll of jointing tape and compound which simultaneously applies the jointing tape and compound to a joint.

Automatic Taping tool – a more sophisticated taping tool which has better control of the depth of material under the tape and so is a more reliable tool for ensuring good tape adhesion in hot weather. However, as they can be expensive and difficult to clean, these tools do not lend themselves to applying setting compounds, and consequently are seldom seen in NZ.

Box – a box shaped metal vessel with a slot at the top and adjustable wiping surface to control the flow to the joint, and the shape of the joint. Available in different widths for the different coats of the joint and handles to suit the operator.

Corner Finishing Tools – can apply joint compound to internal corners.

Preparation

- Ensure that all fixings, screws or nails are seated just below the surface of the plasterboard. Any fixings that are driven too far into the plasterboard will cut the paper of the board causing problems such as 'popping'
- Tidy up any damaged areas of plasterboard such as broken corners. It is usually easier to remove these completely and fill them with a plaster based (setting) compound prior to continuing
- Remove any dust or loose material from the plasterboard
- Mixing instructions can be found on the back of the compound packaging

Refer to p. 83 for mixing detail.

Mechanical Stopping With Banjo And Box

A Banjo taping tool applies bedding compound and tape in one step and is an efficient method for taping-in of medium/large areas of plasterboard walls or ceilings.

Note: This device places the tape on top of a layer of plaster, the depth of which is not easily controlled. Be aware that lack of compound under the tape can cause tape adhesion issues.

Always place the banjo on the maximum setting when applying the compound in warm / hot weather.

First Coat – Banjo

- Mix the bedding compound with a drill and then carefully adjust the water content until it can just be poured from one bucket to another

Note: if the compound is too thin, the tape will tend to slide along the recess and may peel or drop out.

- Place and lock the roll of GIB® tape onto the spindle and thread inside the banjo and along the top (handle) inside edge as illustrated. Pour the compound into the banjo cavity underneath the GIB® tape. Close and clip the side panel
- Place the coated tape centrally in the joint. Hold the tape with one hand whilst pulling the banjo along the joint with the other hand (make sure that the nose of the banjo is held against the surface of the joint)
- Adjust the banjo control knob so that a layer of approximately 2mm thick of compound is on the underside of the tape and is not excessively squeezed out from the edge of the tape when applied
- After placing the tape at the end of a joint, cut the tape neatly with a broad-knife
- Using a 150mm broad-knife held at about 45 degrees, press the tape down into the compound and at the same time removing excess compound
- When the compound is set (or dry) scrape back any ridges

Note: Do not allow setting compounds to set in the banjo.



Second Coat – Flat Box

The flat boxes used for second coating of tapered joints are typically 200mm-250mm wide. They automatically dispense the correct amount of joint compound and feather the edges in one pass. The adjustable blade holder fine tunes the 'crown' for proper compound distribution and shape. The boxes are controlled by a specially designed handle.

To start, place the adjustable notch for the wiper blade on the second lowest setting and then adjust to suit the job. The advantage of using flat boxes for tapered joints is the speed with which joints can be filled. They generally will not require any further touch-up if set up and operated correctly.

- Mix the compound with a drill and adjust to a 'pourable consistency', i.e. requires a minimal effort to 'push' out of the box but not so thin that it will 'run' out of the box, or slump on the wall during use
- Using a scoop, broad-knife, or pump; fill the flat boxes with compound
- Place the box on the surface of the board as flat as possible. Place one hand just below the head of the box handle (to control application pressure to force compound out of the box) and the other hand at the other end (to control the 'brake' and keep the box running parallel to the joint)
- Allow the compound to dry thoroughly before scraping back any ridges or build up

Note: Do not allow setting compounds to set or air-drying compound to dry in the flat box.



Top Or Finishing Coat – Flat Box

A 300mm flat box is typically used with specifically formulated air-drying finishing/topping compounds for the top/finishing coat.

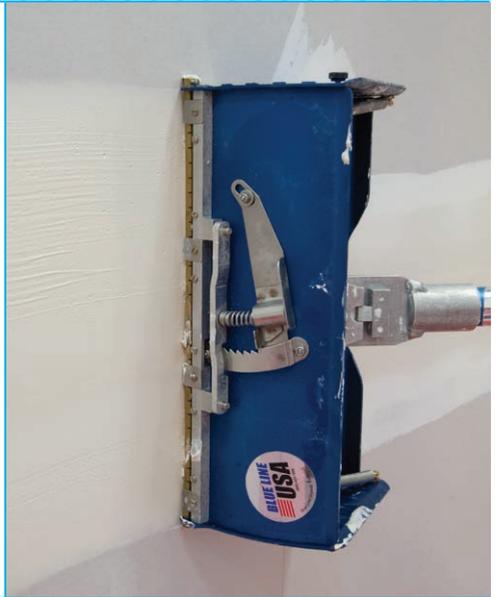
The air drying compound should be thoroughly mixed and if necessary, the consistency adjusted to give a smooth ‘tear free’ finish (but not so thin that it will ‘run’ out of the box during use).

The ‘setting’ of the flat box is typically two notches above the bottom setting. However, adjustment may be necessary.

The box is adjusted and operated to leave a very smooth surface free from lumps, ridges or scratches.

Note: Don’t allow air-drying compound to dry in the flat box. Placing too much compound in one application may result in bubbles, pin holes, and streaks.

Please read notes below to understand some of the issues that can be created by the use of machine tools.



Possible Issues With Machine Tool Application

1. When using machine tools, the compounds placed in them have to be diluted (compared with that required for trowel application) to achieve a viscosity that flows readily through the machine.
 2. The addition of water will result in:
 - **Greater Shrinkage** as the compound dries
 - **Longer Drying Time** due to a greater amount of water to dry
 - **Possibility of Delayed Shrinkage** as more water soaks into the substrate (then has to dry back through the joint)

Longer drying times in cooler conditions must be allowed for before the next coat is applied. Delayed shrinkage may occur if the next coat is applied before the first has dried. Make allowances for this, by warming the rooms to be stopped until the joints are dry.

3. Placing tapes with an automatic taping tool is quick and easy. However it is very easy to force too much compound from under the tape. This can result in poor tape adhesion in summer, as the compound can dry out more quickly. In extreme situations this can lead to the plaster in the compound not being able to set. Be aware and check material depth when starting (to ensure the machine set up and methods of use are appropriate).
4. Horizontally fixed board not supported with framing adjacent to the joint, can result in a variation in the depth of the taper between the two boards. Machine tools can easily place a thin layer on only one edge (this can result in tape adhesion issues).

6.9 NAIL AND SCREW STOPPING

If good fixing practice has been followed, there should be no fixings in the middle of the plasterboard sheet on the wall. However, this cannot be avoided on ceilings or in fire rated or noise control systems.

Critical light areas

This method takes longer, but ensures that no air is trapped between the screw or nail head and the first coat of compound. This reduces the possibility of dimpling.

- For the first coat, press a mixed GIB® plaster based compound into the fastener indentation with a 25mm putty knife, then wipe off the excess
- Do the second and third coats as per the normal jointing procedure

Non-critical light areas

- For the first coat, wipe the compound across the top of the screw or nail head, as per normal towelling application. Use a 100mm broad-knife for the first two coats of compound
- Do the second and third coats as per normal jointing procedure

For either method, leave the first two coats to dry for at least 24 hours before applying the finishing coat with a 150mm broad-knife. Leave to dry for at least 24 hours and then lightly sand with 220 grit sandpaper.

For over-driven screws, use a short set time setting compound to minimise the time and amount of water that can soak in and swell the board paper. Leave for a longer period to dry compared to normal screw stopping. These actions may reduce the incidence of “popping” or “dimpling” on these surfaces.

6.10 CORNERS AND FINISHING TRIMS

External Corners

These can be finished with:

Paper Faced Trims

- GIB® Goldline® profiled paper faced trims
- GIB® UltraFlex® high impact reinforced corner trims
- GIB® Levelline® reinforced corner trims

Metal Trims

- GIB® Slim Angle metal trims

GIB® Slim Angle

- Mechanically fix at 100mm centres on alternate sides of the corner (fixings should also be placed on both sides at each end of the trim)
- GIB® Slim Angle can be fixed with GIB® Grabber® screws or staples (minimum 10mm)
- Apply a first coat of GIB® setting compound, using a 150mm broad-knife or 200mm trowel
- When hard, lightly scrape back using a broad-knife or the edge of a trowel
- Apply a second coat of GIB® setting compound using a 200mm trowel. When hard, lightly scrape back
- Apply a third coat of a GIB® air drying topping compound using a 300mm trowel and leave to dry
- When thoroughly dry, lightly sand in the direction of the joint with 220 grit or finer sandpaper, taking care not to scuff surface paper of the plasterboard

Internal Metal Corner Trims

Inside corners are installed similarly to outside corners except that only one top coat of a GIB® finishing compound is required. A corner trowel may be used to apply and smooth the compound if desired.

Apply similar installation methods for the other metal trims. Casing beads can be secured using GIBFix® adhesive.

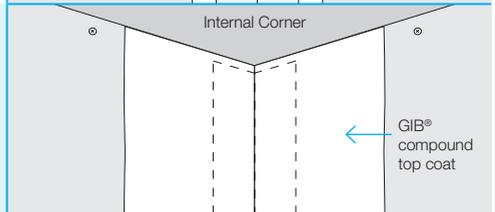
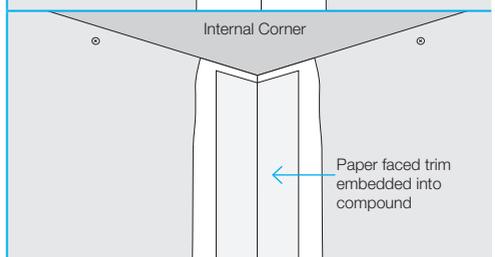
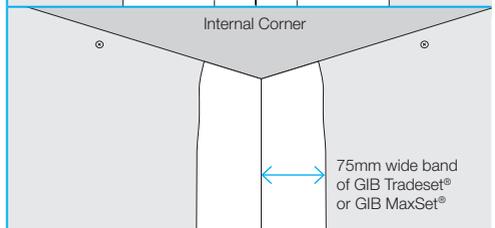
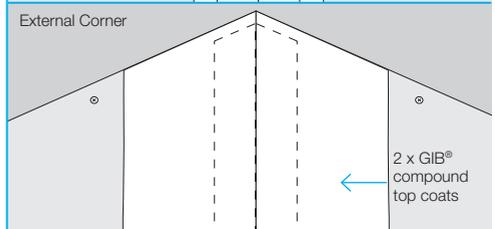
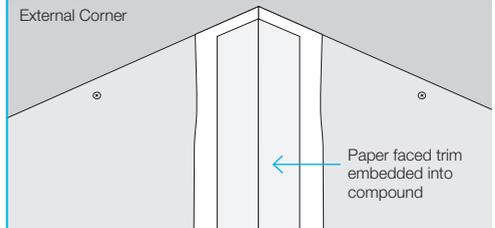
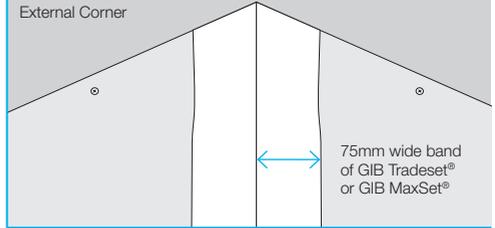
Note: Bullnose external corners are not permitted in fire rated systems.

Paper Faced Trims

- Paper faced trims such as GIB® Goldline® Platinum Tape-on trims, GIB® UltraFlex® and GIB® Levelline™ are installed by embedding directly into the joint compound
- A slightly thinned mix of a GIB® setting compound is recommended for the installation of paper faced trims because they provide maximum adhesion to the paper surface of these trims
- When installing external Bullnose Corners, check that the plasterboard edges do not extend past the corner of the framing substrate on either side. If the plasterboard edges do protrude, trim them back before commencing installation
- Make sure that products such as GIB® UltraFlex® are fully supported by the two plasterboards neatly butted up to each other. Otherwise a void is left behind the trim, which will become a weak/fail point if the corner is impacted at some point during its life
- Apply a 75mm wide band of GIB Tradeset® or GIB MaxSet® to each side of the GIB® plasterboard corner
- Cut trim to required length and position over the joint compound. Allow 10mm at the bottom for expansion and contraction of framing members. Mitre any corners which will be meeting other trims at corners
- Press the trim firmly into the compound evenly along its full length, embedding the trim and forcing out excess compound. The installation of the trim may be performed with the aid of a corner roller. It is crucial an adequate amount of compound remains under the tape for good adhesion
- Using a 100mm broad-knife, wipe off surplus compound and eliminate all air bubbles under the paper. Be careful not to remove all compound
- Using additional compound, flush the joint with a 150mm broad-knife or trowel. Remove any excess jointing compound on the nose of the trim by wiping with a damp sponge
- Allow to harden and dry, then apply a light top coat of GIB® air dry compound (in a band of about 200mm wide). This is done using a large (250–300mm wide) broad-knife or trowel
- Feather the compound by drawing the knife along the trim, with one edge of the blade riding on the nose of the trim and the other on the surface of the GIB® plasterboard
- Repeat for the other side of the trim and allow to dry
- Once the previous coat is dry, apply a second top coat of GIB® finishing compound. Feather the edges of each coat about 50mm beyond the preceding coat. When the top coat is completely dry, lightly sand, taking care not to scuff the face paper of the GIB® plasterboard

Tips:

- Multi purpose air drying compounds may be used to adhere GIB® UltraFlex® and GIB® Levelline® trims, however they may take a long time to dry
- Generally air drying compounds have a higher shrinkage. Filling of any voids behind tapes with air drying compounds is not recommended, voids should be filled with setting compounds



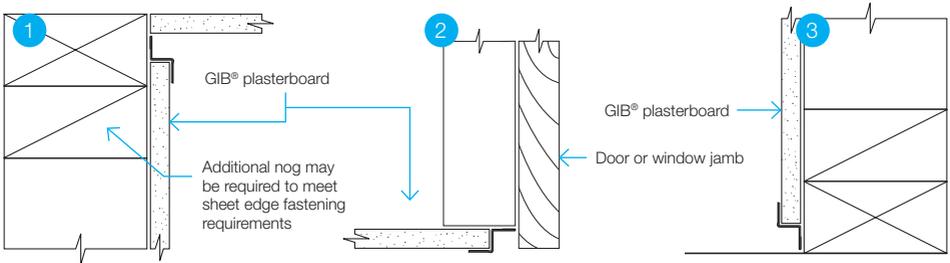
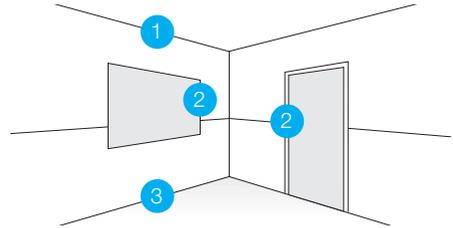
6.11 NEGATIVE DETAIL

Negative details can be formed at plane junctions and at junctions between dissimilar building materials. There are many different effects that can be achieved and some suggestions are shown below.

- GIB® Goldline® Platinum GR reveals, or the GIB® Rondo® P50 metal reveals, can be used to create straight, evenly spaced details that clearly define the junction
- Care needs to be taken to ensure that joints are straight and that adequate clearance is provided for the flange of the reveal trim

Note: Allow a 14mm–17mm gap for the top flange of the GIB® Goldline® Platinum trim or a 12mm gap for the Rondo® P50 metal reveal trim

Negative Detail



Preparation

- Always fix GIB-Cove® prior to skim coating or any paint application
- Ensure that all joints that are not to be covered with GIB-Cove® are stopped first. For accurate placement of GIB-Cove®, mark walls with a chalk line (either 50mm, 55mm, 75mm or 90mm) from the wall/ceiling angle. Measure and cut the GIB-Cove®, using a fine toothed saw and a mitre box. Tidy the cut edges using sandpaper
- If cove work has not been done before, it is suggested that slight over-ordering is done so a short length is available to practice cutting the angles up the right way
- It is also suggested that a chalk line be used around the room to establish the correct position on the wall for the bottom of the GIB-Cove®
- Measure the GIB-Cove® to get the correct measurement for the chalk line set up. Do this by placing a straight edge from each edge of the cove, and measuring the length to where they bisect. Use this measure as the chalk line datum
- Align the cove on the chalk line to ensure all the cove is installed at the same level
- Joints in long runs of GIB-Cove® should be mitred (not square cut)
- Mix GIB-Cove® Bond to instructions on the back of the bag



Application

- In smaller rooms (e.g. toilets and bathrooms) fix shorter lengths of GIB-Cove® first. This allows the longer more flexible pieces to be placed last for a tight fit
- Apply the GIB-Cove® Bond in two strips (about 10mm thick) along the entire length of each edge of the GIB-Cove® where contact will be made with ceiling and wall
- Where friction joints or deflection heads are used in non Fire Resistant Rated commercial light steel framed construction, the GIB-Cove® may be adhered to the ceiling only and sealed to the wall using a flexible sealant
- Carefully place the first length along the chalk line and press firmly into position. Hold in place until the adhesive grips
- Remove excess GIB-Cove® Bond using a broad-knife and clean the joints with a moistened brush or sponge
- Where walls and ceilings are uneven, it may be necessary to hold the GIB-Cove® in position for longer until the GIB-Cove® Bond has set. This is done with partly driven nails or screws supporting the edge of the GIB-Cove®. These can be removed and the holes stopped when the adhesive has set. Note: GIB-Cove® Bond must be discarded after it shows signs of stiffening



6.13 SKIM COATING

All paint products and systems must be applied in strict accordance to the manufacturer's recommendations.

Level 5 Skim Coating

Skim coating is one method to achieve a Level 5 Finish as specified in AS/NZS 2589:2017. A Level 5 Finish is defined as being 'characterised by a parity of texture and porosity' over the entire surface of the plasterboard, jointing and fastener points.

Skim coating can be achieved by applying jointing compound to the surface with a trowel. This creates a uniform texture (and also hides bumps, steps and joint protrusions).

Alternatively, high build paint systems can be used. These are comprised of a specially formulated high build coating which is very efficiently applied with airless spray equipment. These also do an excellent job of masking surface texture variance, but may not correct irregularity in the board surface.

Trowel Application of a Skim Coat New GIB® Plasterboard

This surface is the simplest to skim coat, however care should still be taken as problems can occur through incorrect application.

Any of the GIB® ready mixed air drying range of compounds can be used for trowel applied skim coating. Consider weather conditions when making the choice to ensure optimum sand-ability is achieved. See p. 98 for further detail.

- Joints should be prepared in the normal manner up to the finish coating stage. Allow plaster to dry thoroughly
- Apply a skim coat of approximately 0.25mm–0.5mm (but no greater than 1.0mm) of the GIB® compound of choice to the entire surface of the board
- Leave the skim coated area until completely dry
- Sand by hand or a pole sander, in one direction with 220 grit or finer sandpaper

- Ensure surface is free of dust. Seal with a wallboard sealer prior to decoration. Use a pigmented oil based sealer for areas that will be exposed to moisture

Existing Plasterboard – Undecorated

These areas would typically include board that has been fixed to the wall and has not been stopped. When the board has been exposed to the elements for an extended period of time face paper may fade.

1. Remove any dirt or oil with detergent. Allow to thoroughly dry before continuing
2. Seal the entire area with a pigmented-oil based sealer
3. Lightly sand the entire area with 100–120 grit sandpaper
4. Apply a skim coat of approximately 0.25mm–0.50mm of GIB® air drying compound to the entire surface of the board
5. Leave GIB® air drying compound to completely dry. Sand with 220 grit or finer sandpaper, in one direction, using either a pole sander or sanding block. A vacuum power sander can also be used
6. Ensure surface is free of dust. Seal with an Acrylic Wallboard Sealer prior to decoration. Use a pigmented oil based sealer for areas that will be exposed to moisture

Existing Plasterboard – Painted Surface

1. Clean the entire area to be skimmed with water and a scouring pad. Use an alkaline cleaning solution in water to remove any dirt/oil. Thoroughly rinse with water
2. Sand painted areas to be skimmed with 100–120 grit sandpaper
3. Apply a skim coat of approximately 0.25mm–0.50mm of GIB® air drying compound to the entire surface of the board
4. Leave GIB® air drying compound to completely dry. Sand, with 220 grit or finer sandpaper, in one direction, using either a pole sander or sanding block.
5. Ensure surface is free of dust. Seal with an Acrylic Wallboard Sealer prior to decoration. Use a pigmented oil based sealer for areas that will be exposed to moisture

Existing Plasterboard – Previously Wallpapered

This surface would be commonly encountered in renovation work where old wallpaper has been removed and skim coat is required. This surface presents special problems because it is usually rough, uneven, has loose paper and is covered with wallpaper size.

1. Rinse area twice with warm water and leave to dry
2. Repair any damaged areas to the core of the plasterboard with GIB Tradaset® 20 or 45. Ensure plaster is completely set and dry before proceeding
3. Seal the entire area to be skim coated with a pigmented oil based sealer. (**Note:** Water based acrylic sealers must not be used on existing wallpapered plasterboard)
4. Sand the entire area with 100–120 grit sandpaper
5. Apply approximately 0.25mm–0.5mm thick coat of GIB® air drying compound
6. Leave the GIB® air drying compound to completely dry. Sand, with 220 grit or finer sandpaper, in one direction, using either a pole sander or sanding block
7. Ensure surface is free of dust. Seal with an Acrylic Wallboard Sealer prior to decoration. Use a pigmented oil based sealer for areas that will be exposed to moisture

6.14 SANDING

Winstone Wallboards has a range of compounds to cater for different drying conditions experienced in New Zealand.

The GIB Trade Finish® compounds have different sanding characteristics. For example, during winter a harder finishing compound can be used to avoid scratching and swirl marks. During summer, an easier to sand finishing compound can be selected to speed up sanding (and where a lot of hand sanding is required).

When drying conditions are not ideal, problems may arise with softer compounds scratching too easily and leaving “swirl” marks after sanding. A harder finishing compound is recommended in these conditions (e.g. a switch from GIB Trade Finish® Lite to GIB Trade Finish® Multi or from GIB Trade Finish® Multi to GIB Trade Finish® Heavy Weight in colder conditions).

When selecting a harder finishing compound, it is important to remember the coats underneath need to be just as hard (or harder) and not softer. Using softer compounds underneath a hard compound can be problematic if the top coat is completely sanded away. This can manifest as grooves or trench marks being created rapidly as the softer compound underneath is removed more easily; and may give the impression the top coat has delaminated when it has not. To avoid this, use the same compound or a softer compound for the top coat.

Ease Of Sanding

The plaster based GIB Tradeset® range and GIB MaxSet® taping compounds are both much harder than any of the GIB® air drying compounds, so there are no compatibility issues.

GIB Lite Blue® (which is used as a second coat) is a softer setting compound compared to the GIB Tradeset® range and GIB MaxSet®. GIB Lite Blue® is softer than the hardest air drying compound but suitable to use under GIB TradeFinish® Multi or softer compounds.

Refer to p. 98 for a list of GIB® compounds ordered from easiest to hardest to sand.

Machine sanding

Purpose built vacuum sanding machines can be used to significantly reduce airborne dust, as well as the time and effort taken to sand the joints (and general clean-up time).

- Follow the manufacturer’s instructions. Use 220 grit paper
- When sanding, position the sanding head so that it is in contact with the joint. Press lightly on any feathered edges so that the paper is not scuffed excessively
- Be careful when using a machine sander on nail and screw hole areas. If the paper surface is scuffed excessively, it may show through the finished painted surface as a variance in texture or sheen, diminishing the overall quality of the finish

Pole sanding

- Pole sanding is a dry sanding technique
- Round pole sanders have no corners to dig into the surface and use standard sanding disks like a machine sander
- Rectangular pole sanders are good for corners
- The main drawback with pole sanding is the volume of dust created. Ensure all safety issues are addressed by wearing suitable personal protective equipment before using these tools

Sanding Blocks

These are block shaped sanding pads, handy for corners and small sanding areas.

Sandpaper

Sanding disks come in many types.

Although they may state the same grit size, the abrasive material used also plays a part in how quickly the surface can be sanded. If too abrasive and drying issues are experienced, swirl marks may be left in the surface of the joint.

If problems are experienced with one sort of sanding disk, try another. If the problems are ongoing, change to a harder air drying compound, or heat the premises to be stopped (to ensure the joint has dried), and is therefore sandable.

Sanding In General

- Always sand in the direction of the joint
- Try to minimise “scuffing” of the paper surface next to the joint
- If scuffed excessively, the “furry” quality of the sanded paper will show as a different texture through the painted surface, creating a visible difference in sheen

- Be aware that damp conditions (such as foggy weather), can cause the surface of the board to absorb moisture, and be far more likely to scuff badly when sanded. Either heat the room, or use worn sand paper disks to ensure a less abrasive effect is applied to the paper

GIB Ultraline® plasterboard has a surface coating on the paper which is far more resilient to sanding compared to conventional paper surfaces. This is one of the reasons why this board is touted as a Level 4-plus product.

6:15 JOINT SYSTEMS RECOMMENDATION

The GIB® plasterboard range of air drying compounds caters for different weather conditions caused by seasonal change.

Air drying compounds (the compounds in pails) are held together by binders (glue). When these binders coalesce and cure, they bind the filler particles (mostly limestone) together which causes the product to go hard. How hard a specific compound will be to sand is dictated by temperature as it cures.

- The warmer the weather, the harder the product will become to sand
- The colder the weather, the softer the same product will become to sand

This can be seen when a compound that is great to machine or hand sand when applied on a hot summer’s day is seen to be much easier to sand if applied on a cold winter’s day. This can result in the winter application sanding too easily, resulting in swirl marks that ruin the finish when sanded, it may also be easily damaged if trade folk brush past a dry but not painted joint.

Conversely, a harder compound may sand well in winter, but become too hard if applied in very hot weather, or if in-line with sun shining through a window in summer resulting in direct UV penetration.

This may result in the product becoming “glazed” as it is sanded and very difficult to sand.

To resolve this issue there is a range of GIB® compounds, each of which is optimised for warm, cold, or in-between weather use. It is up to the trades person to select the product most suited to the condition to ensure ease of sanding and quality of finish.

The GIB Trade Finish® range was developed to ensure a product is available that has similar rheological (trowelling) properties through the range, but different sanding characteristics to suit different seasons.

The harder to sand products should be used in the colder weather (winter). In these conditions the binder will not cure as hard, however it will still be hard enough to resist swirl marks, scratching and trade damage.

The easiest products to sand should be used in warm weather, when the binder will cure harder. This creates a surface that is easy to sand and can be machine sanded in summer without leaving swirls and dig marks.

The table on the right shows the sanding characteristics of each GIB® compound.

Remember

- Harder sanding products in cold seasons
- Easier sanding products in warmer weather

Change from one to the other for the cold and warm seasons if ultimate ease of sanding without swirl marks and scratching is desired. Use the chart to guide you to figure what will work best for you.

		Sanding/Scrape	GIB® Air Drying Compound	Setting Compound
Weather Conditions	↑ Warmer	Very easy sanding	GIB Trade Finish® Extra Lite 	
	↕	Easy sanding	GIB Trade Finish® Lite GIB Plus 4® 	
			GIB U-Mix® 	
	↓ Colder	Moderate sanding	GIB Trade Finish® Multi 	GIB Lite Blue® 
		Harder to sand	GIB Trade Finish® Heavy Weight 	
	Easy to scrape		GIB Tradeset® 	
	Scrape while "green"		GIB Maxset® 	

6.16 PAINTING

All preparation and painting work should be undertaken in accordance with AS/NZS 2311 'Painting of Buildings' and with the relevant paint manufacturers recommendations.

Surface Preparation Prior to Painting

Ensure all stopped surfaces are dry, sanded smooth and that any dust, oil, grease or dirt has been removed with a soft brush, damp soft cloth or a vacuum cleaner.

Ensure all windows, electrical fittings, furniture, covers, doors (or other components which are not to be painted), are masked out, covered or protected throughout the painting process.

Guidelines

- Flat paints tend to minimise visibility of any minor surface imperfections but may not be suited to areas that need regular cleaning
- Light tone colours tend to diffuse light, which helps in disguising any minor surface imperfections
- Avoid the use of harsh lighting (e.g. 'wall washers') or situations such as windows extending to the wall or ceiling line. If these situations are unavoidable consider the use of a Level 5 pre-decorative skim coat

- As a general rule 'cut in' around edges and doors with a brush and then apply the remainder of the paint system with a 6mm –10mm nap roller sleeve
- Always maintain a 'wet edge' with the roller and lay off the final coat in one direction, preferably parallel to the dominant light source
- On faded GIB® plasterboard, use a pigmented alkyd sealer as the first coat

IMPORTANT NOTE: BACK ROLLING

Where the paint system will be applied by airless spray equipment, it is essential to 'back roll' the final coat of paint using a roller with a fine nap. This is to create a 'soft' orange peel effect which aids in disguising plasterboard jointing, or any other minor surface imperfections.

Painting Existing Walls

Follow the paint manufacturer's instructions regards preparation and methods of application.

Wallcoverings

New Surfaces – Follow the application instructions of the wallcovering manufacturer.

6.17 PLASTER RENDERING INTERIOR MASONRY OR CONCRETE

Victor® Multi Plus is a plaster based material formulated for application to interior concrete or masonry surfaces.

Mixing Instructions: Undercoat

Victor® Multi Plus with the addition of sand, can be used as a base or undercoat coat (up to a ratio of 35% of sand by volume) to rule out uneven internal concrete substrates. The sand must be a good washed grade, free of contaminants.

- As a guide, use a ratio of 2:1 (two dry volumes Victor® Multi Plus to one volume dry sand). The grade and moisture content of the sand will influence the water requirement
- Ensure mixing equipment and water is clean
- Use 1.1–1.2 litres of water to 2kg of the Victor® Multi Plus and Sand Mixture (11–12 litres of water per 20kg bag)
- Place one volume of water in the container and

then sprinkle two volumes of compound into the water. DO NOT use lime

- Briefly mix until plaster is blended (by hand or electric drill fitted with mixing blade). Note: maximum drill speed 600rpm, as over-mixing can accelerate setting and reduce working time
- Add 1 volume of sand and thoroughly remix, adjusting consistency if necessary. Note: do not retain product that has started to harden (or intermix with previously prepared material), as this will affect the finish and give an unpredictable setting time
- Wire brush surface to provide key for subsequent coats if the surface has been 'polished'



Mixing Instructions – Finish Coat

- Ensure mixing equipment and water is clean
- Use 1–1.06 litres of water to 2kg of Victor® Multi Plus (10–10.6 litres of water per 20kg bag)
- Place water in the container and then sprinkle the compound into the water. DO NOT add lime
- Allow to soak for 3–5 minutes
- Mix until plaster is smooth (by hand or electric drill fitted with mixing blade). Note: maximum drill speed 600 rpm; as over-mixing can accelerate setting and reduce working time

Adjust consistency if necessary by adding water sparingly. Note: do not retain product that has started to harden (or intermix with previously prepared material), as this will affect the finish and give an unpredictable setting time.

Application of Undercoat and Finishing Coat

- Application thickness should be approximately 3mm for a finishing coat. For thicker filling of uneven surfaces such as recessed mortar joints (up to 15mm), it is preferable to lay on an undercoat. The undercoat should be ruled off and trowelled to a flush, but unpolished finish. The Victor® Multi Plus finishing coat may be applied once the undercoat has adequately set (if applied too early the undercoat may distort and fail)
- The finishing coat of Victor® Multi Plus is applied and lightly trowelled to fill imperfections and then finished to a smooth surface. Do not attempt to feather out the gauge as the minimum coating thickness is 3mm. After the background has absorbed most of the water from the finish coat, trowel the surface to make it denser. Light dampening of the surface with water may be necessary to enhance trowelling. As the final set takes place, close in with the trowel to provide a dense smooth surface. Walls should be worked from the top to the base
- Victor® Multi Plus may be applied to a suitably prepared base (which must be sound and free of oil, grease, wetting agents, shiny smooth finishes, dirt or other loose material). If the surface will not provide a key (as for some precast concretes), then it should be roughened or coated with a suitable bonding agent. Check with the concrete manufacturer for bonding agent recommendations

Concrete Masonry, Blocks and Bricks

The surface should be:

- dampened with water if dry
- under coated with Victor® Multi Plus, render, then the finishing coat is applied. Check with a concrete manufacturer for sealing agent recommendations

If the undercoat has dried out, it should be uniformly and lightly dampened down with water (immediately prior to the finish coat application).

Precast or 'Off the Form' Concrete

- Generally application of a bonding agent is required before plastering is commenced. If the surface is uneven, undercoating is recommended
- The finish coat can be applied as soon as the undercoat has set

Low Suction Backgrounds

Precast slab construction, high density concrete, no-fines cement, etc.

- The substrate has a very large influence on the nature of application where a low suction background limits the Victor® Multi Plus thickness
- If too thick a coating is applied in the first coat (above 5mm), there may be a tendency for the material to “slump” on the wall. In any low suction background situation, a bonding agent MUST be used to avoid failure

Medium to High suction Backgrounds

Sand/cement undercoats, aerated concrete slabs and blocks, normal unglazed porous brick work, etc.

- In high suction background situations, the substrate must be adequately dampened down with water (or preferably a diluted bonding agent applied) to control the porosity/suction

These types of substrate do aid the application of a thicker coating, with the subsequent higher suction holding the coats more firmly onto the substrate. Ideally the final coat should be between 3mm-5mm thick.