

# Altro PVCu wall sheet fitting guide

Altro Whiterock™ Vantage

## Description

Altro Whiterock Vantage is a co-extruded PVCu wall sheet can be used in a wide range of applications. The wall sheet can be adhered to many typical substrates used for internal wall construction. It is suitable for new and refurbishment building projects.

The wall sheet is complemented by a range of trim profiles for trimming the edge of the sheet and creating a joint between two sheets.

Sheets are 2.5 mm thick and are available in three sizes -  
2500 mm x 1220 mm  
2750 mm x 1220 mm  
3000 mm x 1220 mm

The sheets are supplied with a protective film on the face which can be left in place until the area is ready for use. This also helps protect the new surface from dust while other trades are working in the area.

Altro PVCu wall sheets have a maximum service temperature of 60°C.

Although the sheets can be applied in most areas, they should never be installed near to a direct heat source (cookers, oven ranges, wall mounted griddles etc) where naked flame or severe heat would cause distortion or damage to the surface. It is recommended that sheets are installed at least 30 cm from a heat source.

For these situations, Altro recommends using stainless steel sheets.

## Surface preparation

All surfaces must be smooth, sound, dry and free of contamination. If necessary, the walls should be cleaned down prior to the Altro wall sheet installation, and primed using 10 parts water to 1 part PVA. - do not use AltroFix W165.

The working environment must also be clean and dust free. Failure to comply with these conditions will reduce the bond strength between adhesive and substrate, and may cause the sheets to de-bond.

- All substrates to be dry to 16% WME (Wood Moisture Equivalent) on Protimeter Surveymaster equipment.
- All loose flaking paint and dust to be removed.
- Friable surfaces to be removed or made sound using proprietary surface treatment as advised by Altro.
- All surfaces to be free from grease. Ceramic tiles must be thoroughly cleaned, degreased, rinsed and left to dry.
- Loose tiles to be removed and the area made good using Ardurapide 45 or 46 rapid repair mortar, sand and cement with Unibond 10 parts water to 1 part PVA mix applied using brush or roller for dusty or friable surfaces, or Hardwall gypsum render coat or a comparable thickness plywood infill.
- Depressions in the substrate should be filled with Ardurapide 45 or 46 rapid repair mortar, sand and cement with Unibond mix, or Hardwall gypsum render coat if drying time permits.
- All electrical switches, power points etc should be in a first fix state where possible. All electrical equipment should only be moved or altered by a qualified electrician.
- If possible, plumbing and pipework should be removed to be at first fix state and tails left protruding from the substrate. Sheets can then be drilled and slid over the pipe tails.
- All holes should be drilled 3mm oversize to allow for expansion. Plumbing should always be carried out by a qualified plumber.
- Hot pipes and steam pipes should be insulated and a 3-5mm expansion gap should be created when installing sheets around these pipes.
- All pipes, screw fixings, bolts etc: fixed through the sheet should have minimum 3mm expansion gaps and be sealed using Altro sanitary sealant.

## Suitable substrates

- Good quality fair-faced brick or blockwork with well aligned joints all bagged up flush and all cement spots removed. They must be straight to within 3mm over 2 metres and brick / blocks flush with those adjacent. Not a suitable substrate for welding, please contact Altro for advice.
- Sand and cement rendering 1:3 mix with a steel trowelled finish.
- 12.5mm thick plasterboard.
- Minimum 9mm see specification details resin bonded plywood.
- Minimum 9mm MDF dense wood based sheets.
- Ceramic tiles, which must be securely bonded to the substrate and thoroughly cleaned.
- Most sound painted surfaces (an adhesive test is advisable to ascertain suitability).
- New pink finishing plasters. These surfaces are generally dusty. They should be brushed and thoroughly sealed with diluted PVA primer (1:10), or Altro Consolidating Primer dry to 16% WME.

## Adhesives

### AltroFix W139

The sheets can be fixed directly to most sound and dry substrates with AltroFix W139, two-part polyurethane adhesive.

The adhesive is available in two tub sizes:-

- 6.5kg unit (ref: A814/25) for 2500mm sheets
- 8.0kg unit (ref: A814/30) for 2750mm and 3000mm sheets

Part A is a viscous cream coloured paste supplied in a plastic tub. Part B is a catalyst (hardener) supplied in a foil bag (separated within the tub).

Pour the liquid contents of the foil bag (Part B) into the plastic container holding Part A and mix thoroughly for approximately 2-3 minutes until a uniform consistency is obtained throughout.

A low speed electric drill with mixing paddle attachment should be used to ensure complete mixing.

Once mixed, the adhesive should be applied to the (pre-cleaned) back of the sheet with a 5mm x 5mm square notched trowel.

## Installation temperatures

Altro recommends the PVCu wall sheets are installed at approximately the same ambient service temperature at which the area will be used when commissioned.

A minimum temperature of 14°C/57°F is recommended for all installation areas. AltroFix adhesive must never be used below +5°C.

Sheets should be stored flat and be pre-conditioned for up to 24 hours to attain the ambient room temperature prior to the installation.

The sheets must be stored on a level flat surface off the ground (risk of condensation on the sheets if stored on damp surfaces).

Storage on un-even surfaces could cause the sheets to distort prior to installation.

## Tools and equipment

In general, the main tools required are similar to carpentry hand tools.

You will also need a 2.5 x 1.22m workbench made from 15mm MDF board (or similar), with support bearers to prevent the MDF from bowing in the middle. The bench provides an excellent work surface for the sheets which are 1.220 x 2.500/2.750/3.000.

## Safety Information

Apart from the normal health and safety rules employed within the construction industry, the following points should be noted:-

- Safety information displayed on the tubs and containers supplied by Altro must be strictly adhered to.
- Safety eye wear must be worn during cutting of materials, when using adhesive, cleaning and preparation of site, and where necessary to adhere to site regulations.
- Use face masks.
- Display prominent safety signs when using hazardous materials, and to warn of a working area.
- Ensure good ventilation within the work area.
- Remove and dispose of all waste sensibly and carefully as per site instructions. Contact Altro on 01462 707600 for all SDS (Safety Data Sheets).
- Apply barrier creams, and wear protective gloves when mixing and applying AltroFix adhesives.
- Keep the working area clean and tidy.

Before starting work, users must refer to the SDS (Safety Data Sheets) for correct safety advice and carry out a COSHH (Control of Substances Hazardous to Health) assessment and risk assessment.

Always wear appropriate PPE (Personal Protective Equipment) and RPE (Respiratory Protective Equipment) when handling adhesives and ensure the area is adequately ventilated.

Contact Altro on 01462 707600 for further advice.

## Workstation

Set up a workstation in close proximity to the area to be clad. A minimum area of 4m x 3m will be required to set up your work bench area.

Adjacent to the workstation, set up a glue-station, where all the mixing of adhesive takes place. The floor area in this location needs to be protected with cardboard (or similar) to prevent splashes of adhesive getting onto the floor.

If an existing or new floor has been laid prior to the installation of the wall sheets, it is essential to protect the floor around the work bench and the glue-station where adhesive may get spilt.

The glue-station is also where the trowels and mixing paddles are cleaned regularly to prevent a build up of excessive adhesive on the tools.

**Please note:** If the adhesive gets on the floor and is allowed to set, removal can be difficult, if not impossible. Therefore if a spillage or splashes occur, they should be wiped up immediately.

## Setting out

- Firstly, check out the room which is to be clad, paying particular attention to the corners, window reveals, and door entrances. These need to be inspected to ensure they are straight, and free of any building waste which could prevent the sheets laying flat to the substrate after the adhesive has been applied and the sheet is installed.
- The wall surface must be clean prior to installation (if necessary, contact Altro Technical for specific recommendations on cleaning and preparation).
- Once preparation has been completed a datum line must be installed. The datum line is used for the calculation of measurements to ceiling height, sockets and pipes etc: and to ensure the sheets are plum as the installation proceeds.
- The datum line should be installed at approximately eye level on the wall and should be done with a laser for accuracy.
- The datum line height (from subfloor) should be calculated to allow for the appropriate skirting height where the bottom of the PVCu sheet meets the specific floor finish (sheet pvc flooring, quarry tiles, PVC sit-on skirting etc). Note: Quarry tile coving must always be installed before the wall sheet is fitted.

- A series of check measurements should be taken around the room from datum to subfloor to ascertain the average height of the datum line.
- The datum height (minus the appropriate floor skirting height) will eventually be transferred on to the face of the PVCu wall sheet. This will enable all subsequent measurements to be processed from the datum line on the sheet.
- Once all measurements have been taken from the wall, they can then be transferred on to the sheet. When the sheet is eventually fitted to the wall, the datum line on the sheet must line up with the datum line on the wall.
- After installing the datum line and calculating the average height, you must then plan the layout of the PVCu sheets. This ensures the best layout of the sheets and minimises the number of joints used in the system.
- If hidden transition detail to be used apply to substrate prior to application of sheets.

## Installation

Once all preparation has been carried out, walls are cleaned and free from dust, any possible contamination from grease (in kitchen and shower areas) has been removed, the datum line and tape primer (Altro W165) have been applied, the Altro PVCu wall sheets are now ready to be installed.

- Place sheet on the workbench and inspect for any damage. Carefully, on the front face (with the protective film), mark your datum with a biro pen, taking care not to press too hard, thus damaging the surface of the sheet.
- Take measurements from the wall, and then transfer these to the sheet. Cut the sheet making sure the sheet is well supported to reduce any risk of stress in the material when being cut.
- After the final cutting, plane the edges with your adjustable block plane to remove burrs and to leave a clean smooth finish.
- Offer the sheet to the substrate to check your work (dry fitting), ensuring you have a 2-3mm expansion joint at all abutments and pipe work.
- When the sheet has finally been made to suit the required wall finish detail, lay this face-down on the workbench and clean the back of the sheet.
- Apply double sided tapes at the top, middle and bottom of the sheet - to correspond with the Altro W165 primer (DO NOT remove the tapes' protective paper at this time).

## Applying AltroFix adhesive

- Wear appropriate safety equipment before handling materials.
- For two-part Altrofix adhesives carefully mix parts A and B together using a large mixing drill and paddle for a minimum of 3 minutes, until an even colour is acquired.  
**Note:** Adhesive must be mechanically mixed.
- Apply the adhesive to the back of the sheet, using the recommended 5mm x 5mm notched trowel. The adhesive should be applied approximately 15mm from the edge of the sheet (where joint strips are to be fitted), and right up to the double sided tapes.
- The working time of AltroFix W139 adhesive is approximately 40 minutes depending on the ambient temperature of the room.
- The trowel must be held so that the adhesive is applied to an even finish, and the trowel notches are replicated to the same depth over the sheet.

## Fitting the Altro wall sheets

- After applying the adhesive, carefully remove the double sided tape protective film and place into a rubbish container. Lift the sheet and install to the required location, ensuring the datum line on the sheet corresponds to the datum line on the wall.
- Once fitted to the substrate, apply pressure to the whole of the sheet face to ensure the adhesive has been transferred and will be fully bonded to the substrate (this is normally done with a hand roller or block of timber covered with a material to prevent the surface being damaged).
- Failure to ensure a good transfer of adhesive to the substrate could result in the sheet debonding.
- Ensure any adhesive residue is thoroughly cleaned off the surface of the sheet or joint trims (and other adjacent surfaces). This must be done immediately, before the adhesive sets.

## Fitting two part PVCu joint trims (A831)

- Once the sheet is in position, the back section of the two-part PVCu vertical joint strip should be fitted. This should be slid behind the leading edge of the sheet until it is approximately 3mm from the central spine.
- If a PVCu transition strip is to be used to create a joint between the sheet and the sheet vinyl floor finish, the back part of the vertical strip should be cut back (by 20mm) to allow the horizontal transition strip to be fitted at the base of the sheet (at a later stage). To find the correct length of the vertical section required, use a small piece of transition strip (as a template) and fit this to the bottom of the sheet.
- When fitting the next sheet, ensure the datum lines are aligned correctly and then position the sheet on top of the back section of the PVCu joint strip, approximately 3mm from the central spine.
- A 2-3 mm gap either side of the central spine will allow the sheets adequate room to expand and contract underneath the front face of the two-part (snap-on) cover trim.
- Carry out this procedure throughout the installation and then finish by installing the front face of the two-part (snap-on) cover trim, cut to the appropriate length.  
**Note:** the front face cover trims can be installed as the work proceeds, or left until all sheets have been installed.
- The front face joint strip covers should initially be positioned by hand pressure. They can then be fully located by tapping with a rubber mallet or small hammer and wooden block.

## Thermoformed corner detail

Altro recommends, wherever possible, to use a thermoformed internal / external corner detail when installing the sheets. This is achieved by heating the sheet on a thermoformer unit and manually forming the sheet to the desired angle. An extra 8 mm should be added to the measurements for external to external corners and 8 mm removed for internal to internal corners. The same measurement as the substrate should be used for internal to external or external to internal corners. See Altro walls detailing sheets for further guidance available at [www.altro.com](http://www.altro.com)

## Fitting two-part internal / external corners (REF: F837 / F836)

Internal and external two-part corner sections are colour matched to Altro Whiterock Vantage - part numbers F837/VAN or F836/VAN.

- Preparation - prime the wall corners with the Altro W165 tape primer sufficiently enough to cover the area that the corners are to be installed. This should be done at the same time as the priming out for the double sided tape, allowing primer to dry to provide a tacky surface.
- When the walls are ready for application, double sided tape should be applied to the back of the PVCu corners in four strips of approximately 150mm long down the corner length. Remove the protective cover from the tape and apply the corner to the substrate.
- If a PVCu transition strip is to be fitted (at a later stage) to the bottom of the Altro PVCu sheet (where wall sheets meet the sheet vinyl floor skirting), the corner profile back section must be fitted accordingly.
- Prior to the Altro PVCu sheet being installed, a bead of Altro sanitary sealant should be applied to both sides of the corner profile (on the inner faces). This will prevent the sheet from having a void where the adhesive stops short of the sheet edge.
- When fitting the Altro PVCu sheet on to the corner profile back section, ensure the sheets are positioned approximately 5mm short of the central spine (to allow for expansion and contraction).
- After the sheets have been fitted, the front covers of the two-part (snap-on) corner profiles can be installed.
- The front covers should initially be positioned by hand pressure. They can then be fully located by tapping with a rubber mallet. Use a small clean, smooth section of softwood timber and place over the cover before tapping with the rubber mallet.

## Floor to wall joint detail

The most aesthetically pleasing method, (where appropriate), is to opt for the standard 50mm overlap detail, which has the Altro PVCu sheet fitted over the top of the self-coved PVC floor finish. See Altro walls detailing sheets for further guidance available at [www.altro.com](http://www.altro.com)

## Fitting the PVCu transition strip (A832)

- The PVCu transition strip is fitted at the bottom of the Altro wall sheet to provide a suitable detail for the sheet to sheet vinyl floor skirting detail. As described previously, the vertical joint strips must be cut accordingly to allow the PVCu transition strip to fit properly.
- Prior to fixing the transition strip to the base of the sheet, a bead of Altro sanitary sealant should be applied to the substrate (just below the sheet). When the back section of the two-part PVCu transition strip is installed it beds into the sealant and maintains a tight hold during installation of the floor.
- Carry out this procedure throughout the area and then finish by installing the front cover section of the two-part (snap-on) joint strip.
- When forming the front cover around internal and external corners, the back of the trim should be carefully undercut (along the spine) to allow the trim to bend around the angles.
- The front joint strip covers should initially be positioned by hand pressure. They can then be fully located by tapping with a rubber mallet or small hammer with a block of wood.
- The front transition strip joint covers must be run continuously around the perimeter of the room, including around internal and external angles. **DO NOT** mitre or butt into corners. The cover trim should meet up accurately with the front covers of the vertical joint strips and the internal / external corner profiles.
- See Altro walls detailing sheets for further guidance available at [www.altro.com](http://www.altro.com)

## Welded Joints

**Substrates** - when installing Altro PVCu sheets with welded joints, it is imperative the substrate is to a very high standard. Surfaces should be true and level to + or – 2mm over a 3m straight edge. Recommended substrates include plasterboard, plywood, finishing plaster and most types of sand & cement render. Altro recommends all plastered surfaces are sealed with Unibond PVA sealer (or similar) diluted 1:10 parts water before fitting sheets.

**Planning layout** - when planning the layout of the sheets it is important to minimise the number of joints in the walling system. Ensure joints do not fall too close to corners. Altro suggests joints should not be formed any closer than 300mm from a corner. This will avoid any possible risk of mis-alignment between the joint when the next sheet is fitted.

**Preparing the joint** - Before installing the sheets, you must fit the white Foam Double Side Tape (A915) to the substrate at the centre point where the two sheets meet. The double side tape is impregnated with a contact adhesive. Therefore, all substrates must be primed before fitting the tapes. The primer is only required where the 50mm wide tapes are to be fitted.

**Sheet preparation** - ensure all sheet edges (where joints are to be formed) are clean, smooth, true and level. Always inspect new sheet edges are undamaged or scored. If necessary, cut and plane to a square edge. Check there are no fines left on the edge of the sheet. These fines could burn when hot welding the joint and will leave a blemish which can not be removed from the joint. When preparing the fitting of the sheet, always ensure there is an adequate gap (2-3mm) between the sheet and any rigid abutments (ceiling, windows, doors, services etc) to allow for expansion. These isolation joints must be sealed with Altro sanitary sealant.

**Application methods** - after priming and fitting the foam double sided tape, leave the protective top film in place (this will be removed at a later stage). Once the sheets have been prepared and dry fitted to check everything is correct, apply the adhesive to the back of the sheet in the normal way. Mark a line 25mm in from the sheet edge and apply the adhesive to this point, this ensures full coverage up to the tape applied to the substrate. Failure to apply the adhesive to meet the tape may lead to excessive sheet movement once installed.

Install the sheet in the normal way, ensuring the sheet is temporarily supported on timber blocks (or similar) to prevent slipping. Check the sheet is aligned with the datum line before rolling the sheet to achieve a transfer of the adhesive to the substrate. When rolling the sheet, start in the middle and work outwards. At this stage do not roll right to the edge where double side tape is located. Once the sheet has been rolled (almost to the edge), carefully cut down the edge of the sheet where the tape is located, to cut through the protective top film.

Carefully ease out the edge of the sheet to facilitate the removal of that half of the protective top film. Once this has been removed, press the sheets firmly onto the tape to achieve a full bond. Finally, complete the full rolling of the sheet right up to the edge to ensure good transfer of the adhesive.

Make sure the exposed edge of the sheet is clean and free of any adhesive residue. If necessary, clean thoroughly before the adhesive cures. Prepare the next sheet in the same way as described above. Before fitting this sheet you must fit a series of spacer pins against the edge of the previous sheet. This is to provide the correct gap spacing between each sheet. The spacer pins should be 2mm thickness. Do not exceed 2mm thickness.

Fit the next sheet as described above, ensuring the sheet is butted tightly to the spacer pins. Once the sheet has been rolled almost to the edge, remove the spacer pins and then remove the final part of the double side tape protective cover. Press the sheet firmly onto the foam tape and then complete the rolling of the sheet. Check all edges are clean and free of adhesive residue. Once the installation of the sheets is complete, the joints are ready to be welded.

On larger jobs, sheets can be welded as you go. However, Altro recommends that welding does not take place until the adhesive has completely set up. (Usually the next day).

**Hot welding** - firstly, ensure that the weld rod and joint gap to be welded is clean and free of dust and contamination. The hot welding technique used to weld Altro PVCu sheets is basically identical to that used in vinyl floor laying and the same type of tools and welding gun can be used. The Altro wall sheet welding rod is also very similar to that which is used in flooring. Whilst most floor layers use the large Leister Hot welding gun, this can be slightly cumbersome and heavy in the hand when welding vertically. The preferred welding gun is the Leister Hot-Jet "S" welding gun, which is smaller and more compact. The weld rod is passed through a standard 5mm speed weld nozzle which softens the weld rod and sheet edges simultaneously to fuse the materials together under heat.

The temperature of the weld gun can be regulated and the settings depend on the speed at that the sheet is welded at, and this this is something that should be practiced to ascertain what suits. In most floor laying work the typical speed would be approximately 2 metres per minute. However, this is not always practical when working vertically, and Altro Whiterock Vantage may require a different speed than with other Altro wall sheets, so Altro recommends practice welds are undertaken on off-cuts to ensure the ideal speed and temperature.

**Trimming off excess weld rod** - the range of trimming tools currently available to the flooring trade will achieve good results if care is taken. After completing the welded joint you should pre-cut the joint, the Mozart trimming knife is the preferred knife of most fitters.

When trimming the weldrod two passes are key to the process to ensure a flat weld. Choice of tools to trim the weld are installer lead, but care must be taken that all chosen tools are free from rust and are smooth. Failure to follow these guidelines could result in surface defects alongside the joint. The first pass should be done while the weldrod is warm. Spray a soapy water solution or Altro anti-static solution to the sheet along the weld to help lubricate the trimming knife, blade and sledge. This will reduce any friction between the cutting blade and the sheet and minimise the risk of scratching the sheet. If using the Mozart trimming tool leave a final cut thickness of 0.5 - 0.7 mm. Once the rod has cooled down, final trimming can commence with a trimming knife and soapy water.

Take care not to scratch or damage the surface of the wall sheets while undertaking this final part of the operation...

**"Practice makes perfect".**

## Fitting the PVCu start and edge joint strip (A833)

The PVCu start and edge trim is generally used to close any exposed edges (i.e. top or side edges) of the Altro PVCu sheet. This is usually fitted when the sheet is installed lower than the ceiling line, or when the sheet terminates along a wall before reaching a corner or abutment.

- Prior to fixing the start & edge trim to the exposed edge of the sheet, a bead of Altro sanitary sealant should be applied to the substrate (adjacent to the sheet). When the back of the PVCu start & edge trim is installed it beds into the sealant and maintains a tight hold to the substrate.
- Continue this procedure as necessary throughout the area and then finish by installing the front cover section of the two-part (snap-on) joint strip.
- The front cover strip should initially be positioned by hand pressure, and then be fully located by tapping with a rubber mallet or small hammer and block of wood.
- See Altro walls detailing sheets for further guidance available at [www.altro.com](http://www.altro.com)

## Other joint treatment detail

If specified, or specifically recommended by the client, Altro wall sheets can be installed with a silicone joint detail.

- The sheets should be installed with a 3-4 mm gap.
- Altro double sided tapes must be fitted approximately 3mm in from the vertical edge of each sheet to ensure the sheets meet accurately at the joint.
- Altro recommends using masking tape on the front face of the sheets to prevent overspill.
- The edges of the sheets must be cleaned prior to siliconging.
- Ensure sufficient silicone is pumped into the joint so that it forms up against the double side tapes on the reverse of the sheet.
- Once completed, tool off the surplus to leave a neat, flush, sealed joint. (Remove masking tape immediately sealant is tooled off).
- In wet areas such as wet room adaptations, etc. Altro specifies the 50mm Overlap detail.
- See Altro walls detailing sheets for further guidance available at [www.altro.com](http://www.altro.com)

## Hidden transition trim

The hidden transition trim allows the Altro wall sheet installation first and the flooring to be fitted at a later stage.

The trim is situated behind the Altro wall sheet (see diagram WHTT2 and WHTT3) enabling the Altro flooring to run up behind the Altro wall sheet and create the overlap detail, another advantage is it enables easier removal and replacement of the flooring from behind the sheet.

The hidden transition strip has been designed to maintain the overlap detail when replacing flooring without the need to replace the sheet, for installation guidance contact the Altro technical team on 01462 707600.

## Fitting and sealing up to abutments

Altro wall sheets should be fitted to within 3mm of rigid abutments such as window frames, door frames, architraves, ceilings, quarry tiles, skirtings etc. Thus ensuring a 2-3mm gap at these points.

This will allow for expansion and contraction to take place. Prior to sealing the joint, clean the sheet and adjacent surfaces.

All isolation joints must be sealed with Altro sanitary sealant.

## Completion

Once all sheets and joint strips are installed and silicone has been completed, remove the protective film and clean all surfaces down with Altro antistatic solution (A809). This is required as the sheet may have static build up and any dust in the atmosphere will adhere to the surface of the sheet.

## Cleaning

Regular cleaning using a soft cloth and suitably diluted mild detergent is all that is normally required. For heavy grease contamination use Altro 44 alkaline cleaner (or similar). Stubborn marks can be removed with Altro cleaner (ref: A859) or use a non-abrasive domestic type cream bath cleaner.

When cleaning the Altro wall sheet surface, we recommend the temperature of water does not exceed 60° Centigrade.

If cleaning with hot water lance, temperatures must be regulated to a maximum of 60° Centigrade and not to be localised.

Do not use cleaning materials of an abrasive nature. Cleaning cards are available on request.

**For further information or technical advice**

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