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Installation and maintenance guidance

Altro Whiterock Quickclad™ walling systems

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Altro has been manufacturing and installing wall systems for over 20 years. During this time we have developed well proven installation techniques for these materials. The following pages will explain some of the techniques needed, and provide other information essential to the Walling Contractor to achieve a high standard of installation when using the Altro Whiterock Quickclad systems.



Please note the following important points :

- Health & Safety requirements should always be followed, relevant data sheets are available on request
- Materials should be stored safely at the recommended temperatures. (Refer to Technical Data)
- Panels should be maintained at a temperature which they would be expected to perform at after installation
- Chemical resistance charts should be consulted prior to specifying
- The colour used is stand alone for this system, and varies in shade to others in the Altro Whiterock Walls range
- A void between the substrate and the panel can range from a minimum of 30mm up to a max of 200mm depending on the chosen framing system

- Consideration should be given when existing equipment is to be retained as the overall room sizes will be reduced.

Altro Whiterock Quickclad systems

Altro Whiterock Quickclad is a revolutionary wall lining or partition system which can be mechanically fixed to existing poor quality substrates where it may be unsuitable to use the Altro Whiterock system, which relies on bonding to sound, dry, fairfaced substrates, thus eliminating costly remedial repairs.

Comprising two alternative support systems, which utilise galvanised steel profiles, to which a 10mm thick panel 1220mm wide and up to 3000mm long, of expanded PVC can be secured. The panels are joined together with a two-part Aluminium/PVCu H section incorporating a neoprene gasket in the face section creating a water tight seal.

Internal and external corners are fabricated from the sheets of expanded PVC, using routing techniques and adhesive, eliminating the necessity for pre-formed corner trims.



Recommended equipment & tools

General:

- Basic Carpentry/ Joiners tools
- 1- Laser/ Water Level
- 6 - Qwik Clamps Or 'G' Cramps
- 1 - 3m long straight edge, approx. 100mm wide x 19mm (to be used as a router fence)
- 1- Sturdy work bench 2,440mm x 1220mm
- 2 - 3m x 75mm x 75mm PSE Timber
- 1 - Metal Snips
- 1- Skeleton Gun
- Coarse Jig Saw Blades
- Masonry Drill Bits

Electrical:

- 1- 110v Transformer
- 1- 110v Splitter Box
- 4- 110v Extension Leads
- 1 -110v Jig saw
- 1- 110v Percussion Drill
- 2- 110v Routers with quarter inch shanks
- 1- Battery Drill (with Posidrive adaptor)

Safety Equipment:

- Safety Goggles
- Ear Defenders
- Other appropriate site PPE

Specialist: (Available from Altro Walls)

- 1 - QCRC2 45 degree Router Cutter TCT
- 1 - QCRC1 Straight Fluted Cutter TCT

Framing systems

Consideration should be given at the specification stage as to the required distance the finished surface of the panels are to be set off from the original substrate, and to the required floor and ceiling details.(See specific details).

There are two framing options available and they are as follow:

System 1

This system is for use where the void between the substrate and the back face of the panel can be adjusted using packers/shims placed behind the vertical galvanised metal supports, (Ref PMF5) which are in turn fixed to head and floor channels, (Ref AMF6) to accommodate substrate variations in the vertical and horizontal plains. This system will accommodate a void from a minimum of 30mm, up to a maximum of 49mm.

System 2

This system is for use where the void between the substrate and the back face of the panel can be adjusted using liner brackets, (Ref AGL9) attached to vertical galvanised metal supports, (Ref AGL1). This system provides strength, rigidity and support enabling a maximum, 200mm void to be attained.

Note: Partition walls may also be constructed to allow both faces to be lined by utilising a generic jumbo stud system. Contact Altro Technical Dept for further information.

Floor and ceiling detailing

All systems can incorporate the desired finish, typical examples as follow:

Floor



Setting out

System 1

Each run of wall, i.e. between room corners should be treated separately. The position of the front face of the finished Altro Whiterock Quickclad wall lining should be agreed ensuring that allowances are made to accommodate for the variances in the substrate undulations, and that the void between the back of the Altro Whiterock Quickclad panel and the substrate does not exceed 49mm. (Max 19mm packing behind vertical metal studs (Ref PMF5) For voids between 49mm and 200mm refer to system 2.

A string line should be pulled and chalked on the floor, between each abutment, to mark the line/position of the 'U' Channel, (Ref AMF6). Using a plumb and chalk line or laser, transfer the floor datum line to the ceiling. Columns in any given run should be treated in the same manner keeping as tight to the substrate as possible, minimising the need for packing, marking the position on the floor, then transferring those lines to the ceiling.

Pre drill 'U' channel sections (Ref AMF6) at 400mm centres and fix to floor and ceiling datum line ensuring that the longest leg of the channel section faces the substrate, butt jointing where internal and external intersect.

At all internal and external corner junctions cut galvanised steel L sections (Ref A870/30) to length so that it can be fixed on front face of 'U' channel (Ref AMF6) using Wafer Head Screws (Ref A611).

Cut the vertical studs (Ref PMF5) to length so that they can be inserted into the 'U' channel, (Ref AMF6) at approximately 600mm centres, (See Fig 4) commencing at a corner where a full panel is to be applied. If a gap is left exceeding 600mm an additional section should be inserted and centred in the given gap. **DO NOT FIX TO U CHANNELS AT THIS STAGE.**



At window and door openings run a section of vertical stud (Ref PMF5) down the length of the reveal, ensuring it is plumb, and secure into top and bottom channel with wafer head screws, (Ref A611). At windows and doors trim out head and sill, (sill to windows only) with cut sections of galvanised steel angle, (Ref A870/30) and fix to vertical studs, (Ref PMF5). (See Fig 5)



Setting out

System 2

Each run of wall, i.e. between room corners should be treated separately. The position of the front face of the finished Altro Whiterock Quickclad wall lining should be agreed ensuring that allowances are made to accommodate services and equipment to be sited in the void, and that the void between the back of the Altro Whiterock Quickclad panel and the substrate does not exceed 200mm. For voids between 30 and 49mm refer to system 1. For voids in excess of 200mm contact Altro Technical Services.

A string line should be pulled and chalked on the floor, between each abutment, to mark the line/position of the 'U' Channel, (Ref AGL8). Using a plumb and chalk line or laser, transfer the floor datum line to the ceiling. Columns in any given run should be treated in the same manner, ensuring due consideration is given to services and equipment being sited in the void, marking the position on the floor, and transferring those lines to the ceiling.

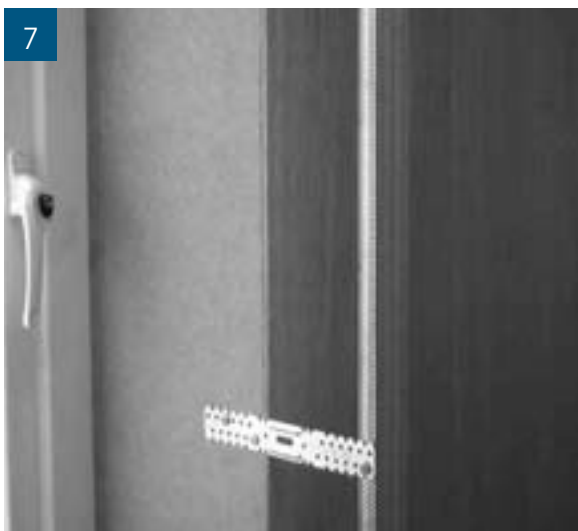
Pre drill 'U' channel sections (Ref AGL8) at 400mm centres and fix to floor and ceiling datum line ensuring that the longest leg of the channel section faces the substrate, butt jointing where internal and external intersect.

At all internal and external corner junctions cut galvanised steel L sections (Ref A870/30) to length so that it can be fixed on front face of 'U' channel (Ref AGL8) using Wafer Head Screws (Ref A611).

Cut Vertical stud sections (Ref AGL1) to length so that they can be inserted into the 'U' Channel (Ref AGL8) at approximately 600mm centres, (See Fig 6) commencing at a corner where a full panel is to be applied, if a gap is left exceeding 600mm an additional section should be inserted and centred in the given gap. **DO NOT FIX TO U CHANNELS AT THIS STAGE.**



At window and door openings run a section of vertical stud, (Ref AGL1) down the length of the reveal, ensuring it is plumb, and secure into top and bottom channel with wafer head screws, (Ref A611). 2 further fixings should be attached where possible using adjustable brackets, (Ref AGL9). (See Fig 7)



At windows and doors trim out head and sill, (sill windows only) with cut sections of galvanised steel angle, (Ref A870/30) and fix to vertical studs, (Ref AGL1). (See Fig 8)



Panel application

The procedures for applying the panels, jointing, and finishing are the same for both framing systems.

Before commencing the installation of the Altro Whiterock Quickclad panels to the metal framing system, the finishing details to floor and ceiling junction must be confirmed and agreed. The various methods of finishing are listed within this Installation Guide. The choice of detail finishes should take into consideration the type and use to which the area of installation is to be put. This is particularly important with regard to the floor/wall junction.

Vinyl Self Cove (See Fig 1)

Select the desired cove height e.g 100mm. (See table below for relationship of cove to aluminium height). Temporarily fix, horizontal and level, the Aluminium back section of the 2 part Cut Tile Transition Strip (Ref A872) to vertical metal studs, (Ref PMF5 for System 1 or AGL1 for System 2) using 12mm x No 6 Posidrive self tapping hard point screws, ensuring that the Aluminium back sections are left 10mm short of the internal and external corner junctions. As the installation of the panels proceeds, the vertical studs, (Ref PMF5 or AGL1) will require adjusting laterally to ensure accurate location and alignment with the joints between the panels.

Visible Coving Height	Height from FFL to top of Aluminium back section of Cut Tile Transition Strip (Ref A872)
200mm	238mm
150mm	188mm
100mm	138mm

Cut Aluminium back section of 2 Part Altro Whiterock Quickclad 2 Part Joint Profile (Ref A871) to fit between top of Aluminium back Section of the Cut Tile Transition Strip (Ref A872) and the ceiling. Fix through centre of section into only the vertical metal studs, (Ref PMF5 or AGL1) which are to be located at the joint between the panels, using 25mm x No 6 Posidrive self tapping hard point screws at 300mm centres. (See Fig 9)



Note: The intermediate metal studs, those placed at 600mm centres behind the panels between the joints are for support only and will not require the fixing of the back plate of the Aluminium Joint Strip.

To provide a suitable substrate to fix the desired flooring material too, as work proceeds, and only when the vertical metal studs, (Ref PMF5 or AGL1) have been fixed in their permanent position, or on completion of the panel installation, a WBP Plywood moisture resistant MDF or a PVCu material, (if there is a possibility of moisture or water ingress) infill, should be mechanically fixed to framework between the floor and the bottom of the Aluminium back plate of the 2 Part Cut Tile Transition Strip, (Ref A872) using the 25mm x No 6 Posidrive self tapping hard point screws. (See Fig 10). Depending on the flooring to be used the following thickness of infill should be used to maintain a correct seal.



Skirting Thickness	Infill Thickness
2-3mm	12.5mm
3-4mm	10mm

Quarry Tile (See Fig 3)

Fix vertical metal studs, (Ref PMF5 or AGL1) as above. Determine tile height to be used, fix temporary profile horizontal and level. As the installation of the panels proceeds, the vertical studs, (Ref PMF5 or AGL1) will require adjusting laterally to ensure accurate location and alignment with the joints between the panels.

Cut Aluminium back section of 2 Part Altro Whiterock Quickclad Joint Section, (Ref A871) from top of temporary profile to ceiling and fix through centre into only the vertical metal studs, (Ref PMF5 or AGL1) which are to be located at the joint between the panels, using 25mm x No 6 Posidrive screws at 300 centres.

On completion of the installation of the Altro Whiterock Quickclad panels remove temporary profile.

To provide substrate suitable to fix tile skirting too mechanically fix 10mm WBP resin bonded plywood to vertical metal studs, (Ref PMF5 or AGL1) with 25mm x No 6 Posidrive self tapping hard point screws. Infill panel to be installed 3mm off the floor and 3mm from the bottom of the Altro Whiterock Quickclad pvc panel, to provide for expansion. Fill and seal both gaps with Altro Silicone Sealant (Ref A802) to prevent the ingress of moisture.

Sit on Cove (See Fig 2)

Fix vertical galvanised metal studs, (Ref PMF5 or AGL1) as above. As the installation of the panels proceeds, the vertical studs, (Ref PMF5 or AGL1) will require adjusting laterally to ensure accurate location and alignment with the joints between the panels.

Cut Aluminium back section of 2 part Altro Whiterock Quickclad Joint Section, (Ref A871) from floor to ceiling and fix through centre of section using 25mm x No 6 Posidrive screws at 300mm centres.

Sheets should be fitted to within 3mm of floor, using temporary packers to support the panels until adhesive has cured. Remove packers and seal with Altro Clear Silicone, (Ref A803). Fix Sit On Cove using adhesive (Ref AltroFix NF25).

Note: There is no requirement for 2 Part Cut Tile Transition Strip, (Ref A872) to Quarry tile or Sit on Cove detail.

Resin

Contact Altro Technical Department for various options available.

Fixing panels

Measurements should be taken, with a view to minimising the number of joints and to be aesthetically pleasing where possible, however this may well be governed by positions of electrical and plumbing equipment. Joints that coincide with these should be avoided so that all openings are in a whole or part panel.

ALWAYS start at in internal corner. Cut the panel to length allowing for 2mm gap at the ceiling junction and 3mm gap between the bottom of the sheet and mid section of the Aluminium back section of the 2 Part Altro Whiterock Quickclad Cut Tile Transition Strip, (Ref A872) or the temporary profile where 'Quarry Tiles' are to be used or the floor for the 'Sit on Cove' detail. On the face side and 3mm in from the edge which butts into the corner, router a groove 11mm wide 5mm deep. (See Fig 11).



This groove receives the square edge of the joining panel forming the internal corner. See 'Fabricating Internal & External Corners' description. The same procedure must be adopted for all internal corners.

Offer panel in situ pushing grooved end of the panel up against the internal corner framework. (See Fig 12).



Mark position of edge of panel at ceiling level on 'U' channel, (Ref AMF6 or AGL8) and at floor level on Aluminium back plate of Cut Tile Transition strip (Ref A872) or temporary profile for 'Quarry Tile detail or floor 'U' channel, (Ref AMF6 or AGL8) for 'Sit on Cove' detail.

Position vertical metal studs (Ref A872 back plate fixed to PMF5 or AGL1) so that a parallel gap of 3mm will be left

between sheet and the middle section of the back plate of the 2 part Aluminium Joint Strip (Ref A871). Secure top and bottom to floor and ceiling 'U' channel, (Ref AMF6 or AGL8). Insert packers behind vertical metal studs, (Ref PMF5) (See Fig 13) or install adjustable metal brackets, (Ref AGL9) to vertical metal studs, (Ref AGL1) to ensure framework is plumb and rigid ready to receive Altro Whiterock Quickclad panels.



Vertical metal studs, (Ref PMF5 and AGL1) should be fixed to the substrate at a maximum of 800mm centres.

Position the intermediate vertical studs (Ref PMF5 and AGL1) equally spaced, and at a maximum of 600mm centres, between those joint sections, (Ref A872) secure at top and bottom, pack out plumb and fix to substrate at a maximum of 800mm centres as previous.

Apply a thick bead of Parabond Adhesive, (Ref AP600) to metal framework which will come into contact with the back of the Altro Whiterock Quickclad panels as work proceeds. Present Altro Whiterock Quickclad panel to frame sitting it on a 3mm temporary packer where necessary, to provide the required expansion gap, pressing firmly back to ensure adequate adhesive transfer to sheet.

Repeat procedure for further panels ALWAYS ensuring a 3mm gap is allowed where panel meets front of aluminium section, and at floor level, together with a 2mm gap at ceiling level. Continue installation until all panels finishing at an internal corner are in place, and have the routed groove in place to accept joining panel. Typical Junction to stainless steel showing cut outs for electrical sockets and extraction outlet. (See Fig 14)



Fabricating internal and external corners

Internal corners

The first panel installed should be grooved using a router fitted with a 11mm dia' fluted cutter, (Ref QCRC1) on the face side of the panel 3mm from edge to a depth of 5mm. (See Fig 15). Clean groove thoroughly removing all loose swarf.

Fix panel to metal framework as described earlier.



After adjoining panel has been cut to size, apply a 3mm bead of adhesive, (Ref AP2020) to groove and insert panel. Panel adhesive, (Ref AP600) applied to metal framework prior to positioning the panels will hold joint together until adhesive cures in approximately 45mins. If required, and in wet environments a small bead of Altro White Silicone Sealant (Ref A802) can be applied into the angle after adhesive has set.

External corners

Cut panel to length. To obtain position of fold in panel, measure width of panel required to the vertical corner of the galvanised metal framework. To whatever this dimension is add 9mm, to accommodate for the thickness of the panel being folded. Transfer this dimension to the back side of the panel, marking top and bottom of the panel connect the 2 points with a straight edge. This line will be the centre of the groove. Set router bit (Ref QCRC2) to a depth of 9.5mm so as not to penetrate through the front face of the panel.



Clamp straight edge down the length of the panel to act as a fence for the router. Set fence to the correct distance from line marking centre of groove to ensure router cuts to that line. (This distance will vary according to the type of router being used). Router groove to entire length of panel. Clean groove thoroughly removing all loose swarf. (See Fig 16)

Apply a 3mm bead of adhesive, (Ref AP2020) and fold to 90 degrees. Clamp in place until adhesives cures in approximately 45minutes. (See Figs 17, 18 & 19)



If multiple corners are required, e.g. to a pier 18mm should be added to measurement from first mark to allow for routing the second groove in the one operation, prior to bonding.

Finishing

Cover trims

When all panels are installed, peel back protective film and cut cover trims to length. Lubricate with soapy water and secure into aluminium backing using a rubber mallet and clean off. (See Figs 20, 21 & 22)



If required fit transition cover trim, (Ref A872) as above, relieving rear of trim to allow forming around internal/ external corners.

Cleaning and ceiling

Remove all protective paper.

Clean off any dust, or residual scuff marks, also around window frame, doors, ceiling junction or abutments using Altro Cleaner Thinner, (Ref A808) or Desolvit Wipes, (Ref A811) and seal with White Silicone sealant, (Ref A802). COSHH Data supplied.

Wipe all areas with clean paper soaked in A809 Anti-static solution and wipe clean with a dry cloth.

Maintenance and cleaning

Please refer to separate cleaning card.

for further information or technical advice

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