

1. Substrate suitability and recommended preparation

All material must be installed in environmentally controlled conditions. Allow the SureProtect Pure PVC-u sheet to lie flat at room operating temperature for 24 hours prior to installation. During installation the wall and wallcovering must be 15°C or above.

Substrates suitable to install SureProtect Pure PVC-u wall cladding include:

- 9mm exterior smooth finished plywood
- MDF board
- Plaster
- Sand and cement rendering
- 12.5mm plasterboard

Brick, blockwork and concrete walls are also suitable providing the surfaces are flush without excessively wide mortar joints.

The substrate must be:

- Dry, sound and free of dirt, dust, loose paint, wax and grease. Loose or flakey surface coatings should be repaired or removed.
- Flat and smooth. High spots should be removed and low spots filled with an appropriate filler prior to commencing installation.

Additional considerations include:

- Ceramic tiles must be checked to ensure they are fully secured. Repair loose or broken tiles where necessary to provide a continuous flush surface.
- Dependent on substrate a suitable PVA primer may be required
- Wherever possible electrical equipment such as power sockets or light switches should be completed only to a first fix installation state prior to installation of the wall cladding system. Any alteration or changes required to live electrical equipment should only be carried by a qualified electrician.
- There should be a 2-3mm clearance around the perimeter of any protruding object to allow for potential expansion of the PVC-u sheet. All pipework should be finished with tails to ensure ease of installation of the sheet. Clearance of 3mm is required for expansion on cold pipes and 5mm where pipes are designed for the flow of hot liquids.

WARNING: Installing SureProtect Pure PVC-u sheet material in conditions other than the operating temperature of the installation can result in product failure

2. Installation of SureProtect Pure® Hygienic PVC-u Sheet

Prior to installation the intended area must be surveyed, paying particular attention to the conditions and flatness of the substrates, openings, fixtures, and areas of direct heat. Where direct heat or naked flames are required e.g. cookers, the substrate should be clad in a stainless-steel sheeting to deal with the higher temperatures. Anything that has the potential to reach or exceed temperatures of 60°C will require the stainless-steel finish. One final check should be taken to ensure the material waste is minimised and wing sizes for thermoformed corners are taken into consideration.

Following a thorough survey of the area and confirming suitability:

- Set out the datum line at eye level and plumb line using a laser level to form the basis for carrying out all measurements required to set ceiling heights, floor levels, pipe positions, fixtures and fixings. These can then be transferred to the sheet for cutting and drilling.
- The SureProtect Pure PVC-u sheet should be laid flat and fully supported prior to transferring any measurements to the face of the sheet. The sheet can then be marked up for cutting keeping the face of the protective film in place. Ensure that the sheet remains fully supported while cutting. Options for cutting the sheet are, a panel saw, electric jig-saw or circular saw with fine tooth blades.
- Dry fit the material prior to applying the double-sided tape and adhesive to the back of the sheet or thermoformed corner. Ensure that adequate expansion clearance of 2-3mm has been provided for abutments and all cut outs have been made correctly.
- Return the sheet or thermoformed corner face down to the work bench, and ensure the surface is clean, dry and ready to receive the double-sided tape and adhesive. (See page 5 for details of adhesives.)
- The double-sided tape should then be positioned approximately 20mm from the top and bottom edges and across the middle of the sheet keeping the release tape in place. The adhesive can then be applied to the sheet up to the edges of the double-sided tape and approximately 10-15mm from the vertical edges of the sheet.
See Diagram 1 for illustration of tape application.
- Remove the release paper from the double-sided tape and lift the sheet into position aligning the datum line on the wall with the datum points on the sheet. Apply pressure at the datum points and along the lengths of the double-sided tape adhered to the back of the sheet to ensure a secure bond. Using a rubber roller apply even pressure across the full area of the sheet to ensure a good transfer of the adhesive.
- Finally, remove the protective film when the sheet is securely in place and any finishing options have been applied (see pages 3 & 4 for more details).

3. Finishing options for jointing SureProtect Pure® Hygienic Wall Cladding System

SureProtect Pure PVC-u sheets have the option of four different jointing methods to provide the best solution for each environment:

- Weld Rod (similar to the method used with resilient sheet flooring and a single piece PVC-u)
- Silicone Sealant
- 2-part Joiner Trim
- 1-part Joiner Trim (suitable for secure environments such as prison facilities, secure hospitals or where sheets are installed in public areas)

a) Weld Rod Joint Seal

- Designed for areas where the highest standards of hygiene are important such as operating theatres. (Note: not suitable for areas where temperatures exceed 60°C.)
- This sealing method requires a 2mm foam based double sided tape (50mm in width) to be positioned and fixed to the substrate catching equally the two vertical edges of adjoining sheets.
- The adhesive should be applied as normal to the back of the sheet leaving a 30mm gap from both vertical edges to allow for the foam tape already positioned and fixed in situ to the substrate. Take care that the edges of the sheet have no ragged areas and are free from any burr during the cutting process (if applicable). Remove the release paper from the foam tape and fit the sheet as normal using spacer pins along the vertical length of the sheet to provide a 1.5-2mm gap between the sheets to allow for hot welding process.
- Check that the channel formed between the sheets is clean and free of any containments prior to commencing hot welding. The technique of welding is very similar to that normally used for installation of PVC flooring. Peel back the protective film from the edges of the sheet before commencing with the welding.
- Prior to cleaning off the excess welding rod, spray the surface with an antistatic solution. Pre-cut the welded rod using a quarter moon knife then allow the joint to cool down and settle before final trimming is carried out.
See Diagram 2 for illustration of weld rod joint example.

b) Silicone Joint Seal

- The vertical edges of the sheet should have double sided tape applied to the rear face of the sheet 4mm from both edges. Approximately a 3-5mm gap should be left between the vertical edges of each sheet.
- Pull back the protective film sufficiently from the edges of the sheet and apply masking tape to assist in the application of the silicone mastic.
- Finally check that the joint is clean before applying the sealant to the joint. Ensure the joint is completely filled along the entire length.
- Remove any surplus silicone and then smooth off to provide a clean flush sealed joint. The masking tape should then be removed and any final finishing completed.
See Diagram 3 for illustration of silicone sealant joint example.

c) 2-Part Joiner Trim

- The two-part joiner trim (SSP/2PJ) is ideal for use in areas where variations in temperature and humidity are experienced i.e. in working environments such as kitchens and laundry areas.
- Install the first sheet (refer to instructions detailed on page 2) and then slide the base section of the profile in place leaving a 1-2mm gap between the edge of the sheet and the shoulder of the base profile. Repeat this process working your way along the walls and around the room.
- Where the two-part joint strip is used vertically and horizontally together then the vertical element of the base should be cut short to allow the horizontal joint strip to maintain a continuous run.
- The two-part joiner trim when used horizontally and taken around external or internal corners will require the leg on the underside of the top cover to be snipped away to allow the profile to form around the corners.
- Peel back the protective film slightly from the edges of the sheet the protective film and clip the top covers into the base of the joint strip. These should be worked in by hand and then finished with a rubber mallet to lock the two pieces together into their final position.
- Note: to avoid any interference when the floor trims are pushed into position, the vertical joint cover strips should have the back element of the trim removed. Cut the top accordingly to length on the face to accommodate the floor trim.

See Diagram 4 for illustration of 2-part trim joint example.

d) 1-Part Joiner Trim

- The installation of the single part joiner trim (SSP/1PJ) requires the trim to be applied to the PVC-u sheet on the workbench prior to installing the sheet to the substrate.
- Ensure the two vertical face edges of the sheet are chamfered slightly to accommodate positioning the trim correctly onto the edge of the sheet and to avoid any damage to the trim. The trim should then be tapped into place with a wooden block and rubber mallet to fit snugly against the sheet.
- The back of the sheet can then have the double-sided tape and adhesive applied (see page 2).
- Repeat this process with each additional sheet to be fitted. Pay particular attention that the sheet is then connected to the trim of the previous sheet by knocking the edge of the sheet into place with a wooden block and mallet. Take care to ensure the trim covers both sheets equally and the joint cover is straight and plumb.

See Diagram 5 for illustration of 1-part trim joint example.

Recommended adhesive products for SureProtect Pure PVC-u Sheet

The adhesives stated below have been tested and approved to give satisfactory bonding of SureProtect Pure to the substrate and to ensure fire performance to EN 13501-1 Class B-s3 d0

Note - only Gradus Grip WGP65 and Gradus Grip WGA120 have been tested to ensure a satisfactory bond and provide the strict fire performance requirements necessary when bonding SureProtect Pure cladding to walls.

	Product Reference	Adhesive Type	Unit size	Trowel Size	Coverage
1	WGP65	2- part polyurethane adhesive	6.5 kg tub	5mmx5mm square notch trowel	3m ²
2	WGA120	1-part acrylic adhesive	12 kg tub	5mmx5mm square notch trowel	10m ²

Gradus WGP65 is a 2-part adhesive supplied in a 6.5kg mixing tub which requires vigorous mixing of the 2 components for approximately 2 minutes or until homogeneous. The pot-life of WGP65 is only 40 minutes and therefore requires swift application of the adhesive and the sheet must be offered up to the wall within this timescale, so as to avoid pre-cure. Cure time is 48 hours and the sheet should not be subjected to any swings of temperature greater than 3°C inside of this curing phase.

Recommended sealant products for SureProtect Pure PVC-u Sheet

For more information regarding the recommended silicone sealant or weld rod for installing SureProtect Pure PVC-u sheet please contact Gradus Ltd.

	Product Reference	Sealant Type	Unit size
1	SC310	Silicone	310mm tube
2	WR	Weld Rod	50m/80m spool*

4. Floor and Edge Trims

- The SureProtect Pure Wall Cladding System is an ideal solution for a wide range of commercial environments and tends to be installed where floor finishes are covered to provide an impervious and hygienic installation. The trim options available in the SureProtect Pure range have been selected to compliment a range of different floor finishes typically installed in this type of application. They can also be versatile in application e.g. the capping trim (SPP/1PC) can be used as a finishing, edge or ceiling trim.
- Once the sheet is installed, ensure the floor trims are secured in position using a ribbon of silicone sealant along the length of the substrate directly below the base of the sheet. The wall cladding trims can then be pushed into place. The vertical joint cover strips should have the back element of the trim removed leaving the face plate intact. Cut accordingly to length on the face to accommodate the floor trim. This is necessary to avoid any interference when floor trims are pushed into position. Any final adjustments to the vertical faces of joint covers can be carried out in conjunction with the installation of the floor trims.
- All 2-part trims in the SureProtect Pure range can be installed using a similar installation technique as used on the 2-part joiner trim. Prior to fitting the base section to the sheet apply a ribbon of silicone sealant along the length of the substrate directly below the base of the sheet before sliding the base into position. The tops can then be pressed into place by hand then tapped fully home using a timber block and rubber mallet.
- Avoid finishing with internal/external mitered cuts to floor trims. The two-piece sections will require the fixing tail of the front covers to be removed to allow the sections to be returned around internal and external corners.

Handy Tip – to confirm the accurate size required when installed in conjunction with vertical joiner trims place a small piece of the floor edge trim in place on the bottom edge of the sheet then measure the length of the joiner trim.

5. Internal and external corners for SureProtect Pure

- Wherever possible angles, external or internal corners should be produced from sheets cut to size on site using a portable thermoforming machine that allows materials to be tailored to suit the substrate shape.
- Alternative methods to finish at corners is to use the trims SPP/ICS (internal corner) or the SPP/EC (external corner) which are fitted to the sheet in a similar fashion to the SPP/1PJ (1-part joiner trim) detailed in point 3. The SPP/EA50 (external corner) and SPP/IA50 (internal corner) can be fixed direct to the face of the sheets using Gradus Grip wall cladding adhesive or double-sided tape. Prior to fitting the corner trims in place, apply a bead of silicone on the inside face along all open edges. Any excess silicone should be wiped away with a proprietary wipe once the trim is pushed into position.
- For working areas where heavy trolley traffic is likely to damage external corners a range of stainless steel corners are available to fix to the face of the sheets

6. Finishing SureProtect Pure to abutments, fixtures or fixings

- Once the sheets are installed they will expand or contract based on temperature changes therefore it's important to leave a 2-3mm gap against architraves, ceilings, pipework etc. (hot pipes will require 5mm clearance) as part of the installation process. These void junctions can then be filled with colour matched silicone to match the sheet.

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Diagram 1 – Double sided tape application

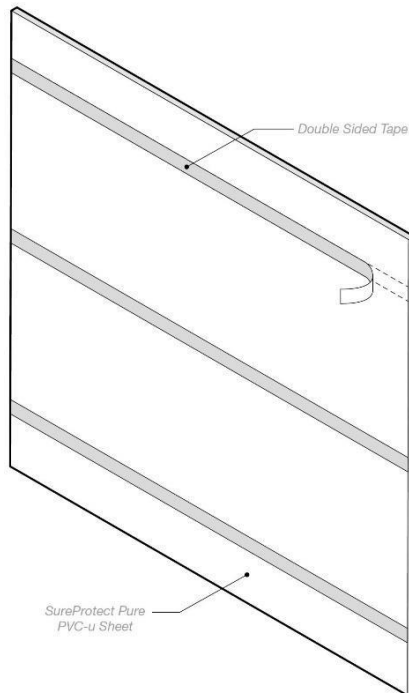


Diagram 2 – Weld rod application

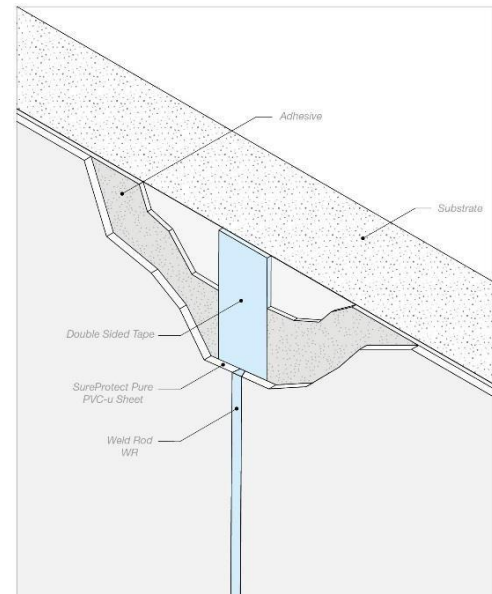
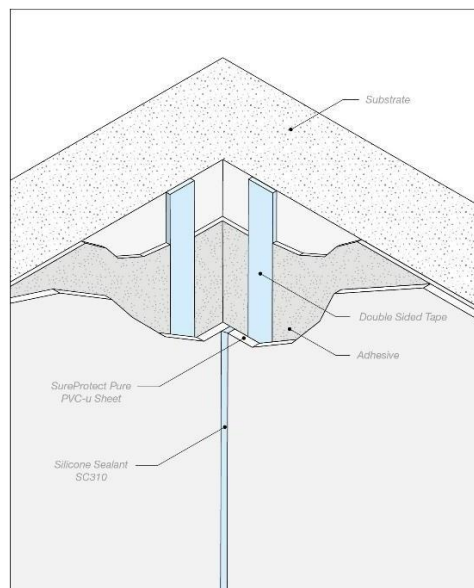


Diagram 3 – Silicone sealant application



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Diagram 4 – 2-part trim application

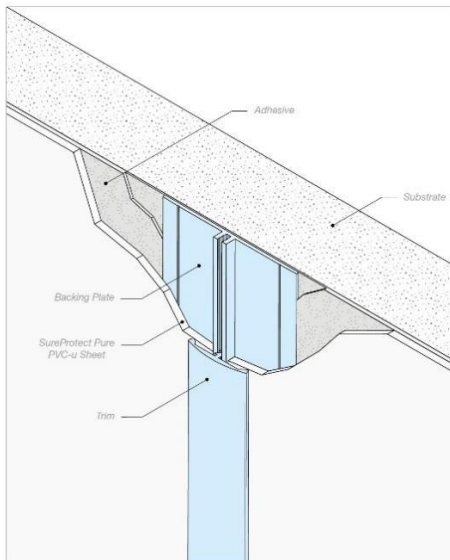


Diagram 5 – 1-part trim application

