

PROJECT SPECIFICATION

A.1 Description of Items:

Description of items in this specification shall, unless otherwise stated, be held to include all labour and material, including making, conveying and delivering, unloading, storing, unpacking, hoisting, setting, fitting and fixing into position, cutting and waste, patterns, models and templates, plant, temporary works, return of packing, establishment charges, profit and all other obligations arising out of the conditions of the contract.

A.2 National Building Regulations:

All materials and work shall be in accordance with the National Building Regulations. The electrical and plumbing work can only be carried out by registered and licensed specialists. The contractor is to notify the architect of any potential contraventions **before** making any necessary changes.

A.3 Materials:

Manufacturers names and catalogue numbers where referred to hereafter are intended merely as a guide to the type and quality of the article required, and these need not necessarily be purchased from the firm indicated.

Articles of similar manufacture by an approved firm and **equal** in all respects to those specified, in design, material, workshop and finish will be accepted, subject to the Architect's approval.

A.4 Storage of Materials:

The Contractor will be permitted to store materials on site. The position of any stored products must not inhibit the working areas or cause any damage that may require work once these have been removed. The contractor is responsible for the condition of the site on completion. The Contractor will be required at all times to keep the site in a neat and orderly fashion.

A.5 Delivery of Materials:

The Contractor will be required to take all possible precautions to avoid damage to existing property and to prevent obstructions on any normal access route within the property. Any damage to road ways and entrance areas are to be repaired on completion of the contract. Photographs of the site condition must be taken before any work commences on site.

A.6 Security of the Works:

The Contractor shall, for the duration of the contract, provide sufficient security and watchmen to adequately ensure the safety and protection of the works, the Contractor's staff, including local labour and subcontractors, and construction equipment required for the works. Payment for this item shall be made under Section 1, Part B11 of the Preliminaries.

A.7 Local Requirements:

The Contractor is advised to liaise with the Site Foreman regarding any requirements that may have been omitted from this specification and include for any consequential costs in the net tender. This will include, but is not limited to, the provision of site hoarding to protect the extent of the works as well as members of the public or city employees.

A.8 Toilets/Water/Power:

The Contractor may make use of the toilet facilities on the premises but no change room facilities will be provided. It will be the contractor's responsibility to ensure that the toilets are left in a neat and clean state after his/her staff have used these facilities.

Water and power for this contract will be able to be obtained from the site but all connections and extensions are to be supplied by the contractor and are to be done in compliance with SANS and OHS regulations.

A.9 Scaffolding:

All scaffolding required for the contract is to be supplied by the Contractor and must be erected in accordance with the OHS regulations and certified for use.

A.10 Protection:

The area of the works will not be occupied for the period of the contract but any protection that may be required for the safety of the Public must be supplied and put into effect by the Contractor. The works are to be protected from damage by the contractor until the project reaches practical completion and is handed over to the client.

A.11 Cleaning:

The Contractor is always to keep the area of the works in a clean and tidy condition .

A.12 Discrepancies:

In the case of any accidental discrepancy or doubt as to the meaning or intention of any part of the document(s) connected with this contract, reference must always be made to the Architect for clarification. The contractor will be held responsible for any errors that may arise from neglecting to exercise this precaution.

B. CHROMADEK PARKHOME CLINIC

Construction, supply and delivery of a 20.4m x 15.2m chromadek parkhome clinic. The number of each item is shown. The above parkhome clinic comes complete with :

1. Tripod Stand (150mm) x 90
2. Partitions (No interleading door) x 17
3. Partitions (With interleading door) x 15
4. Plumbing (Toilet-Closed Couple (Residential Type) x 4
5. Plumbing (Toilet Set-Paraplegic) x 1
6. Plumbing (Basin Set-Vaal Sola 510mm (with Cobra Elbow Action Mixer) x 9
7. Door-Exterior Single Chromadek (Exterior door Chromodek (complete with x 4
8. Door-Single Aluminium (830 x 2046mm Aluminium Single Door with M Pro x 1
9. Door-Double Aluminium (1640 x 2046mm Aluminium Double Door with M Pro x 3
10. Windows-Casement (1100 X 1200 - Casement 28 (Natural Anodised) + 4m x 14
11. Windows-Casement (500 X 500 - Casement 28 (Natural Anodised) + 4mm x 6
12. Coving (MFE 5 Vinyl Coving per Sq Metre) Electrics (Plug point - standard 15amp) x 240
13. Electrics (Plug point - standard 15amp) X 30
14. Electrics (Light switch 15amp) x 18
15. Electrics (1500 LED Fluorecent Lights (Cover) x 42
16. Electrics (External Lights (Photo Cel) x 6
17. Electrics (Buff trunking - per metre) x 30
18. Expelair Fans (6" Expelair Fan) x 6
19. Plumbing (Kitchenette (1200 sink and cupboard) - 1 pillar tap) x 1
20. Kitchen Base Units (KB7 - 800 (h) x 545 (d) x 900 (w) x 2
21. Kitchen Drawers (KD1 - 800 (h) x 415 (d) x 568 (w) x 1
22. Worktops (Work tops - per metre) x 2
23. Geysers (Geyser-10LTR Undercounter) x 1
24. Skirting (Chromadek Skirting (based on 500 mm spacing) x 70
25. Curtains-Hospital (Rail With Curtain Under 7mtrs) x 5
26. Electrics (Distribution Board) x 1
27. Plumbing (Toilet Roll Holder (Double) (Franke)-Hospital / Clinic) x 5
28. Plumbing (Soap Dispenser (Franke)-Hospital / Clinic) x 10
29. Flooring Medical vinyl with coving (turn up wall)
30. Burglar Guards-Aluminium – (FWS 1100 x 1200) x 14
31. Burglar Guards-Aluminium – (FWS 500 X 500) x 6
32. Burglar Gates-Retractable - Retractable Sliding Gate x 1
33. Burglar Gates-Retractable - Double door sliding gate x 3
34. Air-Conditioners-Split Units-Alliance - 9000BTU Alliance Hot & Cold x 8
35. Air-Conditioners-Split Units-Alliance - 18000BTU Alliance Hot & Cold x 1
36. Air-Conditioners-Split Units-Alliance - 18000BTU Alliance Hot & Cold x 1
37. Medical - Slop Hopper x 1
38. H& S File - H&S SPECIFICATION TO CLIENTS REQUIREMENTS x 1
39. Multi-span per slice – Site
40. Construct Facebrick wheelchair ramp and handrails x 1
41. Construct Facebrick two tier steps x 2
42. Transport

- All warranties and guarantees to be issued to Architect prior to practical completion being awarded.

In addition to these requirements, the contractor is to note that there may be restricted access to the site and the rate for this item should include for transport and craning the parkhome to site and/or building the parkhome on site.

C. ELECTRICITY CONNECTIONS

A budgetary allowance has been provided for the electrical connections from the parkhome clinic to the existing electrical connections. This item will only be used under the instruction of the Architect.

The bidder is to tender a mark-up (profit and attendance (item 5 & 6)) on item 4 of the Budgetary Allowances (Section 3). This mark-up is included to cover all transport and administration costs incurred.

D. SEWERAGE AND WATER CONNECTIONS

A budgetary allowance has been provided for the sewerage and water connections from the parkhome clinic to the existing sewer and water systems. This item will only be used under the instruction of the Architect.

The bidder is to tender a mark-up (profit and attendance (item 8 & 9)) on item 7 of the Budgetary Allowances (Section 3). This mark-up is included to cover all transport and administration costs incurred.

E. BUILDING TECHNICAL SPECIFICATION

E.1 Chassis

Chassis' are constructed to run the full length and width of the building, two 200x75x20x3mm cold formed lip channel longitudinal main members run centrally the length of the building at 1640mm centres. 75x50x20x2.5mm cold formed lip channel cross members are structurally welded at 600mm centres spanning the width of the building, spans can be reduced to 400mm centres in order to increase the floor loading where required and in all residential units. All cross members are supported by 40x40x3mm angle iron which span between the edge of the cross member and welded to the main member. All single and double wide units are fitted with screw jacks for easy levelling as standard, but tripod stands can be used where ground is uneven. All steelwork is protected with pre painted red oxide primer and sprayed with F147 black latex paint.

E.2 Floor Construction

18mm exterior hardwood (WBP) ply floorboard is fixed onto the cross members with 12x45mm counter sunk galvanised wingtex screws. The floorboard is constructed with 7 ply layers bonded under heat and hydraulic pressure using exterior grade adhesive as stipulated under SANS 929:2008. 2mm heavy duty industrial vinyl or smooth vinyl flooring is bonded to the floor board using WD91 floor adhesive and all joints are plastic welded to form a water tight seal between vinyl strips. Carpet tiles and domestic novilon are used in our residential units and are optional in office units.

E.3 External & Internal Walls

Panels are manufactured by injecting a two part polyurethane substrate between two cladding layers in a heated moulding system. Claddings are typically frost white 0.5mm ISQ230 (Z100) pre-painted hot-dip galvanised steel Chromadek, 3.6mm oak or plain ply, fibre cement or a combination thereof.

Where framing is utilised, all timber is treated in accordance with SANS 1288 using Tanalath CCA oxide (3302) having a composition as follows: Copper (CU) 33.85%, chrome (CR) 41.45% and arsenic (As) 24.70%. The timber is treated using a vacuum pressure system of impregnation to a minimum dry salt retention of 6kg/m³.

Thermal properties are 25-30% superior than polystyrene and at least 70% better than any typical mineral wool material. Long term thermal resistance is achieved between -30°C and 90°C, temperatures of up to 250°C can be withstood for a short period without damage.

Closed cell foam is packed at density 38-40kg/m³ and has fire retardant properties compliant with SANS 10177-2. Due to the closed cell nature of the polyurethane moisture is not absorbed and is resistant to insects and rodents.

Wall system is tongue and groove in concept providing a weather tight seal between panels with a lateral coverage of 1179mm per panel.

Standard panel thickness is 42mm, 50mm, 75mm or 100mm and is available in lengths of up to 12m can have a rigidised or smooth finish.

E.4 Estimated R Value

	42m m	50m m	75m m	100m m
R Value (SI)	1.92	2.29	3.43	4.58
R Value (Imp)	10.9	13.0	19.5	26.0

E.5 Windows

Windows are manufactured from aluminium extrusions and are naturally anodised as standard although options for bronze or powder coated finishes are available if required. Windows can either be manufactured as sliding or top hung casement type and are fitted with 4mm clear safety glass with obscure being fitted in ablution areas. All windows are manufactured in accordance with SANS 10400 Part N. Standard window size widths are 1500mm, 1200mm, 900mm, 600mm, 500mm with heights of 1200mm, 900mm, 500mm, although bespoke sized windows can be manufactured.

Our log cabin range is fitted with strong wood type meranti windows where steel burglar guards are encapsulated within the timber façade.

E.6 Additional Options

Burglar guards will be fitted, where light security is required aluminum bar type guards can be fitted within the frame. For heavier security options either fixed aluminum alu-guards or steel powder coated guards are fastened through the wall to provide secure fixing.

Flyscreens can be fitted to any size window, these are framed in aluminium.

Where superior insulation is required windows can be fitted with single glazed low emissivity glass or for more extreme conditions double glazing can be fitted to casement type windows.

E.7 Doors

Exterior doors are manufactured from chromadek or fully glazed aluminium. Single doors have a standard width of 810mm, but are also available in 610mm, 710mm or 910mm, 1340mm one and half door set and 1640mm double door set are also available as standard. All doors have a height of 2030mm.

Our log cabin range is fitted with strong wood type meranti doors where steel burglar guards are encapsulated within the timber façade.

Interior doors in office type units are hollow core brown cater foil doors, and within ablutions or medical type units are chromadek.

E.8 Chromadek

Manufactured as a composite door, typically frost white 0.5mm ISQ230 (Z100) prepainted hot-dip galvanised steel Chromadek smooth sheets are fixed either side of a timber frame and injected with polyurethane insulation. Timber is all SA pine treated in accordance with SANS 1228:1994. Each door leave is fitted with three aluminium naturally anodised sinkless door hinges which is fixed into an aluminium naturally anodised door frame. Union 3 lever locksets with zinc back plates are fitted as standard. Vision panels can be fitted if required.

E.9 Glazed Aluminium

Doors and frames are manufactured with naturally anodised or powder coated aluminium and are fitted with 4mm toughened clear glass or aluminium kick plate. Side and top window lights can be incorporated into the frame for extra natural light if required. Doors are fitted with euro profile cylinder locksets.

E.10 Roofing

Roofing Panels are made complete with roof trusses already fixed in place. Timber trusses are made for single and double wide units while steel is used for larger multi span units. All timber used is treated in accordance SANS 1288, lattice beams utilised in double wide units are manufactured from 40x40x3mm angle iron.

Our standard ceiling finish is white wallpaper, but a chromadek finish can also be manufactured if required.

Panels are placed on top of walls and fixed into place using 12x100mm screws on all panels and partitions, electrics are then run on top of the ceiling panel as necessary.

38x38mm Battens are run across trusses at 300 - 500mm centres depending on unit width and type with 0.58mm gembok sand corrugated ISQ300 (Z200) roofsheets are fixed on top. Rubber polyclosures are used under roofsheets and ridge capping to ensure weather proofing.

E.11 Electrics

All units are wired for connecting to a 220v single phase supply with the exception of multi span type units and on request. All electrics are in accordance with SANS 10142-1 and are fitted with earth leakage protection within the distribution board

Electrics are run within the ceiling void and cored into the panels, PVC boxes are inserted into panels and front plates are screwed over.

E.12 Plumbing

All plumbing works are fitted in line with the necessary building regulation codes and all fittings are SABS approved;

we use copper and Speedfit type pipes and fittings. All units are fitted with a 22mm mains stop tap and waste outlets are either discharged through the wall or floor depending on the design.

Standard ablution areas are generally fitted with the following:

- Porcelain Basins With Pedestals
- Porcelain Urinals
- Porcelain Toilet Pans With Plastic Cisterns
- 870x870mm Chromadek Showers With Shower Curtains
- 1700mm White Plexicor Baths
- Floor Drains
- Extractor Fans On Independent Isolators
- All Geysers Fitted Are High Pressure
- Tile Splash Backs

Additional options available on request are aluminium shower doors, fully tiled shower areas, stainless steel sanitary ware in lieu of porcelain, and gas or solar water heating options.

E.13 Finishing

All corners, edges, ridge capping's and voids are neatly finished off with purpose made trims and flashings; this is all made from 0.58mm chromadek sheeting.

F. FLOORING INSTALLATION

F1 PREPARATION

- Ensure that the area onto which the pre-cut PVC material skirt must be fitted is firm, dry and free of dirt and dust, or any other substances.
- The material needs to be stripped down into 300mm widths and in as long lengths as permissible.
- It is recommended that the pre-cut PVC material skirt be installed prior to the installation of any floor coverings.

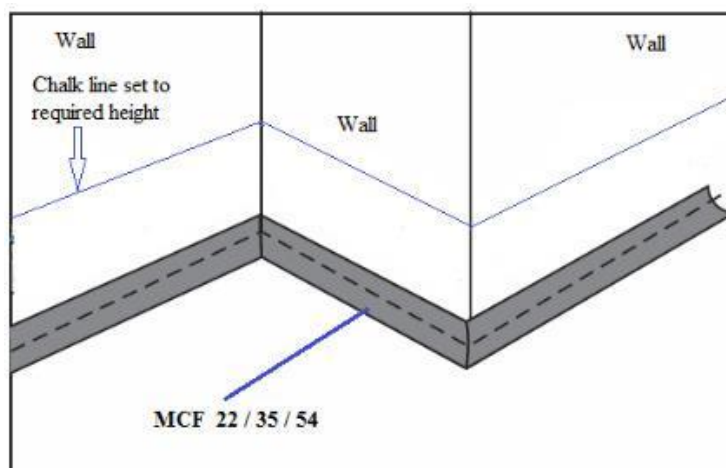
F2 Marking out

- Accurate marking out is essential in order to minimize adhesive usage and to further prevent excessive adhesive spillage. (Marking out can be done by various methods. e.g. Use of height gauges, templates or by scribing.) A line is then marked on the wall at a prescribed height by means of a chalk line.

F3. Adhesive application

- Using a clean 20mm paintbrush, apply FloorworX No71 contact adhesive, spread evenly onto both material and working surfaces.
- Allow both surfaces to become touch dry.

F4. Installation (Cove Fillet – MCF 22/ 35/ 54)



F5. Installation Straight Sections

- Carefully place the top edge of pre-cut skirting into position at one end, ensuring that the top of the pre-cut PVC material skirt is directly on the chalk line, and then work gradually along its length.
- When completely positioned, apply firm pressure using a hand roller along the whole length and the toe to ensure perfect contact between the two adhesive surfaces. (Rolling with a hand roller is preferable)

F6 Installation Corners

Two methods can be employed:

- The first is where the welded joint is on the 90° internal and external corner. (In this application the pre-cut PVC material is “cut and joined” on the corner).
- The second (or commonly known as butterfly method) allows for the pre-cut PVC material to be wrapped around the (vertical) external corner and through the (vertical) internal corner at the 90°, with the join and weld at an angle of approximately 60° offset from the 90 ° internal/external corner.

Method 1 (The pre-cut PVC skirting runs from opposite sides and intersects at the 90° corner. The join is at the 90° on the (vertical) wall section and mitred at 45° at the (horizontal) toe section.

F7. Internal & External Corners

- Carefully place the top edge of pre-cut PVC skirting section into position on the one side, ensuring that the top of the skirting is directly on the chalk line, and then work gradually towards the internal corner. (Repeat from the opposite side.)
- The (vertical) wall section of the skirting to be butt jointed at the 90° internal corner.
- The (horizontal) toe section of the skirting to be overlapped where they meet at the 90° internal corner. The two (horizontal) toe sections of the skirting need to be cut right through - mitred at 45°, using an aluminium triangle as a template, so tight abutting edges are obtained. (See illustration 1)

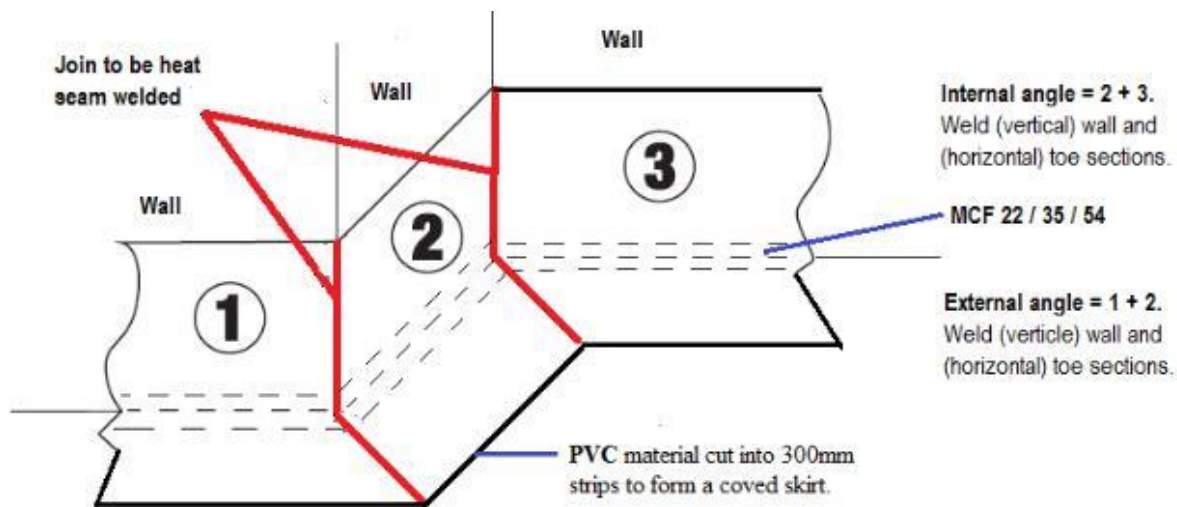


Illustration 1

- When completely positioned, apply firm pressure along the whole (vertical) wall section and the (horizontal) toe section to ensure perfect contact between the two adhesive surfaces.
- The join must then be welded using a hot seam welding process.
- Welds once trimmed, must then be sanded down using a fine 120 grit water paper.
- The welds can then be finished off with the use of Methyl ethyl ketone MEK. (This chemical must be used cautiously, as excessive amounts could soften and damage the product. It is highly recommended that the MSDS be consulted prior to the use of this chemical).

Method 2 (Skirting runs from one side and is wrapped around (the external) and through (the internal) at the 90 ° with the join and weld being angled or offset from the 90° internal/external corner and mitred 45° at the toe).

F8 Internal & External Corners

- Carefully place the top edge of skirting section into position, ensuring that the top of the skirting is directly on the chalk line, and then work gradually around (the external corner) through the internal corner.
- The material must then be cut at approximately a 60° angle from the base of the turn-up of the corner, whereas the toe is mitred at a 45° angle. (See illustration 2)

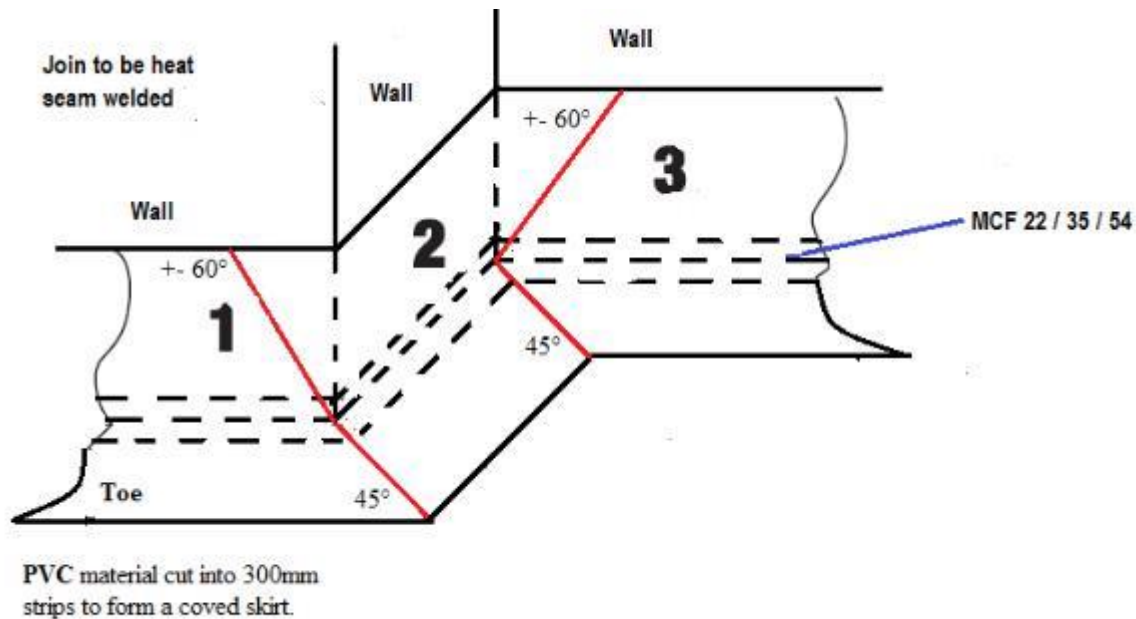


Illustration 2.

- When completely positioned, apply firm pressure with a hand roller long the whole section and the toe to ensure perfect contact between the two adhesive surfaces.
- The join must then be welded using a hot seam welding process.
- Welds once trimmed, must then be sanded down using a fine 120 grit water paper.
- The welds can then be finished off with the use of Methylethylketone (MEK). (This chemical must be used cautiously, as excessive amounts could soften and damage the product. It is highly recommended that the MSDS be consulted prior to the use of this chemical).

F9 Dressing full-width material up a cove.

In cases where applications require the installer to dress a non-directional or non-patterned material up a cove in order to avoid joins at the base of the turn-up, either of the above two methods can be adopted. These installations are however often slightly more challenging primarily due to the size of the material that is being managed. (See illustrations 3 to 6 below)

Note - This method of application is generally not carried out with materials that have any form of design or pattern, or directional surface finish, as the result will be aesthetically displeasing.

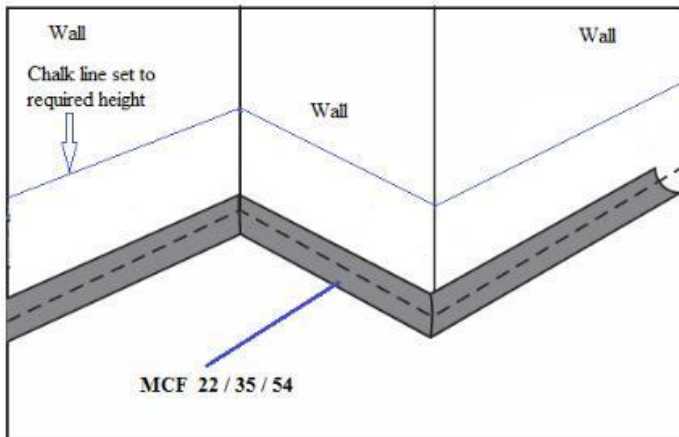


Illustration 3 (Installation of Cove Fillet – MCF 22/ 35/ 54)

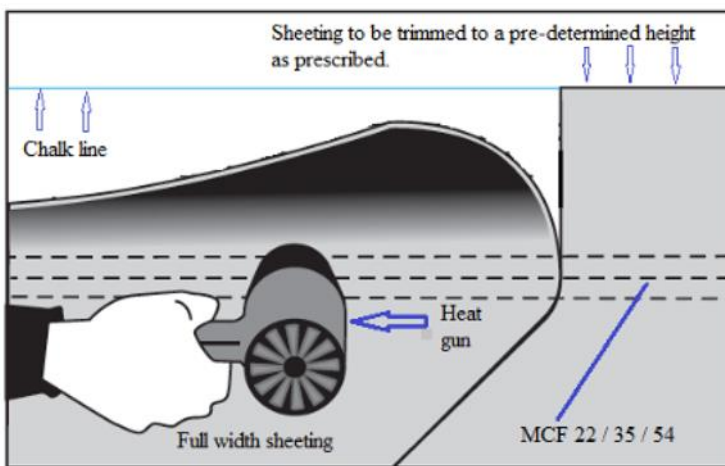


Illustration 4 (Dressing the sheeting up the cove)

- The sheeting once formed up the cove and wall, will need to be trimmed to a pre-determined height as per the specification

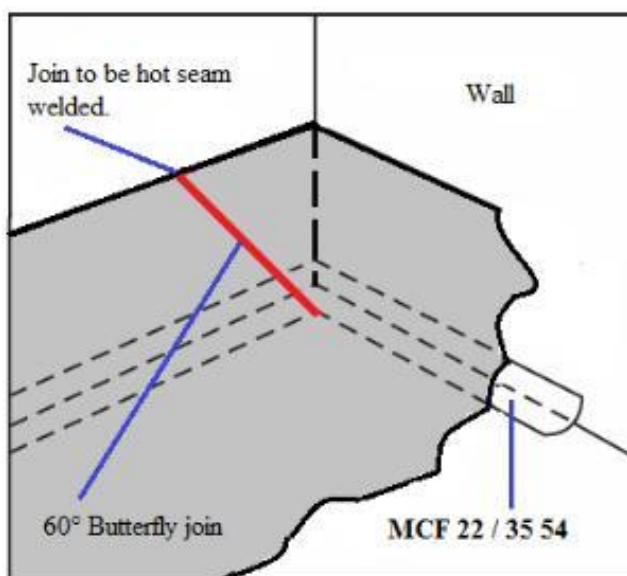


Illustration 5 (Typical corner with a butterfly seam finish. Angle is approximately 60° from the base of the corner).

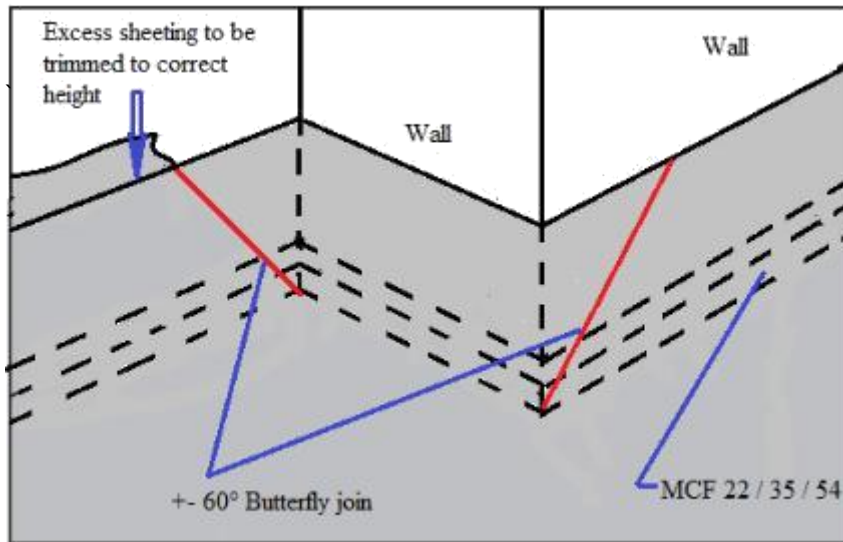


Illustration 6 (Internal and external corner with a butterfly seam finish)

It is highly recommended that irrespective of the method adopted, all top edges of the material are finished off with an appropriate edging strip as prescribed, or sealed with matching colour silicon, in order to avoid dirt and water ingress.