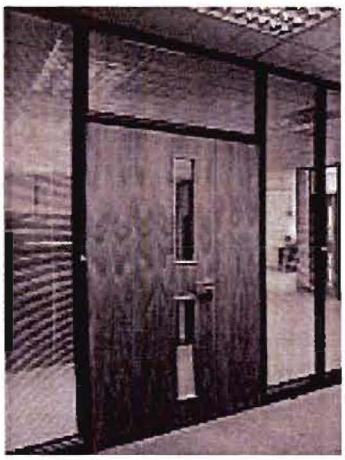
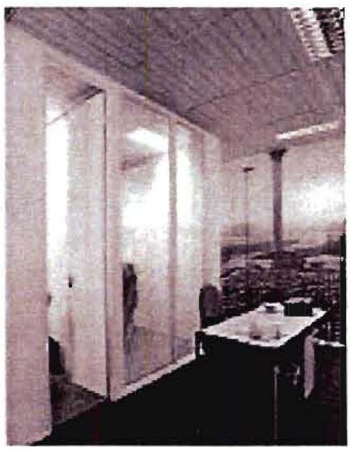
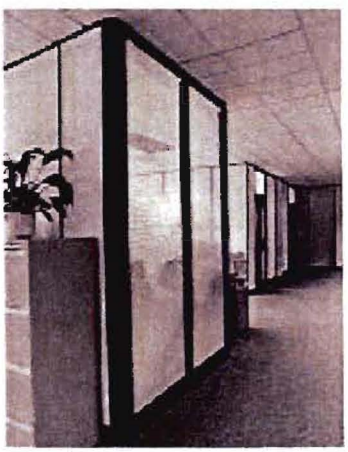
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MGK (Scotland) Ltd
Prima Partition System







Prima
Partitioning

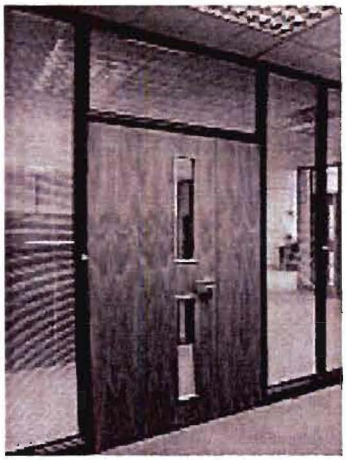
Technical Details
and
Method of Build

Prima

where flexibility matters

Introduction

Prima is a non – loadbearing partition system available in thicknesses of 75mm and 100mm which can be constructed to provide both fire resistance to half hour standard, and good levels of sound insulation. The construction provides a cavity between the facing panels, which can be used to accommodate electrical or communication services. Prefabricated doorframes and glazing sections permit the inclusion of door openings and glazed panels within the partition, whilst maintaining the integrity of the fire resistance, when constructed in accordance with the product specification.



Description

Prima partitioning is based upon a 1200mm wide module, and is available in various thicknesses to suit many applications. It utilises a cold rolled steel stud and track section framework, with gypsum plasterboard sheet fixed to both faces in either single or double layers. The cavity between the facing panels can be used to incorporate an insulation quilt for enhanced acoustic performance.

The galvanised steel stud sections, in 50mm and 73mm widths are interlocking to enable heights of partition to be constructed in excess of the section lengths available. (partitions over 3·0m high should incorporate a fixing channel at the horizontal board joint).

Glazing can be incorporated into the partition forming either part or full glazed modules, by utilising an extruded aluminium wrap-around section to fabricate frames. The frames are easily assembled with screws into in-built screw ports, which form part of the section. The glass is retained by a profiled steel lining section and UPVC beads to achieve a full half hour fire resistance when using glass to the appropriate standard.



Door openings are accommodated into the system with an extruded aluminium frame section. The doorframes wrap over the stud and board, or glazing frame, allowing it to abut either solid panels or glazing. Doorframes are pre-mitred, with machined recesses for hinges and lock keep, and pre-drilled for installation. Fixing screws are concealed by the combined door buffer and cold smoke seal, and the frame incorporates a groove for an intumescent strip where a full half hour fire resistance is required.

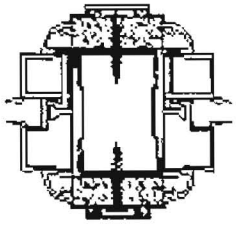
For junctions at 90° and 135° included in a 75mm thick partition, the system includes an extruded aluminium corner post with a rounded profile

Construction options

Colour

As an alternative to satin anodised, most common sections are available from stock polyester powder coated, giving a highly durable surface finish, in two *'Fast Track'* colours,

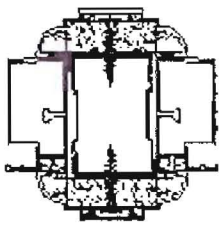
Light grey	**BS 00 A 05**
White	**RAL 9010.**



All of the aluminium sections can also be coated to order on short lead times in one of fourteen stock colours. Specific colours from the BS 4800 (1982), RAL F3 (1984), Syntha Pulvin, Interpon D25, D525 and D36 ranges can be custom coated. Ironmongery is available in a variety of metal finishes, coloured nylon in a range of colours, or some types can be polyester powder coated to match the framing components.

Panel joints

There are four panel joint options available, extruded aluminium cover strips, steel omega 'top hat' section with a UPVC infill, pencil line joint using bevelled edge plasterboard retained by concealed clips, or taped and filled flush joints. (Not all of these joint options are available to provide half hour fire resistance.)

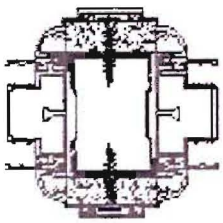


Single, double or single offset glazing

Glazing sections offer single, double, or single offset configurations, with the ability to accommodate integral blinds within the offset or double glazed modules. The glazing sections are designed to suit glass thickness up to 7·0mm. Four standard colours of UPVC profile are available for non fire rated (black, grey, white, or brown,) and three standard colours are available for half hour fire rated (black, grey, or white,) additionally these sections can be supplied colour coated. Glass installed must conform to BS 6262 (1982), and Document N of the Building regulations.

Skirting profiles

There are five different skirting types:
Exposed fixing laminate skirting in a standard range of colours, and is available in 75mm and 100mm high.
Exposed fixing aluminium skirting, which can be polyester powder coated, and is available 75mm and 100mm high.
Concealed fixing UPVC with a hinged flap to cover screw heads in a standard range of colours, and is available 75mm and 100mm high.
Concealed fixing aluminium with a PVC insert to cover screw heads, the skirting can be polyester powder coated, and the insert is in standard colours, available 100mm high only.
Clip on aluminium skirting, using concealed clips, can be polyester powder coated, available 100mm high only.



Doors

Door leaves are available in a selection of veneered finishes and book matched sets can be obtained to order.
In addition to the standard size of 1981 x 838 x 44mm, others can be specified including full height door leaves, door and overpanel sets and doors to permit access for the disabled.

Prima technical specifications

Standards

Prima is an internal partition system for use as non-loadbearing walls, and as such complies with current Building Regulations, Fire Protection Acts and Health and Safety Regulations including glass and glazing. To achieve the specified performance characteristics outlined in the literature, the system must be constructed as detailed and tested or assessed.

Limitations

Prima is unsuitable for use in areas subject to continuous damp or humid conditions, unless cladding panels and seals etc. have been fully approved in writing.
Whilst every effort is made during manufacture to maintain uniformity of colours of painted surfaces of profiles, and other manufacturers wall coverings or veneers etc., there may be slight variations, particularly if sourced over significant time periods. We are therefore unable to guarantee exact matching beyond paint powder and other manufacturers' limitations.

Handling and storage

We full accept our responsibilities as a supplier of building materials and systems as required by section 6 of The Health and Safety at Work Act 1974. The designer should take full account of relevant regulations, and the contractor should ensure that all packaging notes are adhered to and that all materials are stored and used on site to avoid damage.

Contents

The data in this publication is correct at the time of going to press. However we reserve the right to amend specifications without prior notice in accordance with our policy of continuous development.
The designer and user should also note that the performance data contained herein was obtained under laboratory conditions. Particular attention should therefore be paid to the sealing of air gaps particularly to facilitate sound insulation by reducing flanking transmission of sound. If Isowool insulation is included in the cavity to provide improved acoustic performance, compression of the glass wool mat beyond that tested must be avoided.

Galvanised steel sections

To BS EN 10142 (1991) Specification for continuously hot dip zinc coated steel strip and sheet for cold forming, and BS2994 (1976) Specification for cold rolled steel sections.

Extruded aluminium sections

Alloy grade 6063. T6 condition, conforms to BS1474 (1972). Anodising grade AA5 (5 micron film thickness), conforms to BS1615 (1987) Anodic oxidation coatings on aluminium and its alloys.

Polyester powder coating

Steel finishing conforms to BS6497 (1984) Specification for the application and stoving to, and for the finish on, galvanised steel sections and preformed sheet coated with powder organic coatings.
Aluminium finishing conforms to BS6496 (1984) Specification for the application and stoving to, and for finish on, aluminium alloy extrusions, sheet and preformed sections coated with powder organic coatings.
Minimum film thickness : 60 microns.

Doorframes for timber door leaves

General

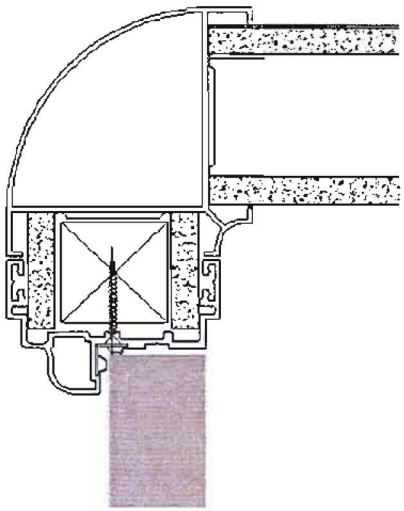
Single standard height doorframes are universal to suit either left or right hand installations. Frame stiles are mitred at both ends, with hinge recesses positioned equidistant from the ends. The single doorframe lock stile has the lock box recess centrally positioned.
Frames for non-standard height doors are handed.

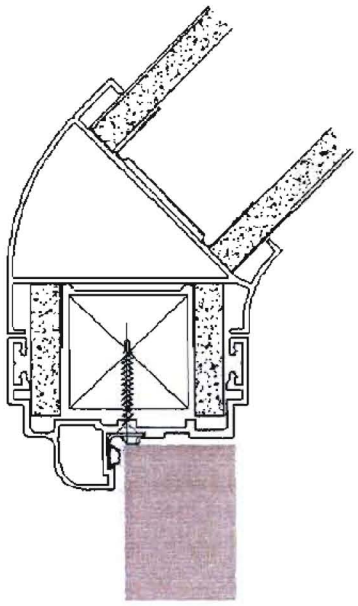
Single swing, non fire rated and half hour fire rated

Non fire rated standard height doorframes have two hinges per door leaf, fire rated standard height doorframes have three hinges per door leaf.
Frames for non standard height doors should be fitted with up to four hinges, dependant upon the overall height.
The frame profile incorporates a groove for an intumescent strip.
Doorframe packs are supplied complete with door buffer / cold smoke seal, lock box (single doorframe only), steel loose pin hinges, steel mitre cleats, and all the necessary fixing screws for the frame. The fire rated doorframe is also supplied with self adhesive intumescent strip, which is necessary to achieve half hour fire resistance, and should be fitted into the groove in the frame.

Cold smoke seal

Extruded aluminium doorframe sets include an extruded UPVC combined door buffer and cold smoke seal, tested in accordance with BS476 : Part 31, Methods for measuring smoke penetration through doorsets and shutter assemblies, Section 31.1 (1983) Method of measurement under ambient temperature conditions. Complies with BS5588 : Part 3 (1983), and Amendment 6160 : 1989.





Prima

Timber door leaves

General

Overall sizes to BS4787 : Part 1 1980 (1985) Specification for dimensional requirements.

General flatness to BS5227 1976 (1985) Measurement of defects of general flatness of door leaves.

Squareness to BS5278 1976 (1985) Measurement of dimensions and of defects of squareness of door leaves.

Cellular core

Standard door size is either 1981 x 838 x 44mm or 2040 x 826 x 44mm.

Half hour fire rated

Standard door size is either 1981 x 838 x 44mm or 2040 x 826 x 44mm, FD20 flush door which can be upgraded to FD30 when installed with the correct intumescent system in the frame or door leaf, and a self closing device fitted.

Hinges

Tested to BS7352 (1990) Class 5 Pending CEN Standard CEN-RP 1935 Grade 2.

Plasterboard

To BS 1230 : Part 1 (1985) Specification for plasterboard excluding materials submitted to secondary operations.

Glazing

Standard ***Prima*** glazing components will accept glass with thickness up to 7mm, in either single, single offset or double glazed configurations. Glass installed must conform to BS6262 (1982) Code of Practice for Buildings, The Building Regulations Approved Document 'N' (1992) and BS6206 (1981) Impact Performance Requiremeots. Where fire performance is a criteria, glass installed must be approved to the required standard, and not exceed the tested or assessed limitations.

Manufacturing

The fabrication of the doorframes and glazing frames, along with the polyester powder coating of all of the components, is carried out at the manufacturing facility under an BS EN ISO 9002 Quality Management System. BSI Registration Certificate number FM54954.

Fire propagation

When panels are faced with standard wallcovering, surfaces are designated Class O for the purposes of the Building Regulations, when tested in accordance with BS476 Part 6 (1981); and Class 1, in accordance with BS476 Part 7 (1981).

Electrical

In accordance with BS7671 : 1992, Amendment No 2 1997, electrical wiring at a depth of less than 50mm from the surfaces of the wall or partition, should be installed within 150mm of the top of the wall or partition, or within 150mm of an angle formed by two adjoining walls or partitions. Where the cable is connected to a point, accessory or switchgear on the wall or partition, the cable may be installed outside these zones only in a straight run either horizontally or vertically, to the point, accessory or switchgear. Where compliance with this regulation is impracticable, the cable shall incorporate an earthed metallic covering which complies with the regulations for a protective conductor of the circuit concerned, or shall be enclosed in an earthed conduit, trunking or ducting satisfying the requirements of the regulations for a protective conductor, or by mechanical protection sufficient to prevent penetration of the cable by nails, screws and the like, or be of insulated concentric construction.

Recommended fixings

Head channel, floor track, and abutments, fixing to structure :

Background type :	
Timber	25 x 5mm woodscrews
Masonry	38 x 5mm woodscrews & red plugs
Metal	38 x 4mm self tapping screws

Fixing transoms to vertical studs :
13 x 4mm pan head screws

Fixing plasterboard :

Single layer	25mm drywall screws
Double layer	38mm drywall screws

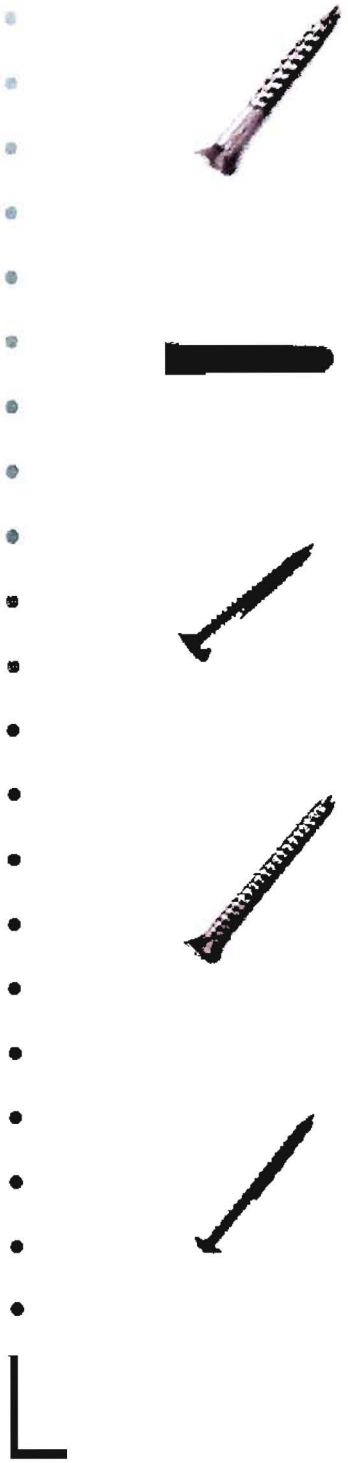
Glazing frame assembly : (supplied in pack)
19 x 3·5mm flange head screws

Fixing steel glazing liners :
13 x 4mm pan head screws

Fixing doorframes & hinges to stud :
(supplied in pack)
38 x 4mm self tapping screws

Skirting – all types :

Single layer board	25 x 3·5mm flange head screws
Double layer boards	38 x 3·5mm flange head screws

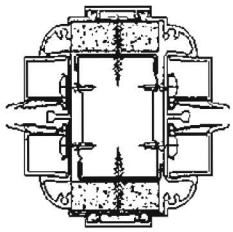


Prima

Performance data

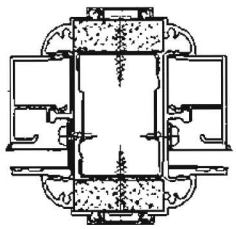
Fire resistance

The ***Prima partitioning system*** has been tested in accordance with BS476 : Part 22 : 1987, for half hour fire resistance, and assessed by independent fire consultants.



Solid partition, constructed using ***Prima*** steel stud and track sections, with a single skin of plasterboard on each side, as described in The Building Test Centre report number BTC 5344F, achieves half hour fire resistance.

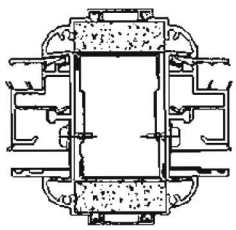
Single centre glazed partition, constructed using the ***Prima*** extruded aluminium framing section, incorporated within a ***Prima*** stud and track partition; glazed with Pyroshield glass retained by steel lining sections, and with the liners concealed by UPVC glazing profiles, as described in The Building Test Centre report number BTC 5363F, achieves half hour fire resistance.



Single offset glazed partition, constructed using the ***Prima*** extruded aluminium framing section, incorporated within a ***Prima*** stud and track partition; glazed with Pyroshield glass retained by steel lining sections, and with the liners concealed by UPVC glazing profiles, as described in International Fire Consultants assessment report number 95119, for half hour fire resistance.

Double glazed partition, constructed using the ***Prima*** extruded aluminium framing section; glazed on the risk side with Pyroshield glass retained by steel lining sections, and on the sacrificial side with laminate glass, using UPVC glazing profiles, and incorporated within a ***Prima*** stud and track partition, as described in International Fire Consultants assessment report number 95119, for half hour fire resistance.

Doorframe and door leaf constructed using the ***Prima*** extruded aluminium frame section, fitted with intumescent strips, with the door leaf hung on three steel hinges, and fitted with a self closing device, incorporated within a ***Prima*** stud and track partition, as described in The Building Test Centre report number BTC 5352F, achieves half hour fire resistance.



Cold smoke seal / door buffer fitted into a ***Prima*** doorframe, has undergone an air leakage test using the principles of BS476 : Part 31, Section 31.1 (1983) and achieved a leakage rate not exceeding 0·6m³ / m / hour, and as such complies with BS5588 : Part 3 (1983), Amendment 6160 (1989).

When the partition is decorated using the standard wallcovering, the surfaces are designated Class O for the purposes of the Building Regulations 1985, and Class 1 to BS476 Part 7.

Acoustic performance

The ***Prima partitioning system*** has been tested in accordance with BS2750 : Part 3 (1980), and rated in accordance with BS5821 : Part 1 (1984) to give weighted sound reduction indices (R_w) as follows:

Solid partition, consisting of 50mm ***Prima*** stud and track with a single layer of plasterboard on each face, board joints concealed by aluminium cover strips. All as described in The Building Test Centre report number BTC 2547A, achieved a weighted sound reduction index (R_w) of 37 dB.

Solid partition, consisting of 50mm ***Prima*** stud and track with a single layer of plasterboard on each face, 50mm Isowool acoustic partition roll within the cavity, and with board joints concealed by aluminium cover strips. All as described in The Building Test Centre report number BTC 2583A, achieved a weighted sound reduction index (R_w) of 43 dB.

Solid partition, consisting of 50mm ***Prima*** stud and track with two layers of plasterboard on each face, board joints concealed by aluminium cover strips. All as described in The Building Test Centre report number BTC 2585A, achieved a weighted sound reduction index (R_w) of 45 dB.

Solid partition, consisting of 50mm ***Prima*** stud and track with two layers of plasterboard on each face, 50mm Isowool acoustic partition roll within the cavity, and with board joints concealed by aluminium cover strips. All as described in The Building Test Centre report number BTC 2584A, achieved a weighted sound reduction index (R_w) of 48 dB.

It should be noted that laboratory test reports are not a guarantee of on site performance, which may be affected by associated structure when the construction is incorporated within a building.
To achieve the optimum sound insulation it should be ensured that all air paths through, or around the perimeter of a partition are sealed.

Prima

Method of build

Solid partition

1. Accurately mark out the partition runs on either the floor or ceiling, and then transfer using plumb and chalk lines, so that both show the layout.

2. Fix a length of galvanised steel track into the inside of the aluminium head channel, by drilling and using three pop rivets, from the outside. For continuous runs of partition it should be ensured that the steel track is positioned within the head channel to abut previous lengths.

3. Drill fixing clearance holes through both sections, along the centre line at 600mm centres (max), and fix to the soffit or ceiling using suitable screws. (Where acoustic performance is a requirement, sealant should be applied to the back of the head channel prior to fixing).

4. Fix galvanised steel track to the floor at 600mm centres (max), using suitable fixings.

5. At the position of each stud, measure the vertical distance between the inside of the head track and the floor track, and deduct 10mm. Cut studs to length, and clip them into their approximate positions at 600mm centres by twisting them into the head and floor track, with all the studs facing in the same direction. Check that all studs are plumb in both vertical planes and adjust the setting out as necessary.

6. Measure the height from the floor within the head channel at the first and third studs to obtain the board height, and cut the first sheet of plasterboard to size. The board is now offered into position, by lifting it up into the head channel and pushing the bottom in towards the stud framework.

7. Check that the board edges are plumb and are on the stud centre lines, and then fix it into position with 25mm drywall screws at 300mm vertical centres (max) along both edges and to the centre stud.

8. Where acoustic performance is required, the glass fibre acoustic partition quilt is now fitted between the studs behind the first board. It can be held in position by cutting tabs 25mm wide in the head track and pressing them back to trap the quilt.

9. This procedure continues with vertical board joints staggered between faces until the partition is fully boarded. If the partition is to have a double layer of plasterboard, the second layer is now fixed using 38mm drywall screws at 300mm centres to all studs, with board joints staggered between layers.

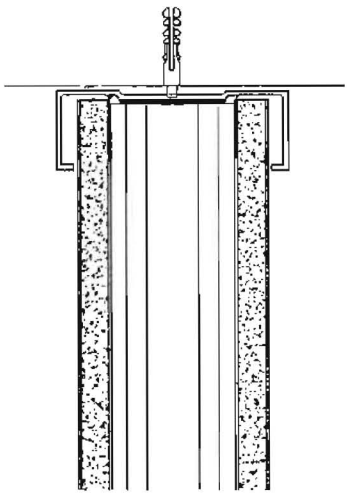
10. The galvanised clamping strip is cut to length, and screw fixed over the board joints.

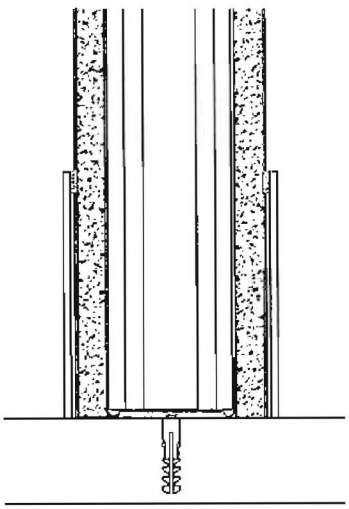
11. The selected decorative finish is now applied to the plasterboard.

12. The aluminium cover trim is cut to length, and with the cut end at the base, is clipped to the clamping strip.

13. If laminate or aluminium skirting is being used, it should have 6mm foam applied to the back in line with the top edge, and then the skirting is fixed in position using flange head screws, to complete the installation.

14. If concealed fix or clip on skirting is to be used, it should be fixed prior to the cover trim, which should be then cut to fit neatly between the head channel and the top of the skirting.



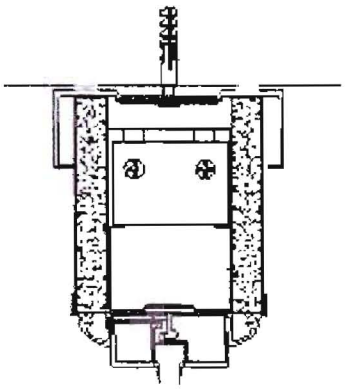


Method of build

Glazed partition

15. Install the head channel and floor track, as for solid (steps 1 - 4).

16. Check the position of the glazing units from the partition layout. Check their size, and the elevation to be constructed (this will determine the extent of any stud boxing required)
Glazed floor to ceiling will require fully boxed studs, part glazed will require the studs to be boxed to sufficient height to permit the transom to be fixed.

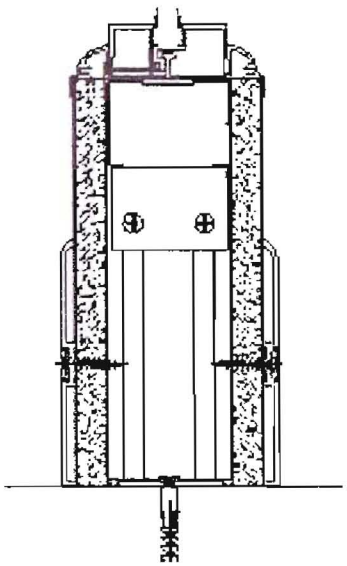


17. Measure and cut the studs to length (step 5) for the first glazed module, accurately position the first stud (taking in account any solid margin panels which may be required), which can be held in place by snipping sides of the head and floor track and bending them inwards. Clip the second stud into its approximate position but it should not be fixed. Fully boxed studs should be offset at the ends in order that only one engages within the head and floor track.

18. Locate the stud transom, and ensure that it is the correct length to suit the glazing frame (deduct 16mm from overall frame width), and use it to set the position of the second stud

19. If the glazing extends to the partition head a length of stud should be cut and clipped into the head track to form a box for the full extent of the opening.

20. The height of the transom is now set to suit the required elevation, and marked on the first stud, then transferred to the second stud using a spirit level or other suitable device.



21. If a fully glazed, or glazed to doorhead elevation is to be constructed, then three short pieces of stud should be cut (approx. 95mm long), to fit between the floor track and the transom. These are positioned one at each end of the transom, and the other at the centre (the return on the legs of the transom will need to be flattened to accept the intermediate studs).
For half glazed or mid glazed elevation, one stud is cut to fit between the floor track and the transom for the centre of the module, and the transom can be loosely fixed.

22. Unpack the glazing frame components from their box, and using the screws supplied, assemble the frame by driving the screws through the predrilled holes in the horizontal sections, into the screw ports in the vertical sections.

23. The glazing frame is positioned on top of the transom, and all fixings secured. The second stud is pushed firmly against the glazing frame and can be held in place as for the first stud (step 17).
For mid glazed or glazed to doorhead, a second transom is fixed directly on top of the glazing frame, and an intermediate stud fitted.

24. This procedure is repeated, fixing plasterboard fillets over the stud faces, and within the head track, along the partition run.

25. Any plasterboard for solid panels above or below the glazing frames should be carefully cut and slid into position, and fixed with drywall screws, along with acoustic partition quilt if required.

26. The galvanised clamping strip can now be cut and fitted, boards decorated, and the cover trim and skirting fitted.

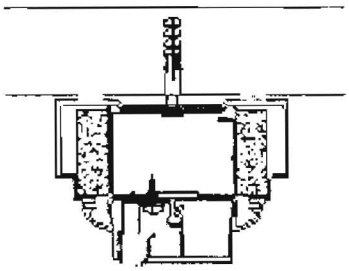
Prima

Method of build

Glazed partition continued – glazing sections

Non fire rated glazing :

27. For all glazing configurations, the UPVC glazing chair is cut to size and fitted horizontals first followed by the verticals.
The glazing bead is cut to size and fitted in the same manner (the beads are subsequently removed for the installation of the glass).
Note: for single glazed the beads should always be fitted to the inside of any office.



Half hour fire rated single centre glazed :

28. The steel glazing liners are cut to length, and fitted overlapping at the corners, and screw fixed in position at 300mm centres (max) for both sides of the glass (liners for one side are subsequently removed for the installation of the glass).

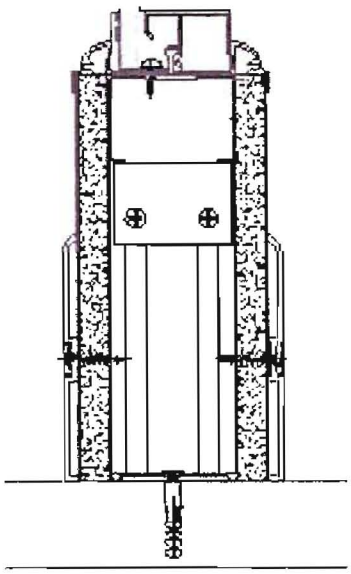
29. The UPVC glazing beads are cut to size and fitted horizontals first followed by the verticals (the beads are subsequently removed for the installation of the glass).

Half hour fire rated offset or double glazing :

Note : it should be ensured that the steel liners are installed towards the face of the partition on the protected side, ie. the corridor side.

30. The self-adhesive wedge is cut to length, the release paper removed, and it is then applied to the inner wall of the glazing section.

31. The outer steel liner is cut as necessary and positioned tight against the glazing wedge, then fixed in position with screws through all of the pre-pierced round holes, completely around all four sides of the glazing frame.



32. The inner steel liner is cut as necessary (ensure that the outer and inner liners are cut so that the pre-pierced holes still align), and positioned to accommodate the glass and loosely screwed.

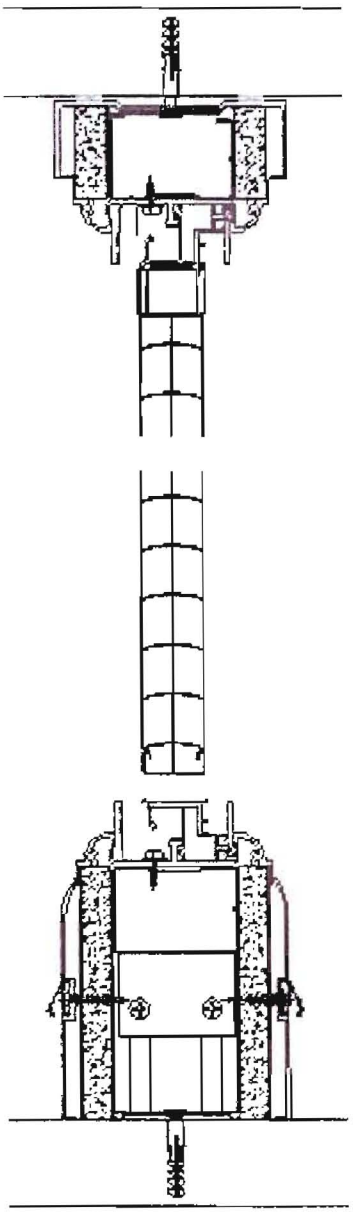
33. For offset glazing, the glazing section is cut and fitted horizontals first followed by the verticals.

34. For double glazed, the glazing section is cut and fitted horizontals first followed by the verticals, and then the glazing beads are cut and fitted for the sacrificial pane.

To calculate the glass sizes, deduct the following from the actual frame dimension measured from point to point of the mitres :

	Single centre glazed	*Single offset glazed*	*Double glazed*
	mm	*mm*	*mm*
Non fire rated			
Width	*45*	*45*	*45*
Height	*45*	*45*	*45*
Half hour fire rated			
Width	*45*	*45*	*45*
Height	*45*	*32*	*32*

All glass installed should conform to BS6206 (1981), and BS6262 (1982), and the area and location of the glass should meet with the approval of the Local Authority and Building Control Department.



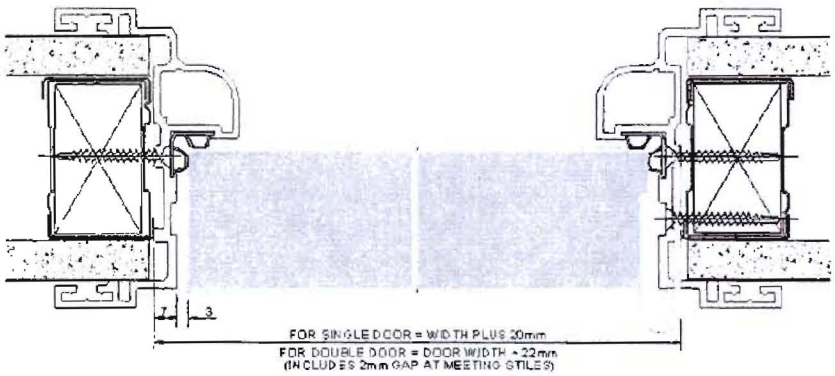
Prima

Method of build

Door module

35. The position of the door module is established from the partition layout, and the floor track omitted for the width of the door module.

Module width (stud face to face dimension) for single doors :
door leaf width + 20mm



36. Four studs are cut to length (step 5) but 35mm short of the full height, and hoxed in pairs with the ends offset. The softwood stud infill is inserted into the boxed studs for the full height, and any surplus cut off. The stud for the lock side of the doorframe is carefully notched out to accept the lock box.

37. Check the handing of the door required, and fit the prepared studs into the floor and head track for the sides of the door module, with the stud prepared for the lock keep in the correct position. Ensure that they are plumb in both vertical planes, and that they are parallel, and fix them in position, through the floor track with wafer head screws, and at the head by snipping sides of the head track and bending them inwards.

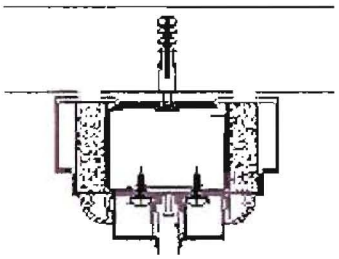
38. Locate the stud transom and mark its position, and ensuring that it is level, fix it in position.

The height to the underside of the stud transom will be :
door leaf height + 15mm
This dimension is from the top of the floor covering, and allows 5mm clearance below the door leaf.

39. Any surrounding solid panels are constructed, or glazed panels installed with plasterboard fillets covering any exposed stud faces adjoining the doorframe.

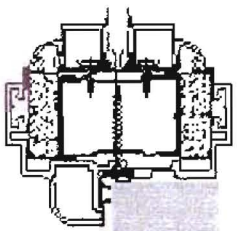
40. Unpack the dnorframe components from their box, re-check the door handing, and trim the ends from the frame stiles to the correct length, to give a square cut end at the floor.

41. The four steel mitre cleats are fitted into the doorframe head, and it is fitted into the prepared opening ensuring that the doorframe stop is on the correct face, and fixed through the pre-drilled holes using the screws supplied in the pack.



42. Offer the prepared doorframe stile up towards the head at an angle of approximately 30°, locating the mitre cleats in their slots, and pushing it upwards and back to wrap over the stud and board adjoining the opening. Lever the doorframe stile up with a bolster to ensure the mitre joint is fully closed, and then after checking that it is plumb fix it in position through the pre-drilled holes, using the screws supplied in the pack. Repeat for the other doorframe stile, and finally check the inner doorframe stiles are parallel.

43. Position the hinges in the pre-milled slots in the hinge stile (2 hinges on non fire rated, 3 hinges on 30min fire rated), and fix them in position through the pre-drilled holes, using the screws supplied in the pack.



44. Position the lock box in the recess in the lock stile and fix it in place (if the door module is fire rated, the lock box should be bedded in intumescent paste).

45. Cut the combined door buffer / cold smoke seal to length and clip it into position in the recess in the frame.

46. If the doorframe is 30mins fire rated fit the self adhesive intumescent strip supplied in the pack into the groove in the doorframe profile.

The doorframe is now complete and ready for the door to be hung.