



**FIXING
INSTRUCTIONS**

This leaflet shows how Homelight windows and doors are fixed into the most frequently used perimeter details, and where the various screws, lugs and other components are used to provide good fixing. It includes the coupling of windows with mullions and transomes.

INDEX

General notes on fixing details, sealants and glazing	1
Fixing positions	3
Perimeter details	4
Lintels and sills	5
Mullion and transome coupling	8
Screw selection chart	7
Fixing pressed metal sills	8

SITE HANDLING

All windows should be unloaded, stacked and handled with great care on site, particularly powder coated windows. Stack windows on level battens away from mud and site traffic, and never on ashes because sulphur attacks the metals. Windows need not be stacked undercover, but should never be stacked on other materials nor other materials stacked on windows.

Inspection at factory ensures that opening lights fit correctly and they should never be opened prior to installation. After installation windows must remain closed until they have been glazed. Unglazed windows must never be used for access for men or materials.

Bad site handling can cause distortion and damage to window frames and / or fittings resulting in unnecessary site rectification and cost to builder.

GENERAL NOTES

General Notes

Windows can be fixed direct, either built in or into prepared openings, or into wood or plastics subframes. All windows are supplied with fixing holes positioned as shown on Page 3, with sufficient quantities of suitable lugs, screws, plugs, etc. Extra holes, additional to those shown in the Chart on Page 3, appear in the frames. These are incidental to manufacture, and need not be used for fixing. Bedding and pointing mastic materials are not supplied by Crittall Windows Ltd., but are provided by the Builder.

Building in

Frames must be fixed plumb square and free from twist, and all vents set square in their openings. Ensure that composite windows are not bent at the coupling position.

Prepared openings

These must always be built square and plumb to sizes which provide a 3-6mm clearance between window and work for perimeter pointing mastic or sealant. Extra allowances must be added to window frame sizes for pressed steel sills and mullion / transome couplings, as shown on Pages 5 & 6. Templates ensure accurate preparation of openings.

Windows fitted into oversize openings can present weathering and fixing problems. Where openings are undersize never force windows into position: instead have the openings enlarged.

GENERAL NOTES (continued)

Head details

Steel windows are not designed to withstand imposed structural loads, this being the function of the lintel. This is especially important when a window is built in and where a minimum 3 mm clearance must be maintained between window and work for perimeter pointing mastic or sealant.

Steel lintels can be drilled to suit window fixing centres, to take a No. 10 self tapping screw as supplied by Crittall Windows Ltd. Alternatively lugs can be secured to the lintel by shot fixing, arranged by the builder.

Concrete lintels can be drilled for No. 10 woodscrews, but if preferred anchor bolt, supplied by the builder, can be used.

Jamb details

When building a window into cavity brickwork at the jamb, it is most important to position DPC and window correctly. The face of the window should be positioned 6 mm forward of the inside face of the outer brick leaf so that the DPC, which should be placed immediately behind the outer brick and project approximately 15 mm, can be tucked behind the long leg of the window but in front of the fixing lug. The window should be held plumb and a minimum 3 mm clearance maintained between window and brick for perimeter pointing mastic or sealant.

Sill details

The required opening height size will not always coincide with an exact number of brick courses, therefore the window may need to be set up at the sill with packings to enable the window head to fix under the lintel leaving the required minimum 3 mm clearance for perimeter pointing mastic or sealant.

Pressed steel sills can be clamped onto windows before or after fixing the window, whether they are built in or fixed into prepared openings. For sequence of fixing pressed steel sills refer to Page 8.

With other types of sill such as tile, brick on edge or special brick, the details should be designed to allow windows to be positioned correctly at the jambs to lap the DPC as shown on details on Page 4.

Special note for reversible windows only

Nylon washers are supplied for fitting under the heads of sill fixing screws, also under the heads of transome coupling screws or the square nuts.

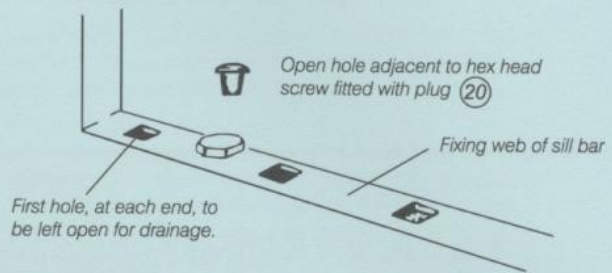
After fixing

When windows have been fixed to a non-rebated surround a waterproof cement / sand fillet should be trowelled behind the long leg of the window. This fills unused fixing holes and serves as a key for the internal plaster and as a backing for the external perimeter pointing, which must always be applied. Where it is not possible to apply this fillet (e.g. in the case of replacement windows) and in all cases of fixing to rebated surrounds or subframes, and where mullion or transome couplings occur, all unused fixing holes in the window frame must be filled with mastic to prevent water draining through them to the inside.

After fixing, but before glazing, it is important to check that all window fittings engage and operate properly, in particular reversible windows which should be fully reversed to ensure safety catch operates correctly.

Also ensure opening light margins are equal all round. If casements have dropped and become distorted for any reason, adjust them before glazing.

Note that at the sill of reversible windows only, plastic plugs are used to fill the unused fixing holes as shown in the sketch below.



Vents should be checked by glaziers to ensure that they are square prior to glazing, and glazing should be carried out to British Standard 6262, using setting blocks and distance pieces to prevent glass moving and vents dropping under the weight of glass. See below for further advice on glazing.

After glazing adjust friction hinges to hold side hung windows open in any position up to 90° opening. On reversible windows friction pivots should be adjusted to hold window open in any position up to length of safety arms, thereafter friction provides controlled rotation whilst being fully reversed.

Glazing

Homelight steel windows are supplied unglazed. The glazing contractor supplies the glass, spring glazing clips, spacers, distance pieces and putty or other glazing compound.

Single glazing:

Glazing beads, matching the finish of the windows, can be supplied by Crittall Windows Ltd., and the use of these is recommended, especially with factory finished, (powder coated) windows. When glazing beads are specified, the glazing studs are also provided by Crittall Windows Ltd., for application by the glazing contractor to prepared holes in the frame. The beads clip over the studs. A leaflet is sent with the consignment to illustrate the correct way to do this.

Alternatively, spring glazing clips and metal window putty can be used. Putty requires painting after glazing. For use with white factory finished (powder coated) windows, a special proprietary glazing compound, which does not require painting for a prolonged period, can be used with spring clips. It does not always exactly match the white coating and the setting time may be rather prolonged.

Double glazing:

14 mm. sealed units can be glazed into Homelight DG construction windows which are specially designed to receive units of this thickness. Glazing beads matching the finish of the windows are applied to special glazing clips already fitted to the frames in the factory. A leaflet is sent with the consignment to illustrate the correct way to do this.

In all cases, spacers and distance pieces must be used and correct glazing practice followed as laid down in BS.6262, Glazing for Buildings. This British Standard should be consulted also with regard to the selection of glass, including the use of safety glass where appropriate.

SEALANTS

Sealants

Bedding and pointing materials are not supplied by Crittall Windows Ltd. They are to be provided by the builder who should be able to obtain them through his local trade merchant.

Bedding (See A pp 4, 5 and 6)

Both galvanised finish and DURALIFE powder coated windows, whether fixed in timber surrounds or rebated work and all mullion / transome couplings, must be solid bedded using a good quality oil-based hand grade bedding mastic.

Perimeter pointing (See B pp 4, 5 and 6)

For galvanised windows the pointing material used must be a good quality oil-based gun grade pointing mastic, which when it has skinned after application should be painted with the window. This necessary to avoid rapid

drying out and hardening which can result in cracking and joint failure. For powder coated windows it is recommended that the pointing material should be a self-curing sealant such as one-part polysulphide rubber. When powder coated windows are to be exposed to severe weather conditions it is further recommended that joints at rebates and mullion / transome couplings should be pointed in addition to the solid bedding.

To calculate quantities of materials these rules-of-thumb methods will be found useful:

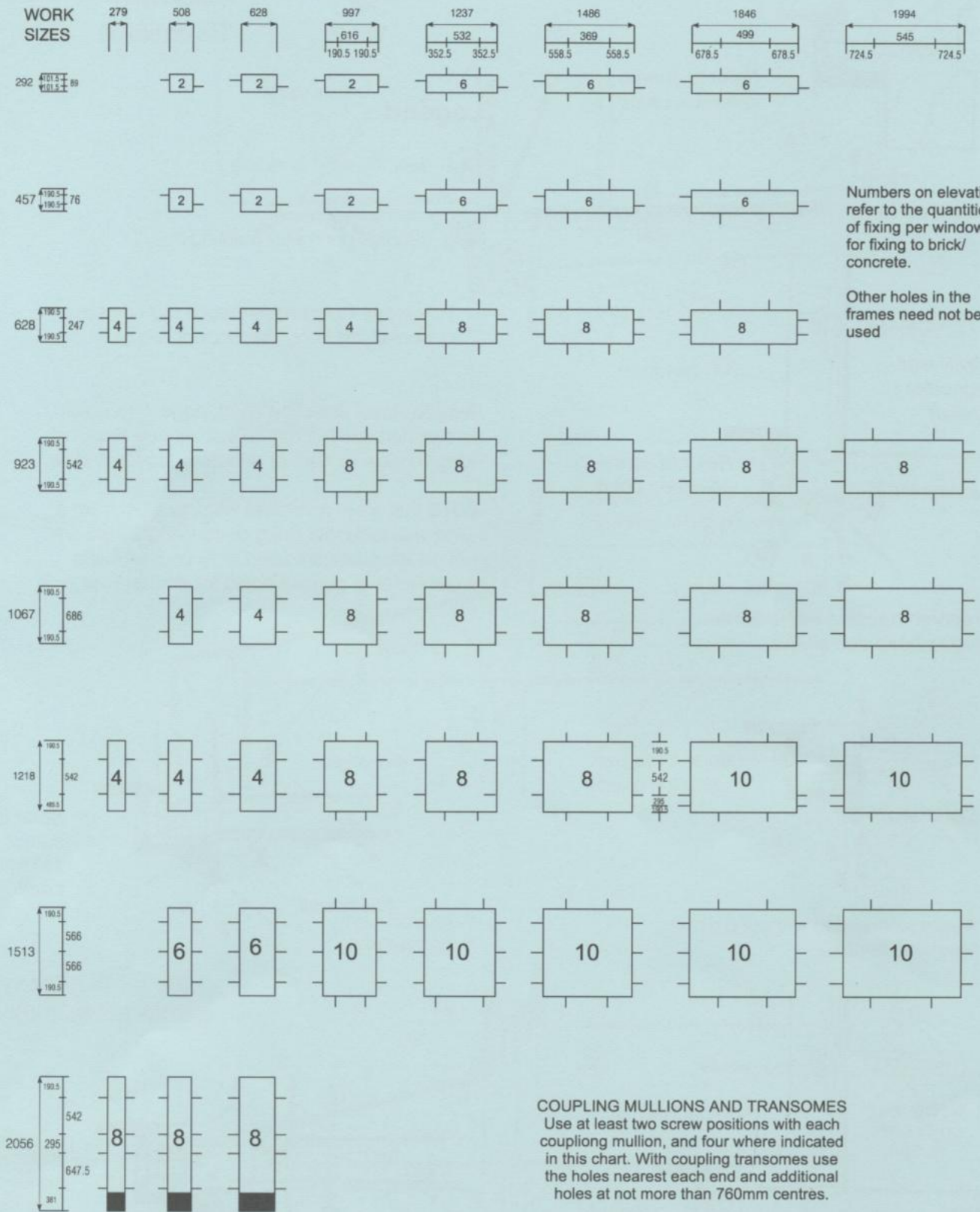
BEDDING MATERIALS:

Allow ¼ Kg. per metre run of perimeter and ½ Kg. per metre length of mullion / transome couplings.

POINTING MASTIC OR SEALANT:

Allow 12 metres run per cartridge.

FIXING POSITIONS

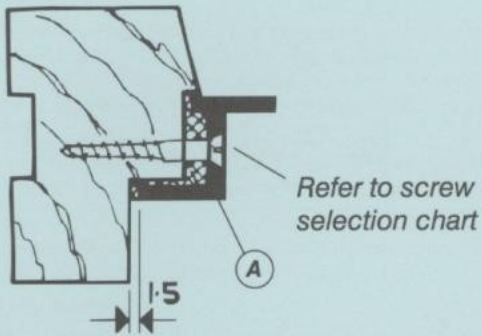


Numbers on elevations refer to the quantities of fixing per window for fixing to brick/concrete.

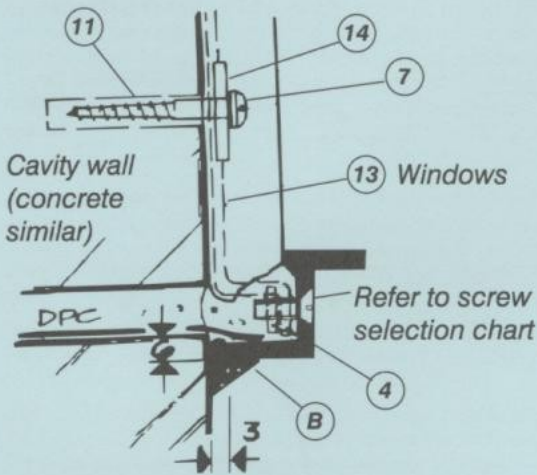
Other holes in the frames need not be used

COUPLING MULLIONS AND TRANSOMES
 Use at least two screw positions with each coupling mullion, and four where indicated in this chart. With coupling transomes use the holes nearest each end and additional holes at not more than 760mm centres.

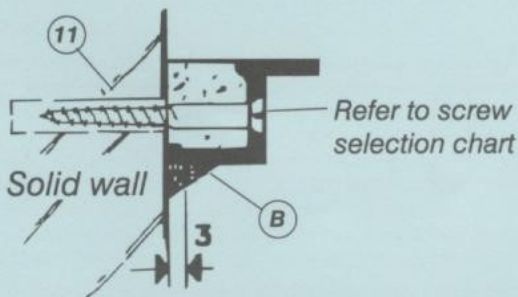
PERIMETER DETAILS



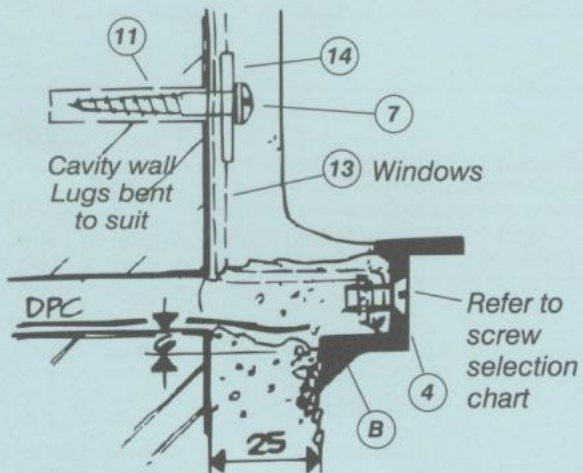
Timber surround, head, sill and jambs.



Prepared opening with internal plaster, head and jambs.



Prepared opening without plaster, head and jambs.



Prepared opening with outside render, head and jambs.



Vents



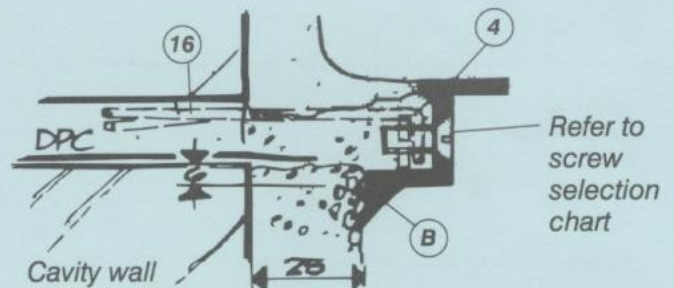
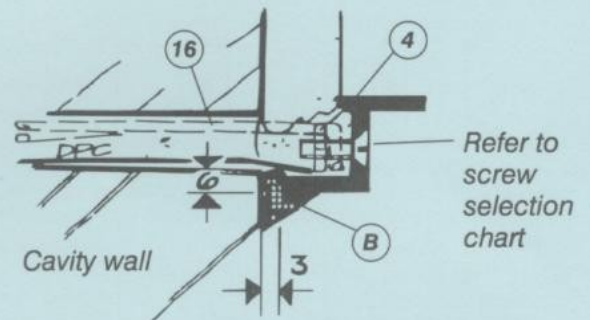
Reversibles

Legend

- (A) denotes solid bedding
- (B) denotes perimeter pointing
- number indicates reference of fixing bag containing fixing component.

Refer to screw selection chart, page 7, to obtain screw reference number to suit window type for fixing window to work or attaching lug to window.

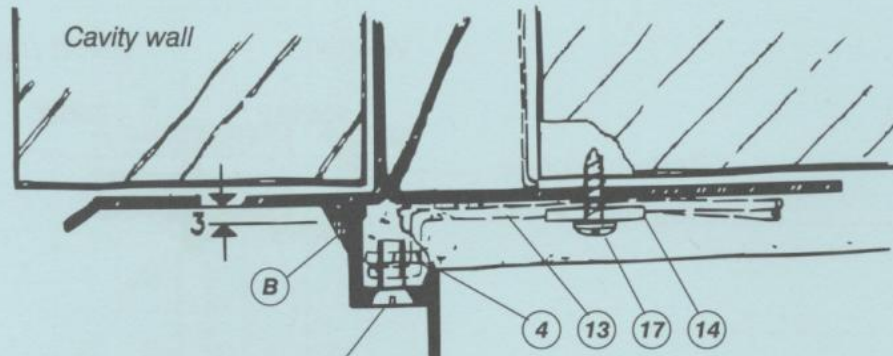
NOTE that sill of reversible window must have a nylon washer under fixing or coupling screw, also that plastic plugs are used to fill unused fixing holes. Refer to general notes for details. (see p. 2)



Built in cavity wall with outside render jamb detail, sill similar.

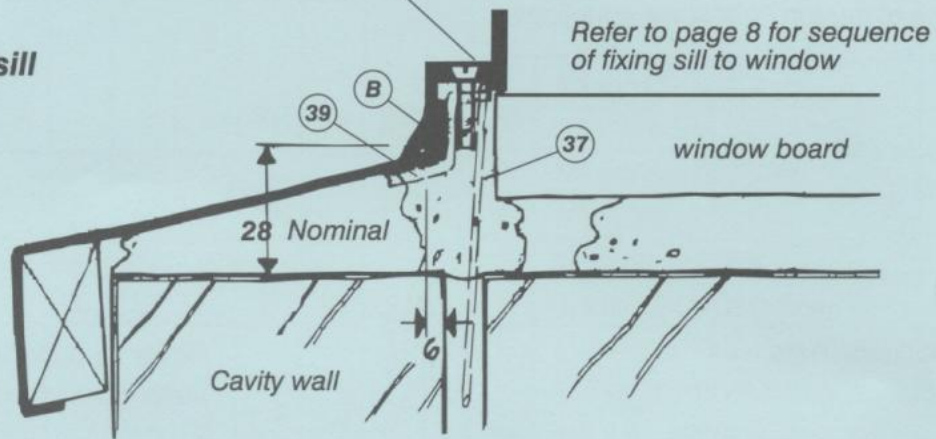
LINTELS AND SILLS

Pressed steel lintel



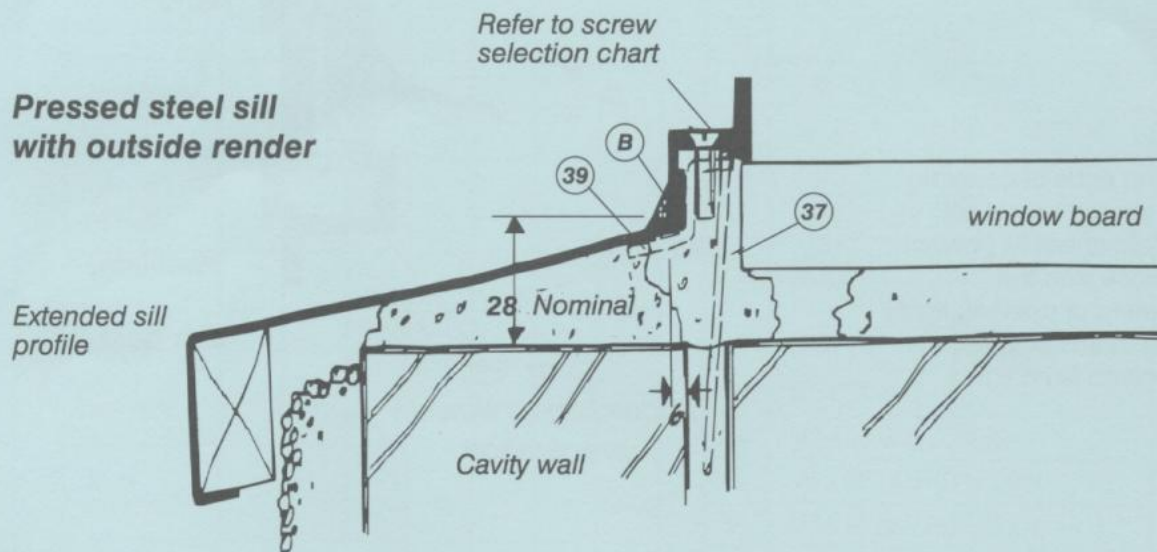
Refer to screw selection chart

Pressed steel sill



Refer to page 8 for sequence of fixing sill to window

Pressed steel sill with outside render

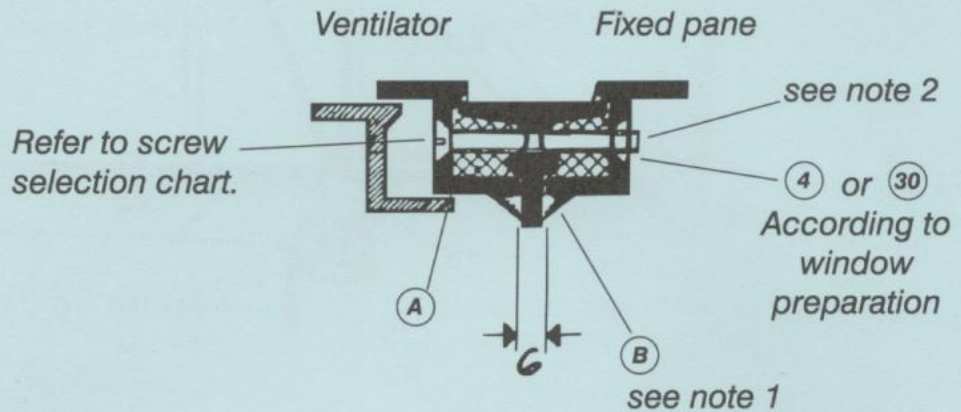


Refer to screw selection chart

Extended sill profile

MULLION AND TRANSOME COUPLINGS

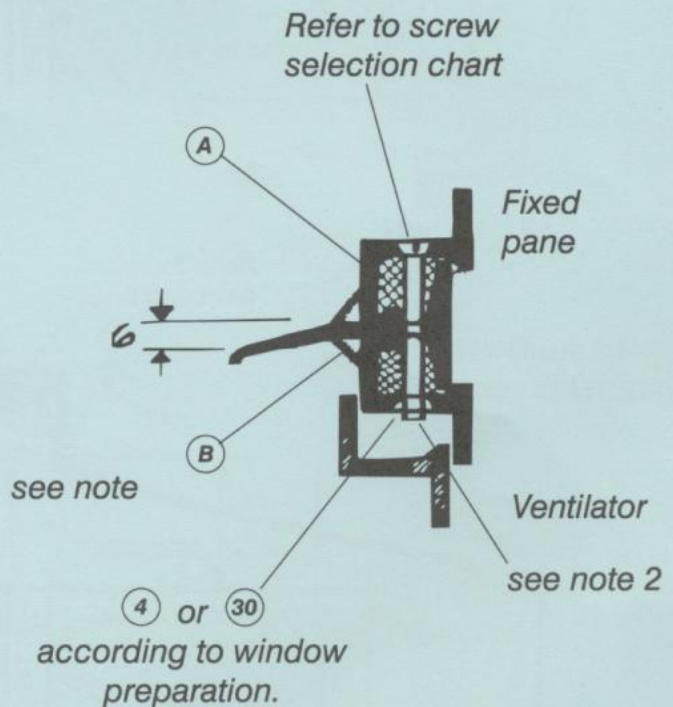
Mullion couplings



Note 1

Refer to general notes for sealants, page 2 for recommendations on pointing at mullion / transome couplings.

Transome couplings



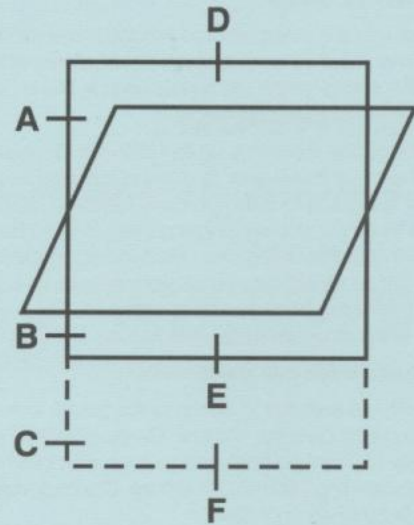
Note 2

Projecting ends of coupling screws should be cut off with a cold chisel to prevent interference with the weatherstrip of opening lights and with beads or glass clearance on fixed lights.

SCREW SELECTION CHART

The numbers are the reference numbers of the bags containing the screws.

SCREW No. FOR FIXING THESE WINDOWS → TO THESE PERIMETERS ↓	Reversible Windows						All other windows
	A	B	C	D	E	F	
	Jamb above pivot	Jamb below pivot	Jamb of sublight	Head	Sill of reversible	Sill of sublight	
Wood surround	7	9	5	7	9	5	5
Prepared opening with plaster	2	3	1	2	-	-	1
Prepared opening without plaster	8	10	6	8	10	6	6
Built into cavity wall	2	3	1	2	3	1	1
Built into solid wall	2	3	1	2	3	1	1
Steel Lintel	-	-	-	2	-	-	1
Pressed steel sill	-	-	-	-	36	34	34



Refer to this chart when ordering lost or replacement fixing components.

FIXING BAG		CRITTALL WINDOWS PART No.
No.	CONTENTS	
1	M6 x 13 CSK SCREW	74/2636/14
2	M6 x 12 PAN HD SCREW	74/2133/14
3	M6 x 45 PAN HD SCREW	74/2152/14
4	M6 SQ NUT	74/0112M19
5	1½" x No. 10 CSK W/SCREW	74/9130/14
6	2" x No. 10 CSK W/SCREW	74/9328/14
7	1½" x No. 10 PAN HD W/SCREW	74/4604/14
8	2" x No. 10 PAN HD W/SCREW	74/4606/14
9	2½" x No. 10 PAN HD W/SCREW	74/4607/14
10	3" x No. 10 PAN HD W/SCREW	74/4608/14
11	PLUG S6	70/9640/80
13	LUG	65/0078/11
14	CLAMP WASHER	81/9781/14
16	LUG	65/0180/11
17	¾" No. 10 PAN HD P.K. SCREW	74/8105/19
20	PLUG	70/0286/98
25	M6 x 51 CSK SCREW	74/2654/14
26	M6 x 80 CSK SCREW	74/2080/14
27	M6 x 50 PAN HD SCREW	74/2157/19
29	M6 x 114 PAN HD SCREW	74/2767/19
30	M6 CSK NUT	74/0019M14
34	M6 x 20 CSK SCREW	74/2052/14
35	M6 x 20 PAN HD SCREW	74/2137/14
36	M6 x 60 PAN HD SCREW	74/2159/14
37	WIRE LUG	65/0174/11
39	SILL CLAMP	65/0173/19

SCREW No. FOR COUPLING THESE → TO THESE ↓	Reversible Windows						All other windows
	A	B	C	D	E	F	
	Jamb above pivot	Jamb below pivot	Jamb of sublight	Head	Sill of reversible	Sill of sublight	
	Mullions			Transomes			
Reversible Windows	Jamb above pivot A	27	-	-	-	-	25
	Jamb below pivot B	-	29	-	-	-	26
	Jamb of sublight C	-	-	24	-	-	24
	Head D	-	-	-	-	-	25
	Sill of reversible E	-	-	-	-	-	25
	Sill of sublight F	-	-	-	-	-	26
All other windows	25	26	24	25	26	24	24

FIXING PRESSED METAL SILLS

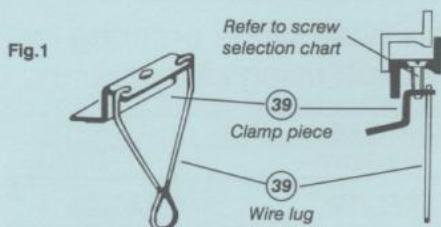
PRESSED STEEL SILLS

Pressed steel sills are clamped onto windows and can be supplied in one piece up to a maximum of 3040mm in length. Sills over 3040 mm in length will be supplied in two or more lengths complete with joint plates.

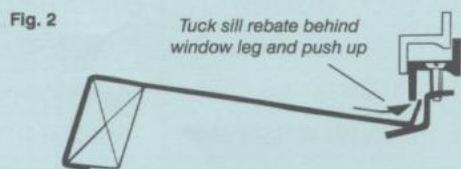
We suggest that one piece sills up to 1830 mm in length should be clamped onto windows prior to offering the windows into the openings for fixing, but to avoid possible handling difficulties sills over 1830 in length, including all jointed sills, should be clamped onto windows after they have been fixed. When windows are fixed without sills it is most important that windows are set up a minimum 28 mm to provide sufficient space to clamp sills onto windows, and to ensure sills are level.

Fixing sequence for one piece sills

1. Clip the wire lug onto the 'Z' clamp piece before loosely screwing the clamp onto the window. Clamp positions should be approximately 150 mm on from each corner, with intermediate clamps not exceeding 760 mm maximum. Clamp screws should be selected from Chart on Page 7.

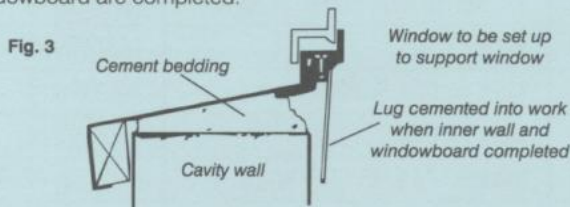


2. Place the pressed steel sill onto the clamps, and push the sill rebate upwards behind the window leg, centralising sill about window before tightening the clamp screws to secure the sill.



3. Trowel some cement along the outer brick leaf of the opening to provide a bedding for the window sill before offering the window into the opening. Offer the window, plumb the jambs, and place packings under the window to level up the sill and to provide the minimum 3 mm clearance at head for pointing mastic or sealant.

It may be necessary with some sill details to bend the wire lug, which is cemented into the work when inner blockwork and windowboard are completed.

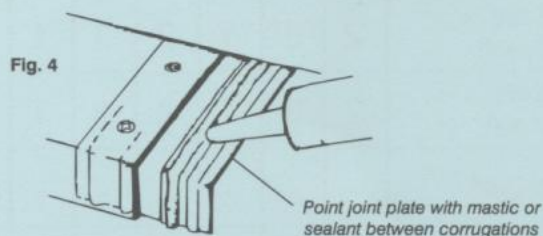


Fixing sequence for jointed sills

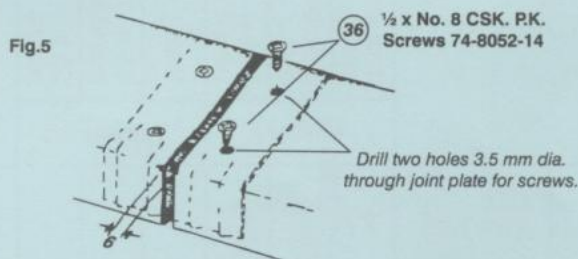
This sequence assumes windows have been properly fixed at head and jambs. It also applies when clamping a one piece sill onto a window already fixed in an opening.

4. Remove the packings setting up the window in the opening, for length of sill being fixed. Do not remove all the packing as the windows will probably sag under their weight. Trowel bedding cement for the sill along the outer brick leaf and loosely attach 'Z' clamp pieces with wire lugs onto the window, as shown in Fig. 1. If the sill terminates in the middle of a window the last clamp piece must be approximately 150mm on from the end of the sill.

5. Commence fixing sills from the left-hand side of a window composite, selecting a length of sill having the left-hand end filled and with a joint plate fixed to right-hand end. Place the sill onto the clamps, push up behind the window leg, align the end of the sill with the window jamb, then tighten the clamp screws, as shown in Figs. 2 & 3.



6. Remove packings and trowel bedding cement for the next length of sill, then point down the slope of the joint plate between corrugations with pointing mastic or sealant. (Fig. 4). The next length of sill should have two hole preparations at left hand end and is clamped onto the window as instruction 5 above, but leaving 6 mm space between the two sills. Mark off and drill two 3.5 mm diameter holes through the holes in the sill into the joint plate, and secure with screws. (Fig. 5).



7. Repeat instructions 4, 5 and 6 as many times as necessary until the full sill length has been completed.

8. After fixing the sills point with either mastic or for sealants, applying triangulated pointing as shown for sill detail on Page 6. Also point down the slope of the sill at each end and between the lengths of sill at sill joints.

NOTE: Reversible windows only, must have nylon washers under the head of the clamp screws, and plastic plugs must be fitted into unused fixing holes at sill, as shown in Page 2.