

# OPTIMA INSTALLATION & MAINTENANCE MANUAL



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# INSTALLATION

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The following section is designed to give guidance on the installation and maintenance of PVC-U windows.

The procedures in the BPF Code of practice for The Survey and Installation of Windows and External Doorsets (Ref W362/2), or any subsequent updates following this manual, should be followed.

## **PRE-START CHECK**

### **CHECK THE SURVEY AND GOODS**

Prior to starting any work the installer should check the following:

The survey sheets are correct and clear.

The types of windows supplied are those the **customer ordered** and are **undamaged**.

Glass type and pattern are correct.

Window and glass sizes are compatible.

All cills and trims and gaskets are correct.

### **CARE OF PROPERTY**

The **installer is responsible** for both internal and external protection.

Check for both internal and external defects in the structure. Any found should be checked with the surveyor.

Any furniture and fittings should be moved away from the working area.

Carpets and soft furnishings should be covered with clean dust sheets.

All access areas should be covered with dust sheets.

Check the windows are **not load-bearing**. Ensure there is a lintel or suitable load-transferring structure above the window.

### **REMOVAL OF EXISTING WINDOWS** **FLAT WINDOWS**

Damage will inevitably be caused to the adjacent reveals but care must be taken to keep this to a minimum.

Score around the internal perimeter to minimise damage to plaster and decorations.

Remove any trims and cover fillets.

Remove all opening lights.

Remove fixed light glass carefully to avoid injury.

Cut through and remove transoms and mullions. (See fig.8.1)

Saw through the jambs and remove them taking care not to damage internal cills. Remove heads and cills in the same way. (See fig. 8.2)

If a new internal cill is to be fitted, remove the existing cill at the same time.

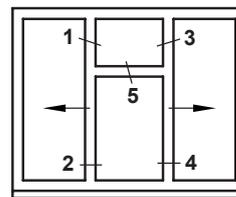


Fig. 8.1

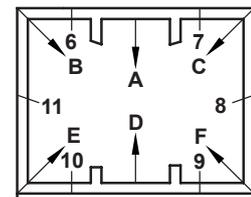


Fig. 8.2

### **LOAD-BEARING BAYS**

If a replacement bay window is load-bearing, the advice of a structural engineer must be sought prior to the removal of the existing window assembly. The Spectus load bearing bay assembly may be used (see pages 1.6 - 1.8)

### **BAY WINDOWS**

When removing bay windows **temporary supports will be required** e.g. Acrow Props or similar. Care must be taken on the position of the props which should support the superstructure without causing damage. Internal and external supports may be necessary. (Fig. 8.3 shows a

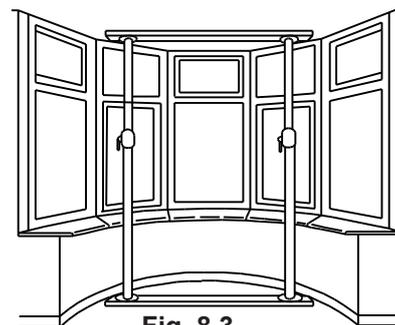


Fig. 8.3

When the superstructure is supported, the window should be removed so as to cause minimum disturbance.

It is recommended that the load-bearing poles are removed one at a time and temporary supports are monitored for any movement.

Any trims removed should be replaced using the appropriate finishing trims.

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# INSTALLATION

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## PREPARATION

### EXISTING OPENING PREPARATION

Before installing the window, the opening should be cleaned of all loose material, fillers or mastic.

Check the existing DPC is not damaged. If non-existent then install one in accordance with the recommendations in the BPF Code of Practice for The Survey and Installation of Windows and External Doorsets (Ref:W362/2), or any updates subsequent to this manual.

Damage caused by removal of windows should be repaired at the installer's expense.

Defects noted during survey should be rectified as agreed at the time of the survey.

### NEW BUILD OPENING PREPARATION

The aperture should be completed before fitting the windows. Windows should not be used as a template for building. The Spectus cavity closers may be used as a template.

### FRAME PREPARATION

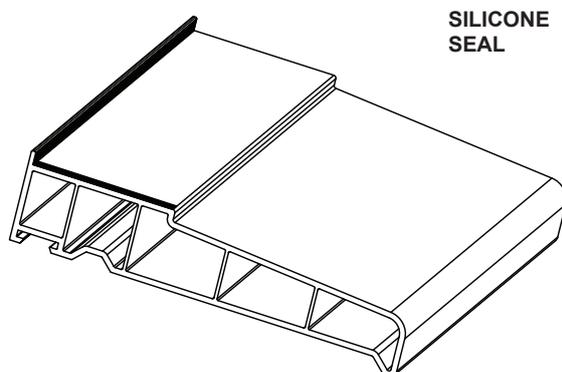
If stacking packers are required they should be fitted before the cills.

If cills are required, there are two methods of fixing:

### CILL TO BUILDING FIRST

The cill is positioned in the aperture and levelled. It is bedded on either a sealant or mortar bed.

A run of sealant is applied to the cill and across the ends before the window is fitted (see Fig. 8.4).

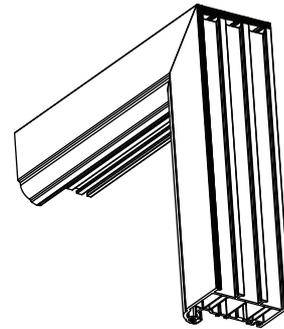


**Fig. 8.4**

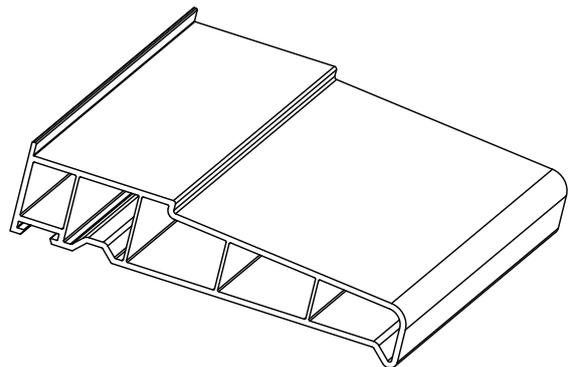
### CILL TO FRAME

The cill is cut to length (including the horns if required).

A run of sealant is applied on the frame (see Fig. 8.5).

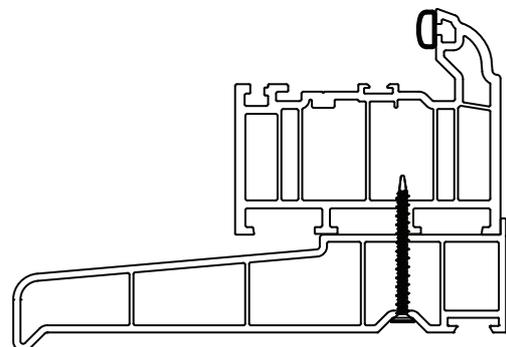


**SILICONE SEAL**



**Fig. 8.5**

The cill is fitted using self drilling screws (see Fig. 8.6).



**Fig. 8.6**

Fit the screws 150mm from the corners and at 300mm centres. Avoid screwing at the mullions.

Fit the cill end caps.

# INSTALLATION

## FITTING - FLAT WINDOWS

### POSITION OF WINDOW

On large contracts, agreement on window position should be reached before the start of any work.

The position should in general:

- bridge the cavity
- cover the DPC
- be set back a minimum of 10mm in the opening.

When replacing narrow windows (e.g. steel windows) with PVC-U, it is necessary either to cut back the plaster or to fit odd legs to the frame to ensure the outside face of the window is set back from the building line.

### SEQUENCE

Make sure that the frame is square and true and not distorted.

Temporarily wedge the window in place.

Check the opening lights operate and do not foul the surrounds.

### METHODS OF FIXING

There are various methods of fixing available which may be used separately or in combination:

#### THROUGH FRAME FIXING

There are many types of suitable screws and plugs. The frame should be drilled and the inner face opened up to 13mm to allow cover caps to be fitted. (Fig. 8.7 shows a typical wood screw and plug fixing)

#### FOAM FIXING

For foam fixing recommendations refer to section 7.3.5 of the BPF Code of Practice for The Survey and Installation of Windows and External Doorsets (Ref:W362/2), or any updates subsequent to this manual.

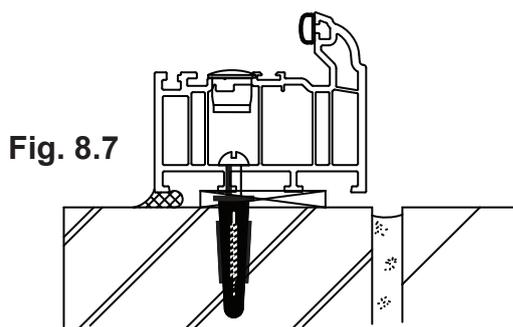


Fig. 8.7

### LUG FIXING

Where lugs are to be bent to follow the building contours this should be carried out prior to clipping onto the frame to avoid distortion or damage. (Fig. 8.8 shows a typical lug fixing)

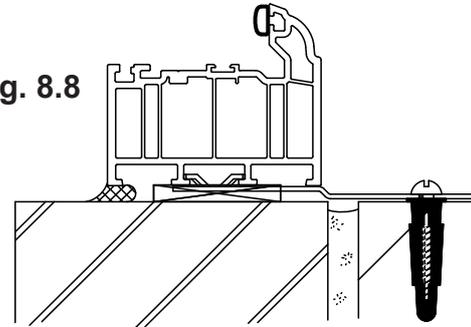


Fig. 8.8

| Part No: | Size (mm) |
|----------|-----------|
| BL01     | 150mm     |
| BL02     | 200mm     |
| BL03     | 192mm     |
| BL04     | 265mm     |

With either method of fixing, all fixings should be of a material and finish to offer high performance corrosion resistance.

Avoid distortion of the frame by using packing shims at the screw positions. The frame should be packed to ensure correct operation of opening lights and so as to not alter overlaps or clearances.

All fixings should penetrate the surrounding substrate by a minimum of 30mm.

All temporary wedges should be removed before the fixings are secured.

### FIXING DISTANCE

The following general guidelines apply to fixings on all four sides of the frame:

The corner fixing should be a minimum of 150mm and a maximum of 250mm from the corner.

Intermediate fixings should be at no greater than 600mm centres.

No fixing should be closer than 150mm, or further than 250mm to the centre line of mullions or transoms.

There must be a minimum of 2 fixings on each jamb.

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# GLAZING

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## GENERAL INFORMATION

All glazing should be in accordance with BS6262 and all current codes of practice.

The method of glazing depends upon the type of window.

## GLASS PACKING

In all cases packers must be of a material that will not rot or change shape (see BS6262) and wider than the glass. To prevent movement, the packers must be fixed in position using an approved silicone sealant.

The position of glass packers is very important for a number of reasons:

- To centralise the glass in the opening.
- To prevent movement of the glass during operation.
- To prevent the weight of the glass distorting the frame

When packing windows with cavity locking blocks fitted, packers are required at this position to eliminate deflection of the frame.

Packers should also be placed at the locking points to give extra security.

When openers are adjacent to fixed lights, packers are also required in the fixed light next to the locking points to prevent deflection of the transom or mullion.

**N.B.** Ensure that the glazing blocks do not block drainage paths.

A glazing bridge QM04 is available to allow for drainage (see fig. 9.1).

All profiles except QS31, the QM04 glazing bridge must be used. The sealed unit should be placed on packers on the glazing bridge (see Fig. 9.1)

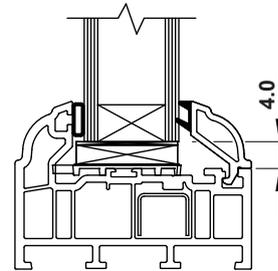


Fig. 9.1

## MITRED BEADS

Fit the shorter of the glazing beads first. These can be fitted into position with a soft faced mallet.

When fitting the longer glazing beads, it will be necessary to insert one corner then deflect the bead sufficiently to fit the other corner. The bead can then be clipped into position.

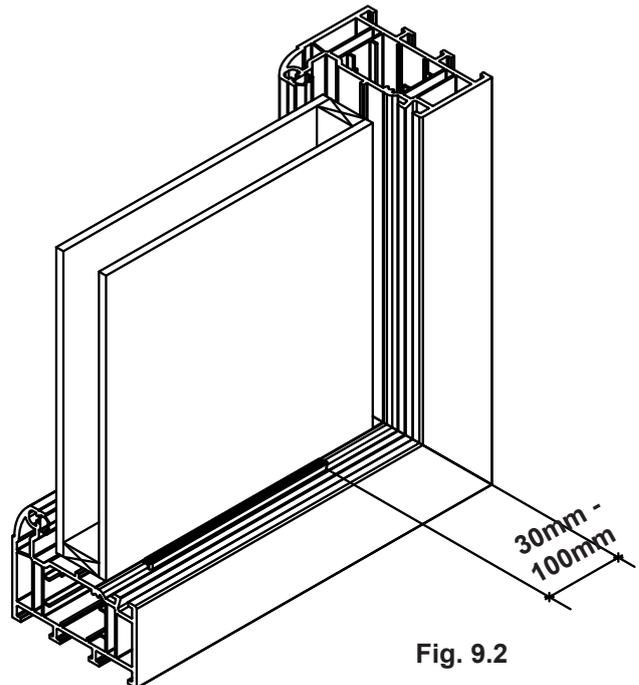


Fig. 9.2

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# VENT ADJUSTMENT

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## **VENT FRAME ADJUSTMENT**

If during manufacture, the windows are correctly positioned, and the glazing and doors procedure is correctly followed, little or no adjustment should be needed.

However, should adjustment be required refer to the section on manufacturing in the specific product manual.

## **POST-INSTALLATION CLEANING**

Before final finishing, all the frames and glass should be cleaned, refer to the table in section 12.

All drainage channels should be cleared of swarf and dust which may have been produced during fitting.

Glass and panels should be cleaned with water and detergent. PVC-U cleaner should not be used on panels.

When cleaning woodgrain profiles care must be taken not to damage the surface.

With woodgrain on white profiles, the weld sprue will need touching up with a woodgrain marker pen.

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# FINISHING

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## INTERNAL

When damage to plaster is minimal, small joints can be filled with internal acrylic sealant.

## EXTERNAL

After cleaning external trims can be applied, if required. This should be carried out using an approved silicone.

All external joints can then be siliconed.

Manufacturer's recommendations should be followed fully with regard to silicone application.

Joints of varying widths can be catered for see Figs 11.1, 11.2 and 11.3.

### JOINT WIDTH 10mm TO 15mm

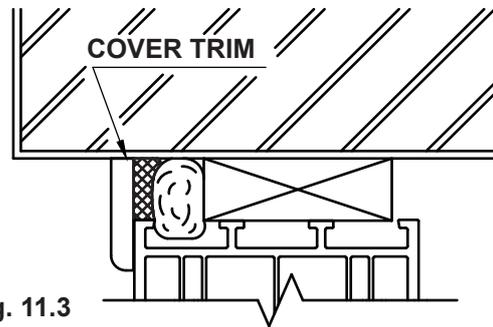


Fig. 11.3

### JOINT WIDTH UP TO 6mm

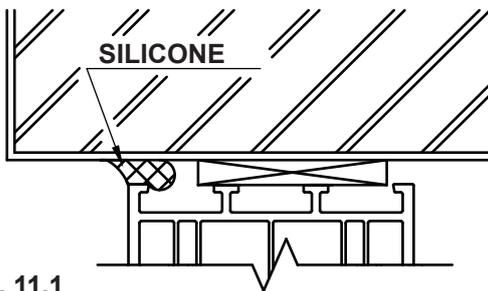


Fig. 11.1

### JOINT WIDTH 6mm TO 10mm

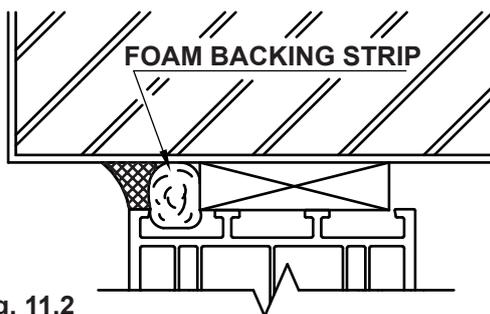


Fig. 11.2

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# MAINTENANCE

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## CLEANING

Dirty marks on PVC-U frames can easily be removed by using the cleaning materials shown in the table below.

Cleaning cloths should be unbleached cellulose/cotton material. Do not use cloths containing synthetic fibres.

Any unacceptable scratches on **white profiles only**, can be removed by sanding and polishing. Sanding should be carried out using a 320/400 grit sanding disc and polishing by using a sisal rotary brush to bring back the surface finish. It is important to achieve as smooth a sanded finish as possible before polishing. If this is not done, there will be a visual difference between the surface finishes. Woodgrain surfaces cannot be sanded.

On woodgrain surfaces, care must be taken when cleaning. Any white areas showing, either through damage or cleaning, can be retouched using a woodgrain marker pen.

| CONTAMINATION    | CLEANING METHOD                         |                                     |  |
|------------------|---|-------------------------------------|--|
|                  | Scrape off and polish with a dry cloth. | Clean with water and mild detergent | Clean with non-abrasive household detergent and water. |
| Pencil.          |   |                                     | •  |
| Emulsion paint.  | •                                       |                                     |  |
| Felt pen.        |   |                                     | •  |
| Organic grease.  |   |                                     | •  |
| Inorganic grease |   |                                     | •  |
| Plaster.         | •                                       | •                                   |  |
| Woodstain.       |   | •                                   |  |
| Ball pen.        |   |                                     | •  |
| Cellulose paint. | •                                       |                                     |  |
| Rust.            |   |                                     | •  |
| Soot.            |   |                                     | •  |
| Cement mortar.   |   | •                                   |  |
| Wax pen.         |   | •                                   |  |