

# SHEERFRAME®



## A Guide for the Installation of Sheerframe Replacement Windows And Doors

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# INTRODUCTION

This guide for installation Sheerframe windows and doors has been produced by L B Plastics. This is to assist those involved with installing Sheerframe UPVC windows and doors.

Part of the Litchfield Group of companies, L B Plastics is the UK's leading manufacture of PVC window, door and curtain walling systems, which we sell under our "Sheerframe" brand name. L B Plastics have an extensive range of products which cover all the fenestration requirements that may arise. These products are supplied through a network of regionally based, approved fabricators which cover the whole of the UK and this guide is to benefit our Sheerframe installers.

# WINDOW INSTALLATION

This document is a step by step guide to the installation process for installing Sheerframe windows and doors. This should be read in conjunction with the specific method statement produced for the project and the relevant Sheerframe manufacturing manual. All Sheerframe windows should be manufactured as instructed in the relevant manufacturing manual.

## General

Prior to the commencement of work sizes, type and condition of all windows and doors should be checked against the original survey documentation.

Floor coverings should be protected and care afforded to decorations and furnishings, reasonable steps should be taken to minimise damage to the adjacent reveals.

Any electrical or specialist items such as television aerials or telephone wires should be re-routed around the window frames by the appropriate service provider.

Before the commencement of any work a risk assessment should be carried out.

The correct personal protective equipment should be worn.

## Window Removal

- All the glazing should be removed by removing all the glazing beads. A knife may be required to free the glass where glazing tape has been used.
- Opening lights should be separated from the frame and removed.
- Remove any trims around the windows.
- Unscrew any through frame fixings. Care should be taken to minimise any damage to the fabric of the building.
- Fixing brackets can should be cut with the relevant power tool, alternatively it may be possible to remove the screw from the fixing bracket.

## Window Installation

- Each window should be inspected prior to installation.
- The opening should be inspected and any debris, projecting cement or plaster should be removed.
- Position the window into the brickwork opening (The sill may need to be “horned” to fit around the external brickwork).
- Using plastic packers and a spirit level, level the window in the opening with 5mm all round clearance between the window and the masonry, care must be taken so that the frame is not distorted.
- Drill holes through the frame into the masonry. Fixings should be applied 150mm from each internal corner and at 400mm centres there after.
- Using an appropriate screw to the masonry the window is being fixed to secure the window. Care must be taken to ensure that the fixings are not over tightened and the outerframe is warped
- Ensure that the screw head are not standing proud, as this may interfere with the glass position.
- Glaze any unglazed sashes or fixed lights in accordance to the appropriate manufacturing manual.
- Apply expanding foam to all gaps between the masonry and window outerframe.
- Fit any sill end caps that are required.
- Apply a expanding foam between window frame and brickwork. A bead of silicone between the outside masonry wall and window outerframe should then be applied
- Check operation of opening sashes and adjust accordingly.

## Window Installation with timber fire stops

**Note: timber fire stops are only used on timber kit builds.**

- Timber fire stop sizes are specification dependant and not determined by the window manufacturer (CMS Window Systems.)
- Generally specifications call for the window manufacturer (CMS Window systems) to issue windows with timber fire stops as per the sizes below;
  - 38mm x 50mm – sides (sometimes bottom if required)
  - 38mm x 50mm – chamfered head top edge (if requested by site)

### Fitting

- Window is fitted from outside
- How the window is fitted/offered up to the building (whether it is hard up to the top or the bottom) is project specific and not determined by the window manufacturer (CMS Window Systems)
- Window is fixed by shot firing 90mm nails with a nail gun or screwed through the fire stops with 90mm screws.
- Fixing to be applied every 300mm centres
- Cill checks required will be specification dependant.
- Cill checks can be completed on site or at window factory (please contact CMS Window Systems)

# WINDOW INSTALLATION TOOLS

It is the installers responsibility have the appropriate equipment and tools to enable the window installation.

All equipment should be either PAT tested or calibrated at regular intervals and logged on the sheet below.

In the event that the installer has reason to believe that a calibrated an item may be unsafe to use or be out of calibration the operative must cease to use them immediately and report the problem to their supervisor.

# SURVEYING

Good surveying is essential to ensuring a good quality installation. All surveyors should be fully trained aware of all necessary building regulations.

An example of a survey checklist is below.

# SHEERFRAME®

## SURVEY INFORMATION / CHECKLIST

DATE ORDERED: \_\_\_\_\_

DATE REQUIRED: \_\_\_\_\_

CONTACT NAME:

ADDRESS:

The Surveyor should produce a specific risk assessment for the project:

- Has a Risk Assessment been prepared? YES / NO

The Surveyor should check for apparent defects and deficiencies around the structural opening and DPC.

- Have any defects been found? YES / NO
- If so what? \_\_\_\_\_
- Has the customer been informed? YES / NO
- Who has agreed responsibility to rectify? \_\_\_\_\_

The Surveyor should check for and electrical or specialist items in the aperture:

- Are any wires affecting window installation? YES / NO
- If so what? \_\_\_\_\_
- Has the customer been informed? YES / NO
- Who has agreed responsibility to rectify? \_\_\_\_\_

The Surveyor should determine the design window and weather performance of the window and specify windows to suit:

- Are the windows specified suitable for the location? YES / NO

The Surveyor should discuss with the customer the procedure for making good any damage after the window installation

- Has the customer been informed? YES / NO
- Who has agreed responsibility to rectify? \_\_\_\_\_

The Surveyor should discuss with the customer all handing information:

- Has the customer been informed? YES / NO

The Surveyor should discuss with the customer all egress windows required:

- Has the customer been informed? YES / NO

The Surveyor should check for any evidence of asbestos that may need to be removed or disturbed:

- Has this been checked? YES / NO

The Surveyor should check for that any hardware will not be fouled by plaster or brickwork:

- Has this been checked? YES / NO

The surveyor should check site access:

- Are any problems evident? YES / NO
- What additional requirement will be required? \_\_\_\_\_

SURVEYORS NAME:

SIGNATURE:

CUSTOMERS NAME:

SIGNATURE:

DATE:

I confirm that that above has been discussed and agreed.

GD.01.2

# OPERATING AND MAINTENANCE

Sheerframe PVC-U windows and doors are designed to add to your comfort as well as to enhance your home inside and out.

These simple instructions contain information on how to clean all the parts of your windows and doors with the correct cleaning products. It details which parts of locks and hinges require lubrication and how this should be applied.

If all guidance detailed is followed all products should remain at a high standard and be problem free leaving you to enjoy the full benefits of your investments for many years to come.

The products covered with these guidelines are as follows: -

- Sheerframe 6000 Window System
- Sheerframe 7000 Window System
- Sheerframe 8000 Window System
- Sheerframe Doors
- Sheerframe Reversible's

## **GENERAL MAINTENANCE**

### **Glass Cleaning**

When cleaning glass use soap and water to remove any external dirt. To give a better shine a household window cleaner and a soft cloth can be used. Please be aware that any jewellery worn while cleaning the windows could scratch the glass if the two come into contact. Removing the jewellery or wearing rubber gloves will prevent any damage. Care should also be taken to ensure that any cloths are not dropped to avoid contamination with stones or debris which may cause damage.

## **PVC-U Frame cleaning**

Sheerframe windows should be washed periodically with a **non-abrasive cleaner**.

## **Drainage**

Sheerframe window systems have been designed with a concealed drainage system. To ensure that this works correctly the drainage slots must remain unblocked. To ensure the window is draining correctly remove any dirt or debris, clear drain holes and check drainage by flushing through with water.

## **Weather Seals**

All weather seals are co-extruded and bonded to the profile, if any weather seals become dislodged from the correct position, contact your installer to arrange remedial action.

## **Lubrication**

Periodic lubrication of the any espagnolette locking system will help to ensure a smooth operation.

## **Espagnolette Adjustment**

The stickers (cams) in the espagnolette can be adjusted to increase or reduce the amount of closing pressure on the sash. These can be turned using an allen key inserted in the end of the striker. Care should be taken to ensure that these are not over adjusted to this may strain the espanloette.

## **Friction Hinges**

The sliding track on the friction hinge **MUST NOT** be lubricated. The amount of friction can be adjusted by turning the adjustment screw.

## **Door hinges**

Periodic lubrication of any hinges will help to ensure a smooth operation.

## **Reversible Hinges**

The hinges are designed to require minimal maintenance, lubricate the pivots periodically, **DO NOT** lubricate the sliding channels down the sides of the windows.

## **Door adjustments**

Latch plate pressure can be adjusted by using a posidrive x 2 screwdriver , Strikers (cams) can be adjusted by using an allen key inserted in the end of the striker. Care should be taken to ensure that these are not over adjusted to this may strain the espangnolette. Butt hinges can be adjusted by using a posidrive x 2 screwdriver, Flag hinges can be adjusted by using allen keys.

## **Glass Defects**

The following is the Glass & Glazing federation guidelines and standards:-

### **VISUAL QUALITY STANDARD FOR INSTALLED INSULATING GLASS UNITS CONSTRUCTED FROM FLAT TRANSPARENT GLASS**

1. Transparent glass used in the manufacture of insulating glass units is identical to that used traditionally for single glass and will, therefore, have a similar level of quality.
2. Both panes of the sealed unit shall be viewed at right angles to the glass from the room side standing at a distance of not less than 2 metres, but for toughened, laminated or coated glasses, not less than a distance of 3 metres in natural daylight and not in direct sunlight. The area to be viewed is the normal vision area with the exception of a 50mm wide band around the perimeter of the unit.
3. Flat transparent glass, including laminated or toughened glass shall be deemed acceptable if the following phenomena are neither obtrusive nor bunched, totally enclosed seeds, bubbles or blisters, hairlines or blobs, fine scratches not more than 25mm (1 inch) long, minute embedded particles. Obtrusiveness of blemishes shall be judged by looking through the glass, not at it, under lighting conditions as described in 2.
4. When thermally toughened glass is viewed by reflection the effect of the toughening process may be seen under certain lighting conditions. The visibility of surface colouration or patterns does not indicate deterioration in the physical performance of the toughened glass. Because of the nature of the toughening process, distortion

can be introduced. Such distortion will be accentuated when the glass is viewed in reflection or incorporated in insulating glass units.

5. Visible double reflection can occur under certain lighting aspect conditions, especially when viewed from an angle. This is an optical phenomenon arising from multiple surface reflections in sealed units.
6. The manufacture of flat laminated glass does not usually affect the visual quality of the glass incorporated in insulating glass units. However, the faults generally accepted in Paragraph 3 may be increased in number by the fact that several glass and interlayers are used in the production of laminated glass. When viewed under certain light conditions, insulating glass units incorporating clear or tinted flat laminated glass may show a distortion effect caused by reflection on the multiple surfaces of the components of the laminated glass.

Note: Patterned Glass

The above criteria does not apply to patterned glass as due to the method of manufacture, imperfections such as seeds and bubbles are deemed to be acceptable.

## **Condensation**

### **What is condensation?**

Condensation is the process by which water vapour becomes a liquid. All air contains some water in the form of vapour, which unlike the steam from a kettle, cannot be seen or felt. When damp air comes into contact with a cold surface, some of the water vapour will condense into water resulting in dampness. The amount of water vapour, air can hold will depend on its temperature. Warm air (indoors) can hold more than cold air and so the risk of condensation is increased. Water vapour will remain in the air until the air is saturated and can no longer hold the water vapour or the temperature drops low enough so that the air can no longer hold the water vapour.

### **What is water vapour?**

Water becomes vapour by a process known as evaporation. Evaporation is the opposite of condensation. The air in a home gains water vapour by evaporation from a number of sources, the most obvious being washing machines, cooking and running water in sinks, baths and showers. Some less obvious sources may include house plants, the ground beneath the house or humid outside air allowed in through an open window. Any new construction materials and even the air you exhale contains water. Newly built or remodelled homes will acquire excessive amounts of water vapour from the new materials and finishes used in the project. As the excessive amounts of water vapour from the new material evaporate it will cause high levels of humidity in the homes, until the materials stabilize and the humid air is ventilated.

### **Condensation in the home**

Modern homes are significant procurers of water vapour. A family of four, through activities like cooking, washing and drying clothes can produce as much as 4-5 gallons every 24 hours. Today's homes are built "air-tight" for energy efficiency, properties are better insulated and air is re-circulated around the home with less opportunity to "escape". Excessive water vapour in the home will most likely show up as condensation on windows. When warm air in a room comes into contact with a cold surface, the air around the surface begins to cool, eventually it reaches a temperature at which it can no longer hold the water vapour. Often the glass to the windows is the coolest visible surface which is why condensation may develop there first. Controlling condensation means striking a balance between the way you heat, insulate and ventilate your home.

### **Cures for condensation.**

To control condensation it is necessary to control relative humidity levels, air temperature and air circulation within the home

#### **■ Controlling Humidity**

Humidity levels are controlled by the amount of water vapour in your home. The best way to control humidity, is by properly venting the home. Avoid the use of paraffin or gas heaters which produce large amounts of water vapour. The drying of laundry or clothes should be carried out elsewhere. Kitchen and bathroom doors should be kept closed during cooking and bathing to minimise the migration of water vapour to other rooms. An alternative approach would be to install an electric dehumidifier or heat exchange unit.

#### **■ Controlling Air Temperature**

During the heating season it is important to keep your heating system in good efficient operation. The temperature of the air directly affects the relative humidity and the amount of water vapour the air can hold.

#### ■ Controlling Air Circulation

Ventilation is important, either by opening windows or vents on a fine day and using extractor fans in the appropriate rooms. Unfortunately ventilation can result in heat loss and the external air may contain as much water vapour as that on the inside. Any heating system air vents should be located in positions to provide a good cross flow. Ceiling fans and other portable fans can be used to increase the circulation

## **Operation Guidelines**

### **Casement Windows –Operating**

- 1) **To unlock the window handle** (egress / fire escape windows will not be have this facility) –insert and rotate the key through 90°, with the cylinder lock, the handle will now be unlocked.
- 2) **To open the window** –depress and hold the button, rotate the handle through 90° and push the window outwards.
- 3) **To close the window** –pull the window to its full closed position and rotate the handle back through 90°
- 4) **To lock the handle** –turn the key through 90° within the cylinder and remove the key.

### **Tilt and Turn Windows –Operating**

- 1) **To tilt** –from closed position insert the key into the cylinder to unlock, rotate the handle 90° until horizontal, the window will now tilt.
- 2) **To turn** –from tilt position close window, now rotate the handle 90° until pointing vertically upwards, window will now turn.
- 3) **To lock** –from turn position close window, rotate handle 180° until pointing vertically down, rotate the key to lock the window.

### **Reversible Windows –Operating**

- 1) **To open the window** –depress and hold the button, rotate the handle through 90° and push the window outwards.
- 2) **To close the window** –pull the window to its full closed position and rotate the handle back through 90°.
- 3) **Reversing the window** –the window will not open passed a set point due to the internal restrictor, using the lift lever will release the restrictor, the window can then be forward and opened fully. **Note never clean the window unless the window is fully reversed and the restrictor locked in place.**

### **Residential doors –Operating**

- 1) **To lock** –insert the key into the cylinder, push the handle upwards, rotate the key in the cylinder.
- 2) **To unlock** –insert the key into the cylinder and rotate, press the handle down.

■ **If an alternative lock has been fitted please contact your installer for instructions.**

### **Hinges**

Some windows may be fitted with a lever that when pressed allows the sash to be fitted sideways to allow cleaning from the inside. Before closing ensure that the sash is pulled back to the sides and that the levers on both hinges have engaged again.

### **Trickle Ventilators**

Your windows may be fitted with trickle ventilators to provide ventilation to provide ventilation when the window is closed, the air flow can be controlled by operating the leavers.