MB FRAMES PVCu LTD

1 Maggs Lane, Fishponds Trading Estate, Bristol BS5 7EW

SURVEY AND INSTALLATION GUIDANCE

PVC-u Windows and Doorsets

Aluminium Windows and Doorsets

Suitability of Aperture

Person surveying requirements should check for any apparent defects and deficiencies around the structural opening. Any defects found, should be notified to the customer, and agreement reached, and a written recorded raised detailing as to who is responsible for rectifying these defects, prior to the new windows or doorsets being installed.

Note: *For large replacement contracts, it may be advisable to remove one window to check the condition of the reveals and existing DPC, in so far as this is possible*.

Design for Weather Performance

Person surveying requirements should determine the design wind load for the application, and then we specify windows and doors that are suitable for that exposure.

Lintels

The necessity for lintels is dependent on the design of the structure, however even If no lintel is fitted above the existing aperture, the surveyor is responsible for assessing if lintels should be installed because of potential movement in the brickwork. If required, a lintel should be installed.

Person surveying requirements cannot avoid the issue on the grounds that because the original window did not have a lintel, then the replacement does not need one either.

Note: *Person surveying requirements is responsible for advising whether or not lintels are required. A disclaimer issued by the customer is not an acceptable practice*.

Brickwork Removal

Where bricks are to be removed to install products, the method of any cavity closing should be specified. The method of making good should be agreed with customer.

Note: *It may be necessary to consult the local authority building control to ensure that any local interpretations, for instance with respect to cavity closing or window to french door conversion are taken into account.*

Bow, Oriel, and Dormer Windows

If bow, oriel or dormer windows have applied loads, a structural assessment should be carried out, and adequate care should be taken to ensure that provision is made to support the weight of the replacement window. Consideration should also be given to the insulation requirements of any protruding internal element i.e. extended window board.

Bay Windows

Where bay windows are to be replaced, care should be taken to determine the loads present within the existing bay, in order that adequate support is provided during the removal. It is also important to specify the appropriate bay poles according to these loads which will ensure the structure is not compromised.

Coupled / Combination frames

Where windows and/or doorsets are to be coupled, the person surveying requirements should determine, and record the method to be used taking into account wind/dead loads, visual appearance, position of the coupling.

Opening Type and Direction

Person surveying requirements should confirm with the customer whether the window or door is to be inward or outward opening, and the handing. On outward opening doors, it is recommended that a restriction device is fitted, i.e. a doorstop, to help avoid damage caused by i.e. sudden wind gusts.

Doorsets

Part M of the building regulations does not require the installation of a door with better access than the existing. However, it does require good practice in considering the requirements of the occupants and to improve access into the dwelling if necessary i.e. by reducing the threshold height.

The size and location of any letter plate and additional hardware such as trickle vents, cat flaps, spy holes etc. should be confirmed with the customer, and clearly recorded following confirmation.

On doorsets with side panels, it may be necessary to additionally stiffen the mullion to ensure rigidity when the door is closed against it.

Frame Drainage

Any method of frame drainage should be specified to ensure that drainage water is effectively shed from the window, and does not come into contact with parts of the fabric of the building that are not designed for that purpose.

Decorative Glazing

Person surveying requirements should confirm the position, style and orientation of any glass pattern or decoration including leading or georgian bar inserts and the need for alignment, and ensure adequate recorded detail of the same.

Measurement

Three measurements of width and height should be taken and the squareness of the aperture determined by taking diagonal measurements, The smallest measurement of width and height is used to determine manufacturing sizes. The need for any sub-sill should be determined and the size of the sub-sill should be such that there is an adequate overhang of at least 25mm from the face of the building.

The surveyor should determine how the sub-sill is to be fitted taking into account features such as horns, and how any making good is to be carried out. The difference between internal and external reveal sizes should be determined and checks made to ensure that the operation of any opening light will not be impeded by plaster, render or tiles etc

Manufacturing Sizes

Allowances should also be made with regard to the window or doorset and building aperture tolerances. When calculating height deductions, due allowances should be also made for the thickness of any sealant or mortar bed at the sub-sill.

Installation Process Objective

It is an objective of MB Frames to manufacture, supply and install glazed windows, doors that are 'fit for purpose' and of a 'consistently high standard'. Through every employee's efforts, we have both achieved and are maintaining this objective. Whilst in turn we enjoy a status of recognition for high quality and reliability, factors for which we should **all** be proud of.

This code of practise for frame installation is designated to be part of our continuing commitment. Its aim is to be of a general nature and to act as a reference guide to the experienced surveyor, installer and as a training aid to the new Installer.

Appraisal of the Installation

Installing windows and doorsets to an experienced installer is a relatively simple process, since the majority of our products can be installed directly into the relevant opening without the need for a sub-frame. **However,** as the more experienced will confirm, openings differ from property to property with structural wall openings (the opening into which the window or door is to be installed) being constructed of a variety of materials, thickness and configurations.

It is with this in mind that this part of the guide is deliberately of a general nature and is intended to be of assistance to installers to handle various conditions that may apply.

Preparing the Installation

Measure both the existing structural opening and the new frame for dimensional compatibility. Ensure that you report any survey discrepancies or queries **before** commencing.

Work should always be planned to ensure that structural openings, windows and doors are left secure and weather tight overnight and in instances where adverse weather appears imminent.

Where the installation necessitates the use of portable access equipment etc., the safety of the occupier and general public **must** be additionally taken into consideration.

Reference is to be made to the 'MB Frames' risk assessment data covering the safe use and on going inspection of access equipment.

Removal of Existing Windows and Doors

Prior to the removal of the existing window or doors re-check the details of the job sheet and measure the replacement, also ensure that the structural opening will allow correct fitting.

It should always be assumed that, unless you are given specific instructions, which have been agreed by MB Frames, the removed window or doorframe would be unsuitable for further use.

If any other unknown materials are exposed at this stage, you must immediately stop work and inform the applicable Technical Sales Manager or otyher designated person within MB Frames for guidance on the appropriate actions to be taken.

Removal of Wood Windows

It is good practice to run a sharp knife between the inside face of the frame and the plaster adjoining the frame, to minimise the damage to the plaster when the frame is removed. Opening sashes should be removed first, complete with their glass, by levering the screws from the frames, or unscrewing the hinges, or by cutting through the hinges. This provides working space, and reduces the weight.

Safe removal of fixed light glazing is imperative, this will preferably be carried out by removing the putty, sprags or fixing nails and removing the glazing completely.

Alternatively, the glass should be carefully broken, so that the fragments are on the outside of the structure. Care should be taken to protect the operative's eyes. Ensure that there is nobody within range of flying fragments.

Removal of Wood Windows - Cont'd…

After removal of the sashes and fixed light glazing, cut through any mullions and transoms and remove them from the outer frame of the window. If the original fixing nails or screws cannot be found and removed, it will be necessary to cut twice through the outer frame to remove a small central piece of the outer frame. Then carefully lever the frame from the surrounding aperture - in the plane of the window - so as to cause the minimum of damage to the aperture.

There are often problems with first floor windows, as there may be a brick course resting on the frame between the top of the existing frame and the soffit board. This course is often purely decorative - not load-bearing - and should be wedged into position until the frame has been removed.

Be aware also that the soffit board - plywood, timber or asbestos/cement - is frequently nailed to the existing window frame. This joint should be severed by carefully locating and removing the nails.

Removal of Metal Windows

There are two distinct types of metal windows that may have to be removed.

Aluminum Windows: Set into timber sub-frames. In this case locate the screws holding the metal frame to the timber sub-frame, and remove them. This might require the removal of glass. Then remove the timber sub-frame as described for timber windows.

Steel Windows: Set directly into the brickwork or concrete. These windows are usually held in place by lugs attached to the outer frame. Remove any opening lights with an angle grinder or hacksaw. Then cut through any transoms and mullions and remove. Then remove the screws from the frame by driving them through the frame using a suitable punch.

Then cut through each side of the frame with an angle grinder and lever away from the wall, taking cares not to damage the fabric of the aperture.

Removal of Plastics Windows and Doors

All of the glazing should be removed first by removing the glazing beads. A sharp knife may be required to free the glass where glazing tapes have been used. Opening lights should be removed by unscrewing the hinges. It is good practice to run a sharp knife between the inside face of the frame and the plaster adjoining the frame, to minimise the damage to the plaster when the frame is removed.

It is advisable to remove any trim profiles around the windows to allow easier access and to determine the presence of fixing brackets. Plastic windows and doorsets are usually fixed by through-frame fixings or by fixing brackets.

Through-frame fixings can usually be unscrewed to allow the frame to be removed from the aperture. Care should be taken to avoid excessive damage to the fabric of the building.

Where fixing brackets have been used to secure the window or door it will be necessary to remove the mullions and transoms. The frame should then be cut with an angle grinder and each section levered out.

Extra care is needed to reduce the inevitable damage to the fabric of the aperture. Attempts should be made to unscrew the fixings in the fixing brackets; otherwise each individual fixing bracket should be levered out separately.

Removal of Sub-Cills

Sub-cills and sometimes heads, window boards, and mullions are often 'horned' into the fabric of the aperture. This may conceal damp proof courses and lead to difficulties in removal.

Great care must be taken when cutting and levering these items to reduce damage to plaster, renders, and brickwork to a minimum. If the DPC is damaged, then it must be replaced.

Replacement Window and Door Installation

Generally the positioning of the replacement frame should match the existing internal finishes i.e. reveal linings or window board, other determining factors may be the position of the new cill in relation to the wall below or the frame in relation to a retained cill and the requirement for fixing. In addition to the positioning of the frames into newly prepared structural openings, so that it's inside face coincides with the plane of the vertical damp proof membrane, which must be tucked between the frame and brickwork.

Before offering up the frame to the structural opening, mark selective fixing points to pick up solid bricks. Remember all fixings must enter into solid brickwork by at least 50mm. Place the frame into the structural opening using shims to pack, plumb and square. Shims must also be inserted at all fixing points to ensure that frame distortion does not occur.

Ensure that fixings to the bottom of the frame do not enter the drainage channel and that all fixings through the bottom of the frame are sealed.

The Installer is aware that all four sides of the frame are to be secured using the following guidelines for fixing spacing; Corner fixings to be a minimum of 150mm and a maximum of 250mm in from the external corner. No mullion or transom fixing to be closer than 150mm or further than 250mm from the centreline of a mullion or transom. Intermediate fixings to be at centers no greater that 600mm and there is to be a minimum of 2 fixings on each jamb.

NOTE: *If it is impossible to find a suitable fixing position, the Installer will consult with the Project Manager for an agreed solution.*

Glazing Requirements

All glazing will meet the requirements of Approved document N1 of the Building Regulations, in case of doubt, the advice of the Technical Sales Manager should be sought. All glazing units must be examined carefully for damage, especially at the edges, prior to installation defective units **must not** be installed.

Note; Where insulating glass units such as 'Low Emissivity - are to be installed, then extra care must be taken to ensure they are installed the correct way around.

Fixed windows and top hung sashes; Remove factory fitted glazing beads and mark each one so as they go back into the same position. Check that drainage slots are clear of swart, are positioned correctly and fit bridge packers so those drainage slots are not blocked.

Doors, side hung and tilt/turn sashes; It is important to transfer the weight of the glazing unit and frame sash to the hinge side (toe and heal), thus eliminating the dropping of the sash etc. Using either corner packers or two standard packers on the hinge side of the sash, place the packers in the bottom corner and into the opposite top corner. Insert packers down the side to keep the glazing unit in a vertical position.

The packing of the vent or sash is of the utmost importance to ensure correct distribution of loads in the frame and required level of security and no direct contact between the frame and the sealed unit.

In all cases the packers must be of a material that will not rot or change shape under load, they must be greater in width than the glazing unit.

Making Good Internally

On completion of the installation it is important to make good the surrounding perimeter of the frame.

Surrounding areas, damaged due to removal of the original frame should be made good with a filler or plaster as appropriate and should match as closely as possible the materials and texture of the original, but allowing for differences due to being new material.

Care must be exercised when applying plaster etc. so as not to bridge the damp proof membrane, thus causing damp penetration problems.

Making Good Internally - Cont'd...

The use of cellular extruded foam trims offer considerable advantages to the window installer; speed, convenience of use and attractive finish, it must be however stressed that these trims serve a purely decorative function, and must not be used to provide or enhance the weather- protection functions of the window or door. Neither should they be used as an integral part of the window assembly. Trim sizes should be determined such that they do not interfere with the smooth operation of the window or door, nor should they obstruct the functioning of the window or door.

Trims are invariably cut to size on site, and care should be taken to ensure that the sizes are correct, and that joints are cut neatly. The trims should be adhered to the window and/or aperture substrate and if adhesives with long setting times - such as silicone sealants - are used, then provision should be made to hold them in position until the adhesive has set.

On completion of the installation the Installer will make good the surrounding perimeter of the frame.

Surrounding areas, damaged due to removal of the original frame will be made good with a filler or plaster as appropriate and match as closely as possible the materials and texture of the original, but allowing for differences due to being new material. Care will be exercised when applying plaster etc. so as not to bridge the damp proof membrane, thus causing damp penetration problems.

The use of trims will serve a purely decorative function, and not used to provide or enhance the weather-protection functions of the window or door. Neither will they be used as an integral part of the window assembly. Trim sizes will be determined such that they do not interfere with the smooth operation of the window or door, nor obstruct the functioning of the window or door.

Making Good Internally

Prior to making good the external perimeter, packing will be inserted adjacent to all locking keeps and hinges, to give maximum support in the event of an attempted forced entry. All frames will be fully cleaned prior to applying silicone (mastic) finish and finishing trims. Brickwork mortar joints, especially at cill ends, will be made good using materials to match the existing finish, but allowing for differences due to being new material.

Final Inspection and Customer Training

After installation, a final inspection will be carried out by the Installer(s) to ensure that the installation is of the highest standard. Details for the same are given at 'Annex A' further on.

Such checks will be carried out in the presence of the building occupier(s) where feasible. During which the method of operation of the installed windows and doorsets, features such as opening restrictors, key locks, shoot bolts and latches etc. will be demonstrated.

Cleaning and Maintenance

It is also important to ensure as appropriate that the customer is made aware of the methods for cleaning the windows and doors and for the maintenance of the same. Details for the same are given at 'Annex B' further on.

ANNEX A

Installation Final Inspection

Visual:

Windows and doors installed plumb, square and vertical

Appearance:

Exposed faces, including beads free from surface damage

Window and door frames clean and all sealant, marks, smears removed

Check for damage to surrounding aperture

Check all internal trims installed correctly.

Glazing:

Glazing as specified on contract

No cracks, scratches on glass, or signs of sealed unit failure

Obscure glasses oriented correctly

Top of sealed unit spacer bars not visible above glazing sight line

Glazing not loose within the beading.

Operation

All opening sashes open & close correctly

No air gaps between seals and frames

No scraping/rubbing between cams and strikers

When doors slam, no mullion bounce, nor outer frame movement.

All operating gear correctly lubricated

All hardware attached with correct number of fixings

Sight Lines

Visually correct

Adjacent vents aligned

Spacer bars straight

Sealing

Sealant joints have smooth finish, and be of correct shape

Sealant to be continuous around frame run.

No excess sealant to be present on frame faces.

Sub-sill end caps in place, and attached firmly.

Bay Windows:

Ensure no settlement of structure when temporary supports removed.

Check that any flashing/DPC has not been disturbed/damaged.