



Purpose

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PVC-u Window Replacement (L10)

Manufacturer

Manufacturers need to be BS EN 12608-1:2016 accredited. BS EN 12698-1 and 2: 2007.

Frames

Window Frames to be manufactured to PAS 24:2016 'Specification for enhanced security performance of windows for domestic applications' - with full accreditation.

Material

PVCu - to BS 7412:2007 'Specification for windows and doorsets made from unplasticised polyvinyl chloride (PVC-u) extruded hollow profiles'. White finish.

Size

As existing installation – see sections 6 and 9 of this document.

Colour

White (unless planning permission or existing colour determines alternate choice e.g. Rosewood, Grey etc).

Profile

Range from 58mm to 70mm (+/- 0.5mm), to BS EN 12608-1:2016 'Unplasticised polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors. Classification, requirements and test methods'.

Steel / Aluminium reinforced to system company recommendation.

Minimum wall thickness 3mm, incorporating drainable chambers on both side of a centre sealed reinforcement chamber.

Beading

70mm Profile - internal decorative bead. 58mm/60mm profile - internal decorative/splayed bead (unless external beading is required to PAS 24: 2016 'Specification for enhanced security performance of windows for domestic applications', with relevant security tape).

Glazing

Double Glazing to comply with current Part L and N Building Regulations.

Default standard 28mm (4-20-4) construction.

Seals

To BS 4255-1:1986 'Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets'

Standard black seal.

Locking Mechanism

Window locks to be certified PAS 24: 2016 'Specification for enhanced security performance of windows for domestic applications', BS EN 1670:2007 'Building hardware. Corrosion resistance. Requirements and test methods' grade 4 'very high corrosion resistance' and 'Secured by Design' performance

Top Hung Sash

Austenitic Stainless Steel Friction Stays (>450mm Restricted, <450mm Unrestricted), require anti-jemmy device. PAS 24:2016 security compliance

Side Hung Sash

Austenitic Stainless Steel Friction Stays (Restricted), require anti-jemmy device (all opening windows to be fitted with two pairs of noncontact ancillary security device. Positioned adjacent to and, not more than 50mm away from the top of each hinge). PAS 24:2016 security compliance.

Fire Egress

Egress Austenitic Stainless Steel Friction Stays.

All windows must comply with BS 9991:2015 'Fire safety in the design, management and use of residential buildings. Code of practice' and Building Regulations Part B1.

Egress Windows should be identified with a Green button to the handle.

All egress sashes to have integral child restrictor stay – Windows to be fitted with a clearly visible and intuitive to release Cavity Fit Restrictor, tested to comply with BS 6375-2:2009 'Performance of windows and doors. Classification for operation and strength characteristics and guidance on selection and specification' to withstand a force of 350N for one minute when opened at the position and fitted to provide a maximum opening of 100mm in the restricted position. Restrictor to be manufacturer from Austenitic 304 Stainless Steel tested to meet the requirements of BS 7412:2007 'Specification for windows and doorsets made from unplasticised polyvinyl chloride (PVC-U) extruded hollow profiles' and BS EN 1670:2007 'Building hardware. Corrosion resistance. Requirements and test methods' grade 4 'very high corrosion resistance'.

Require anti-jemmy device (All opening windows to be fitted with two pairs of noncontact ancillary security device. Positioned adjacent to and, not more than 50mm away from the top of each hinge.).

Handles

To BS 6462:1985 'Specification for mechanical performance of peg-type casement stays and face-fixed wedge-action fasteners' strength Test C3 Offset Handle.

Button locking standard on all windows (bar egress).

Additional cost for Key Locking Handles - Key locking to be fitted to all none-egress windows.

Requirement for all ground floor and bungalow windows to have key locking handles

Hardware & Fixings

Fixing screws are to be Austenitic stainless steel to all hardware.

10 year guarantee

To current 'Secured by Design' performance

Ventilation

All windows to be fitted with adjustable trickle ventilators to meet Approved Document F of Building Regulations and BS 6375-1:2015+A1:2016 'Performance of windows and doors. Classification for weathertightness and guidance on selection and specification'. Glass over vent style to be used.

Identification

All windows to be individually marked with property address, window location and manufactured date.

Infill Panel

28mm insulating infill panel to be self-finished as required

Energy Rating

WER A rated, in accordance with the British Fenestration Rating Council (BFRC)

Measurement

The measure to be compliant with BS 8213-4:2016 'Windows, doors and rooflights. Code of practice for the survey and installation of windows and external doorsets'

Surveying

'British Plastics Federation - 'Code of Practice for the Survey and Installation of Replacement Plastic Windows and Door-sets' - Reference Code: 362/1- i.e. gaps between window frames and openings to be a maximum of 10mm tolerance.

Maintenance & Cleaning

To conform with BS 8213-1:2004 Code - cleanable from inside the property - where practicable.

Reinforcement

Manufacturer's standard.

Warranty

10 Year Minimum

General Items

2.1 Window opening of all new windows are required to give a min of 1/20th of the floor area of the room to which the window will be fitted. All windows above ground floor level will have 2 restriction hinges fitted. All windows will be supplied glazed. All windows for bathrooms and wcs are to have obscure glass.

2.2 Clauses in this section are provided for detailed description of the works that will be required as part of the Planned Maintenance Improvement Programme. All works are to undertaken in accordance with the Riverside Operational Procedure Guide for Stock Improvement Programmes.

2.3 The contractor should familiarise himself with the standards, terms and conditions outlined therein and consider all when pricing this document.

2.4 The Contractor is to allow for all sequencing and integration of work clauses for the proper execution of the works. Prior to commencement of the works the Contractor is to provide a programme to the CA and client detailing efficient execution of the works.

2.5 Prior to ordering materials, the contractor (and/or supplier) must undertake a pre-entry design survey at each property, the purpose of which being to:

- Determine property specific requirements and design considerations.
- Record sufficient information to prepare the design, sizing and positioning of windows, their location and identifying anomalies and any specific requirements for access, including working at height in which scaffolding will be required.
- To determine the extent of making good following installation of new windows.
- To determine the extent of any variations necessary to complete the works, whether covered by the standard variations clauses or otherwise. All variations exceeding £200 for labour and materials must be reported to the CA prior to commencement of the works.

2.6 The contractor must prepare a comprehensive list of materials and components which are identified as being provided.

2.7 The Contractor will be responsible for and must carry out the ordering of all 'major' materials and components. All orders are to be placed to ensure that all materials are available for installation in accordance with the programme issued by the Contractor and to take into account all material lead times.

2.8 All Preamble references refer to the Workmanship and Materials Preambles Section of this Specification. All works contained in this Schedule are deemed to be covered by the clauses in the Preambles Section, whether specific reference noted or not.

2.9 All Standard Details will be cross-referenced to each clause where applicable. Standard Details where applicable will apply to Clauses whether specifically cross-referenced or not.

2.10 The Contractor is to allow for all making good required as a consequence of the works and for the daily removal of all debris from site.

2.11 The Contractor is to allow for the provision of access to allow the safe installation of all systems/elements and the safe movement of materials both new and redundant.

2.12 It is the Customer's responsibility to allow for all removal and reinstatement of services as required due to the consequence of the works in all but exceptional circumstances. This shall include all data or voice cabling equipment, all electrical and gas services (that are not a Landlord responsibility), alarm installations, water services, and TV aerial installations, together with satellite and cable installations. The need for temporary removal and loss of service shall be minimised where possible.

2.13 All electrical work to which the requirements of Part P (Electrical Safety) apply, will be designed, installed, inspected and tested by a person competent to do so. Prior to completion of works the Local Authority must be satisfied that either:-An Electrical Certificate issued under a 'Competent Persons' Scheme has been issued; or Appropriate Certificate and Forms defined in BS 7671:2008+A3:2015 (as amended) have been submitted that confirm that the work has been inspected and tested by 'a competent person' who will have a sound knowledge and suitable experience relevant to the nature of the work undertaken and to the technical standards set out in BS 7671:2008+A3:2015, be fully versed in the inspection and testing procedures contained in the Regulations, and employ adequate testing equipment.

2.14 Contractor to ensure all new works such as positioning ironmongery are positioned for accessibility in accordance with the Part M of the Building Regulations and BS 8300-2:2018.

2.15 On completion of the installation the Contractor is to instruct a nominated person who will be identified in due course on the use of any new/altered systems and provide instruction manuals and demonstrate the correct function of the installed components.

2.16 Protection/Working Procedures - See Preliminaries.

2.17 All notification should be undertaken in accordance with The Riverside Group's Tenant Protocol.

2.18 The Contractor shall provide tenants with 3 no. week's written notification of the date for works in their property or immediate area. The Contractor shall provide attached to the notification letter, an information sheet including the tenant's responsibilities, access requirements, return visits for finishing inspections, procedure and contact details for complaints.

2.19 All letters of Notification will be in accordance with the Riverside Standard Notification letters. Any Divergence from the standard letters, information sheets including the tenant's responsibilities, access requirements, return visits for finishing inspections, procedure and contact details for complaints must be approved by Riverside Group Asset Standards Team.

2.20 The Contractor shall be responsible for arranging access to each property and shall allow for attending properties up to 3 times.

2.21 Where access cannot be obtained, these addresses shall be referred to the CA with details of when access was attempted.

2.22 Access attempts must not be attempted over consecutive days. 2 cards to be issued within five working over alternate days followed by a further no access attempt 5 working days after the second card was posted.

2.23 Examples of card/letter notifications must be provided to Contract Administrator or their Representatives prior to contract commencement with details of the administration procedure for recording no access.

2.24 No claims for additional cost can be considered if access procedures have not been correctly followed and notified.

2.25 In accordance with The Riverside Group's safeguarding policy, any issues noted at a property by employees of the supplier/installer should be notified to a member of staff in accordance with the process outlined in the Operational Procedure Guide.

2.26 The Supplier/Installer is required to ensure that the following areas of Resident liaison are carried out.

2.27 Write to the Residents to inform them of the work which is to be undertaken.

2.28 On request attend any necessary Resident meetings.

2.29 Explain the process for the works, and advise them on any precautions they will need to take during the works.

2.30 Organise access for the surveys.

2.31 Initiate and manage any complaints procedure.

2.32 Contractor to provide in tabular form a weekly schedule of works progress detailing installation progress and the date presented for inspection / handover.

2.33 Protection to floor coverings & furniture must be provided by the Contractor for all trades visiting the properties. Specific care shall be taken to protect electrical equipment e.g. televisions.

2.34 The Contractor shall provide all consumables to provide a complete installation.

2.35 The contractor's rates shall be fully inclusive of preliminaries, overheads and profit, as detailed in Appendix E – Preliminaries.

2.36 The Contractor is to ensure that the Quality Assurance Checklist that has been issued as part of Document Pack B (Tenant's Consultation Pack) is to be checked and completed daily on commencement of each working day and completion at the end of each working day.

Installation Requirements

Code of Practice.

Installation shall be in accordance with BS 8213-4:2016; Windows, Doors and Rooflights Part 4; 'Code of Practice for the installation and replacement of windows and doorsets in dwellings' and BFP document W362/1 'Code of practice for the survey and installation of replacement plastic windows and doorsets'. Installation shall also be in accordance with the Window System Designers technical instruction manual.

FENSA

All window and door replacements are to be certified by the Contractor through FENSA (Fenestration Self-Assessment Scheme).

Building Regulations.

Prior to placing an order the contractor shall ensure that all windows and doors will comply with the requirements of the Building Regulations, and is to take due consideration of the matters below and advise the CA in writing of any areas of concern prior to installation:

- Consider and ensure compliance with Approved Document M of the Building Regulations and BS 8300-2:2018 and through doing so assess location of openers/ ironmongery of existing windows and proposed. Access to operate windows should in no way be made worse than existing and wherever possible should be improved, giving particular consideration to the resident / occupancy group e.g. elderly sheltered. Requirements to lean across kitchen worktops to operate windows, access to trickle vents etc. should all be considered. The contractor should also consider threshold arrangements for doors and ensure that proposed designs are compatible with site conditions and provide level access wherever possible.
- Consider and ensure requirements for egress windows and compliance with Approved Document B of Building Regulations are achieved whenever practical.
- Consider the requirements for fire resistance of windows and doors where opening onto a protected route or single means and ensure compliance with Approved Document B of the Building Regulations.
- Consider the requirements for glazing in critical locations and ensure compliance with Approved Document N of the Building Regulations.
- Consider the requirements for background and purge ventilation and ensure compliance with Approved Document F of the Building Regulations, having particular regard to properties where open flued or flueless gas appliances are installed. Opening lights are required to provide a minimum of 1/20th of the floor area of the room to which the window will be fitted. :
- Consider requirements for passive smoke ventilation to communal areas and ensure that existing provision is not compromised by the new installation.

Sample Property.

The Contractor will be required to install windows and doors to a selected dwelling or property area to be to the satisfaction of the CA, which will then act as the standard of workmanship required for the remainder of the works.

Property Inspection.

Prior to any works commencing the Contractor shall visit each property to assess fabric around openings and individual property characteristics.

Works Planning.

The Contractor should plan to install and seal the new windows and doorsets on the same day that the existing windows or doorsets are removed, to maintain security and the weather tightness of the structure. For non-traditional installations i.e. curtain or screen walling, where it is impracticable to complete all works in a single work period, alternative arrangements are to be agreed in advance with the tenant.

Checks Prior to Installation.

Care should be taken to ensure that the windows and doors are received at the site compound, stored, and labeled by property, in the correct fashion. Prior to the commencement of work the sizes, type and condition of all windows and doorsets should be checked both against the survey sizes and types and against the actual aperture sizes. The Contractor will be responsible for ensuring that correctly marked windows and doors are fitted to the correct property and aperture. It will be the Supplier's responsibility to ensure that the window/door is of the correct type and handing.

Structural Condition.

Existing lintels in masonry walls are to be retained. Prior to window installation the Contractor shall notify the CA in writing (at least 24hrs to allow inspection) of any cracking, defective or dropped brickwork above openings. Any defects within the triangulation above the opening, one brick course below the opening or one brick width either side of the opening, identified after window installation will be deemed to have occurred as a result of the works and will require to be repaired by the Contractor without charge.

Temporary Support.

The contractor shall provide all necessary temporary internal and external support prior to removal of any window or door enclosures, in sufficient quantities and in a manner to adequately support the super-structure.

The Contractor shall be responsible for designing and selecting appropriate and adequate support to ensure all works are executed safely. On completion of frame installations the temporary supports shall be carefully removed and the super-structure closely monitored for any sign of movement or settlement.

Strip Out Existing Windows and Doors.

Carefully strip out the existing window and door frames and external cill boards and clear all debris from site on day of removal. All glazing is to be removed whole and not broken. The Contractor is to allow for brushing balconies/floors etc and removing debris from rainwater gulleys. The Contractor to allow for cutting back and making good to plaster and render finishes (up to 1m²) where applicable. Application of trim is considered an acceptable alternative if age and condition of building prevents making good to plaster. Contractor is to allow for temporary disconnection and reconnection of localised window/door alarm contacts where possible, and will discuss the suitability for reconnection with the Customer before removing the frame.

Installation.

Windows and doors to be installed by fully trained and skilled operatives and in accordance with the specification:

- Prepare existing opening, set frames (with foam) behind inner face of external leaf of brickwork and secure in accordance with manufacturer's instructions.
- Allow for packing out each frame as required including packing to accommodate timber liners to reveals and soffits.
- Frames to be installed centrally in openings, fixed square and plumb within the aperture, without twist, racking or distortion of any member, level on cills and head. The Contractor is responsible for 'toeing and heeling' the window and ensuring its correct operation.
- Window frames to be fixed with cills and head drips, except frames directly under eaves or frame with arched infill panels, both of which will have cills only or as agreed with the CA. If a cill is to be fixed to the window frame, this shall be fixed with screws, inserted from the underside of the cill, into the frame.
- Doors: install outward/inward opening door and frame with low line threshold with 3 seals to comply with part M of the building regulations, with galvanised steel reinforcement. Provide and fix a PVCu packer beneath the threshold strip. Packers to be flush with threshold width and bedded on silicon sealant. Depth of packer to suit site conditions and to accommodate clearance of internal floor finishes.
- Allow for PVCu internal cover beads.

Coupled Window Assemblies.

Coupled window assemblies are usually delivered to site as separate window units to ease handling and minimise damage. When building up components into the required assembly, care should be taken to keep coupling joints equal and frames both aligned and plumb. Ensure that perimeter fixings are made close to coupling bar ends. Coupling joints must have seals, such as bedding mastic, expanding bituminised tapes, or flexible polymer gaskets, placed within the profile cavity during the assembly operation. It is not sufficient to rely solely on external pointing sealant. Coupled windows/assemblies shall be fastened together in accordance with the manufacturer's instructions. As part of the Pre-Entry process, the Contractor (and/or supplier) shall be responsible for obtaining the clients approval for the proposed coupling assembly.

Frame Position.

Replacement windows and doorsets are to be positioned to match existing and to minimise the amount of making good. Important points to consider include:

- The position of the frame within the reveal shall be agreed with client prior to commencement of works.
- The correct movement gap must be consistently maintained and centralised around the full perimeter of the frame.
- Where the new frame must bridge the DPC/DPM, any damaged DPC/DPM shall be repaired.
- Arched heads frames: the existing timber arch infill shall be replaced in conjunction with the window or door using a minimum of 10mm thick closed cell PVCu board, scribed and sealed to the arch and overlapping the frame head a minimum of 12mm, fixed to new timber grounds using stainless steel nails or screws.

Open Cavities.

Open cavities discovered between inner and outer skins of brick or block- work need to be bridged or closed with an insulating material, care being taken to maintain integrity of damp proof membrane, and if required fixing with extended lugs to ensure adequate screw purchase.

Fixings

The fixing requirements below are provided for pricing purposes only and should manufacturers fixing requirements vary from those stated, the manufacturer's requirements should take precedence:

- Fix through the frame using Fisher FS106 120 anchor fixings or using propriety cramps.
- Fixings to be between min 150 mm and max 250 mm of all joints (i.e. corners, mid rails etc.) intermediate fixings to be at max 600 mm centres.
- Fixing screws are to be austenitic stainless steel.
- Where fitted into masonry wall, bed frame on min 12mm bed of 1:1:6 mortar to a minimum distance of 20mm behind sill drip groove. Point face of bed joint with silicon.
- Expanding Polyurethane Foam: foam fixings should not be used as the sole method of fixing the entire frame into the reveal. Prior to the use of any expanding foam fixing the Contractor shall seek client approval for the material and its planned application prior to installation.
- Installation Packers: appropriately sized installation packers shall be used adjacent to fixing positions to prevent outer frame distortion during installation. Installation packers shall be resistant to compression, rot and corrosion. They shall span the full depth of the outer frame. The fixings shall be tightened so that the frame is held securely against the packers. Over tightening may lead to distortion and shall be avoided.
- Lugs: where lugs are used, they shall be packed off the substrate to prevent distortion. Where enhanced security is required, additional packers shall be used adjacent to hinge and locking points.
- Fixing Distances: where the specification does not provide for sufficient clarity, the final location, nature, quantity and quality of frame fixings shall be in accordance with the frame manufacturer's recommendations and agreed with the client prior to fixing.

Window Board.

Provide and fix new 25x150mm bullnosed, window boards internally to all windows, projecting minimum 22mm beyond face of finished plastered surface finished with neat bullnosed edge and extended 38mm beyond either side of opening. (Kitchen window is to have tiled cill).

Finishings.

Allow for colour matched PVC / timber trims/ cover beads for both internal and external perimeters when fitting windows. Trims should not be used to provide or enhance the weather tightness of the window or door or the perimeter joints.

Making Good.

Make good all disturbed finishes to walls/ plaster on completion of the installation.

Remove debris or contaminants shall be removed and any drainage paths shall be cleared.

Internal reveals shall be made good as agreed, ready for the customer to redecorate if necessary.

Where the replacement product has a smaller front to back dimension than the original, a mastic and/or paint line may be visible on the substrate which should be removed wherever practicable.

Method and responsibility for render repair to be as agreed with Riverside.

Sealants.

Seal all junctions of window and door frames in accordance with the manufacturer's instructions.

Any materials such as trims or sealant should not be applied on top of existing wall coverings or protective tapes as any subsequent removal of that wall covering or tape could also remove the trim or sealant.

All brick repairs are to be undertaken prior to the application of sealant.

Protective Covers and Tapes.

Should be removed as soon as practicable to prevent difficulties in removal.

Windows General.

All new windows above ground floor are to have 2 No. restricted friction hinges fitted.

All bathrooms and WCs are to be glazed in obscure glazing.

One window to all habitable rooms above ground level is to be fabricated as an Escape Window for use in case of fire and will provide an unobstructed area of at least 0.33m², in accordance with Building Regulations Approved Document B (refer to elevations).

Trickle Ventilation shall be provided (SM1200 vent – with sound insulation and adjustable cover) which is to conform to Part F1 of the Building Regulations: 2010. Trickle vents should be fitted through the window sash. In wheel chair/ disabled person dwellings the vents must be operable from low level by means of a pull cord or other device. Any adaptation requests on behalf of a person with additional needs are to be highlighted at the Pre-Entry survey and referred to client.

Window Cleaning: all hardware should permit safe cleaning of windows from within the property, without putting the occupier in danger, to BS 8213-4:2016. Windows to be measured by Supplier / fabricator not Installer.

Where windows are supplied glazed, the contractor should allow for removal of glazing for fixing and subsequent re glazing.

Final Completion.

On completion of all works a final clean is to be carried out to the satisfaction of the CA:

- All scaffolding, access equipment, unused materials and plant is to be removed from site and any reinstatement work carried out.
- No payment will be made to the contractor for incomplete properties.
- Final completion will deem to include for a gas spillage test certificate (should the room/space where a window has been replaced contain an open flued appliance e.g. fire or backboiler).
- All warranties / guarantees are to be submitted to CA prior to the issuing of a Completion certificate.

Specification of Work

PVCu WINDOWS.

High performance, energy efficient fully weather stripped top hung and side hung casement windows, factory double-glazed and factory finished. Manufactured windows to comply with Building Regulations, currently at time of window installation. Documentation to be made available before manufacture to demonstrate compliance.

Warranty.

10 year insurance-backed guarantees are to be provided by the window supplier for the glazed units to the Contract Administrator or their representatives. Guarantees are to commence from completion of the works.

Window performance to comply with the following:

- PVC-U profiles: BS 7412:2007.
- Weather tightness: BS 6375-1:2015+A1:2016.
- Operation/ Strength: BS 6375-2:2009.
- Air Permeability: tested to BS EN 1026:2016
- Wind Resistance: tested to BS EN 12210:2016.
- Security: To current PAS requirements.

Manufacture.

Manufacturers to be BS EN 12608-1:2016 accredited. BS EN 12698-1 and 2: 2007.

Material Type.

Window profiles shall be manufactured from extruded, impact-modified PVCu, in compliance with BS EN 12608-1:2016, and will be of multi-chamber design. PVCu - White to BS 7412:2007. Option for external colouring, retaining white internal finish.

Fabrication.

There shall be a maximum of 1mm/metre deviation from the straight line of the profile. Outer surface dimensions may not deviate by more than +/- 0.3mm glazing channels and seal grooves +/-0.3mm. Frame profile sections should range from 60-70mm wide +/-5mm. Each frame shall have a maximum of 4mm tolerance when measured from one corner to the opposite corner. :

All outer frame and mullion profiles shall be capable of reverse butt-welding with all internal walls being properly aligned. :

Concealed drainage is to be provided, via suitable slots of holes – in certain circumstances face drainage must be used.

All frames shall have fusion-welded joints. Rebate inserts, adhesive joints or solvent-welded joints are not permissible. Reverse butt welds are to be used on mullion joints, if required. Shadow grooves shall be included at joints.

Window Frames to be manufactured to PAS 24:2016 - with full accreditation.

Air Permeability

Tested to BS EN 1026:2016 and results classified in accordance with BS EN 12207:2016 class 4.

Water Tightness.

Tested to BS EN 1027:2016 and results classified in accordance with BS EN 12208:2000 to E1950.

Resistance to Wind Load.

Tested to BS EN 12210:2016 and results classified in accordance with BS EN 12208:2000 to E2600.

Operation and Strength.

Tested to BS 6375-1:2015+A1:2016. Operation and Strength: tested to BS 6375-2:2009.

Profile.

All profiles shall have been assessed by the BBA against MOATs 1, 8 and 17 and must carry Kitemark certification from the BSI to BS EN 12608-1:2016. In addition the window system shall have been assessed and approved by either the BBA or the BSI for PAS 24:2016 standard for windows with enhanced security. The system designer shall have a proven quality assurance programme with third party certification and must be assessed to BS EN ISO 9001:2015 for the manufacture of PVCu Windows and Doors. Range from 58mm to 70mm (+/- 0.5mm), to relevant British Standard. Steel/Aluminium reinforced to system company recommendation.

Reinforcement of all outer frame profiles shall be made with RCM (Recycled Composite Material), aluminium or stainless steel and manufactured to the system designer's reinforcement specification.

These should be housed in a separate chamber within the PVC-U profile. Any drainage water must not penetrate this chamber.

Beading.

All frames are to be internally glazed and beaded. :

All beading should be co-extruded and covered by the manufacturer's Kitemark certification. Weather seals, fasteners, gaskets and reinforcement used should be as per the system supplier's design and specification.

Glazing.

Glazing of the units is to comply with Approved Document N (Safety Glazing), any specific requirements of the Client and the recommendations of the system manufacturer. :

All glazing is to comply with BS 952-1:1995, BS 952-2:1980 and BS 6262-4:2018.

The overall thickness of double glazed units is to be 28mm with 20mm air space. All units are to incorporate low emissivity glass in order to provide a WER A rating. :

The inside pane of all bathroom windows that are less than 1.5m above the floor are to be safety glazing. This also applies to other areas defined as 'critical locations' in Approved Document N1 as being 'critical locations'. All are to be in accordance with BS EN 12150-1:2015 Identification of glass. Bathroom windows are to be supplied with obscured glass.

Toughened glass shall be provided in any locations that fall below 800mm from floor level.

Window Type.

See sections 6 and 9 of this document.

Gasket/ Seals.

Glazing gaskets and weather seals shall be made from Black Dynamic grade Vaycron material or equal with sulphur content 3% and a maximum compression set of 12% to BS 4255-1:1986. An option is to be available in white, where requested by the Client.

Locking Mechanism.

Espagnolette type system to casements and sashes.

Top Hung Sash.

Austenitic Stainless Steel Friction Stays (>450mm Restricted, <450mm Unrestricted), require anti-jemmy device. PAS 24:2016 security compliance.

Side Hung Sash.

Austenitic Stainless Steel Friction Stays (Restricted), require anti-jemmy device. PAS 24:2016 security compliance.

Fire Safety.

In compliance with Building Regulations Approved Document B, one opening for every floor above the first floor is to be an emergency egress window. This unit must provide an unobstructed area of a minimum of 0.33m² and a minimum size of 450mm in any one direction. These openings are to be in habitable rooms only and will be identifiable by a green push button and fitted with approved Egress (304 Austenitic) friction hinges. The size of each friction stay is to be greater than two thirds of each vent's height. The stay is to be positioned so as to ensure a good seal and must be fixed with stainless steel self-tapping screws with countersunk heads.

Handles are to be an approved off-set/in line, in a white finish, and fixed centrally in each opening light. All handles are to have key-operated locks, with the exception of emergency egress windows which are to have green push button handles as above.

Locking mechanisms are to be approved mechanisms in austenitic stainless steel in compliance with BS 7412:2007 and PAS 24:2016. Housings are to be sealed plated and adjustable incorporating bi-directional gearboxes which have undergone tests to 30,000 cycles of operation. Bar and spun riveted adjustable mushroom-headed cams are to be manufactured from austenitic 304 Stainless Steel.

Locking mechanisms are to have a 10 year, insurance-backed guarantee.

All egress sashes to have integral child restrictor stay.

Handles.

Offset Handle. Button locking standard on all windows. Additional cost for Key Locking Handles - Key locking to be fitted to all none-egress windows.

Hardware and Fixings.

Fixing screws are to be Austenitic stainless steel to all hardware.

Ventilation.

Opening lights are to provide no less ventilation, when open, than the units they are replacing. Rapid ventilation, (i.e. open-able area) shall be no less on the replacement window than the existing window, unless instructed by the Client.

Trickle ventilation shall be provided, with sound insulation and adjustable cover and to comply with Part F1 of the Building Regulations: 2010.

The preferred method of ventilation shall be achieved either by 'slot' or 'through the frame'. As directed by Slot' or 'Through the Frame' vents shall be either manufactured from PVCu, thermally broken aluminium, or a combination of both. Incorporating an external hood and a fly screen. The vents also need be watertight to over 500pa at a design wind pressure of over 2000N/m² to BS EN 13141-1:2004.

Note: If slots or holes need to be made in the reinforcement to facilitate such ventilation, assurance must be sought that this will not adversely affect the performance of the window by the Clients Representative.

All vents shall be fitted with an upward air deflector internally.

All vents shall be so designed as not to enable daylight to be visible through the vent aperture from internally.

All vents to ground and first floor windows shall have a permanent 'trickle vent' capability.

Manually operated vents shall be so positioned or equipped that they may be operated from floor level or other permanent stable surface provided to give access. Trickle vents must be openable by a pull cord (or similar), where the resident is disabled or a wheelchair user.

Any adaptation requests on behalf of a person with additional needs are to be highlighted and referred to Client at Pre-Entry survey stage.

Ventilator to be tested to BS EN ISO 10140-2:2010 for acoustic performance as detailed in Part F of the Building Regulations. Vents must be fixed strictly in accordance with manufacturer's recommendations and glazing heights must be amended as necessary to accommodate the vent.

Infill Panel.

28mm insulating infill panel as required.

Energy Rating.

WER A rated, in accordance with the British Fenestration Rating Council (BFRC).

Measure.

To be compliant with BS 8213-4:2016: Code of Practice for the Survey and Installation of Windows and External Doorsets.

Sealant.

Gaps between frame and reveal to be filled with non-setting sealant to BS 5889, colour as frames. BS EN ISO 11600:2003+A1:2011

Maintenance and Cleaning.

To conform with BS 8213-1:2004 - cleanable from inside the property - where practicable.

General.

All hardware and ironmongery is to be fixed in accordance with the relevant manufacturer's instructions.

Windows must be capable of being cleaned safely from the inside, where practicable, without putting the occupier in danger in compliance with BS 8213-1:2004 relating to the 'Design for Safety in Use and During Cleaning of Windows'.

Alternative adapted handles and the like are to be offered where required in accordance with the Equality Act 2010.

All wedges and run up blocks to be fitted to the system designer's specification in accordance with BS 7412:2007 and PAS 24:2016.

All windows should be permanently marked using an identification label. It shall be in an unobtrusive position that cannot be seen when the window is shut. This should give the extrusion, date of manufacture, the batch number, the British Standard number and the weather tightness exposure category.

IRONMONGERY.

Window Ironmongery.

To Comply With:

- BS EN 14351-1:2006+A2:2016.
- BS EN 1627:2011.
- PAS 24:2016 'Security'.
- BS EN 14351-1:2006+A2:2016 clause 4.8 'Load-bearing capacity of safety devices'.
- Approved Document B 'Emergency Escape'.
- BS 8213-1:2004 'Safety in Use & During Cleaning'.
- BS 8220-1:2000 'Security of Building Against Crime'.
- BS 7412:2007 / BS EN 1670:2007 'Whole PVCu Window Performance'.
- Equality Act 2010 / Equality Duty 2010: 'Secured by Design'.
- BBA Approval Inspection Testing Certificate.
- NHBC Standards 2018.

CE Marking.

From 1st July 2013 under the Construction Products Regulation all windows sold into the U.K. market and Europe will have to carry a CE mark.

CE marking is in essence a self-declaration of performance to provide evidence the product is fit for purpose. Manufacturers and importers of windows are required to provide the necessary testing evidence to prove that a product has the correct characteristics for a particular application. This initial type testing must be carried out by a recognised Notified Body.

One of the mandatory elements within the requirements is proof of the load-bearing capacity of safety devices, [where applicable]. Window hardware products are not covered within the scope of current CE marking as individual products, but should be tested as a part of a whole window assembly under the scope of the harmonised standard BS EN 14351-1:2006+A2:2016 clause 4.8. The guidance recommends that the worst case scenario should be tested which means using the biggest sized windows and applying pressure in the most unfavourable position.

GENERAL WINDOWS RESTRICTED FOR SAFETY.

Where indicated and instructed windows to be fitted with Austenitic Restricted Hinges.

Non Restricted Windows where indicated and instructed after a considered and noted risk assessment windows to be fitted with Austenitic Friction Hinges.

All hardware should permit safe cleaning of windows from within the property without putting the occupier in a dangerous position to BS 8213-1:2004 'Design for Safety in Use and During Cleaning of Windows'.

All hinge components such as bottom track, link bars and rivets to be manufactured from Austenitic 304 Stainless Steel and fitted in accordance with manufacturer's instructions limitations and recommendations. . All components should be capable of sustaining a minimum of 30,000 cycles of operation without demonstrating any significant deterioration and deformation that would inhibit their functions.

All windows should be approved to BS 7412:2007 and to meet BS EN 1670:2007 'Class 4 Corrosion Resistance'.

All hinges should incorporate nylon washers between all pivot points to minimise metal to metal fatigue. Friction adjustment should not rely on metal to metal contact and should be achieved by a metal cam working via a thermoplastic twin lipped slider block to provide precise long lasting friction adjustment. All hinges to have a thermoplastic asymmetric end cap to ensure smooth location and weather tight sealing.

On restricted hinges, window system manufactures and fabricators should request the relevant information as to the precise hinge compatible with their system to facilitate a maximum 100mm opening in the restricted position.

The release mechanism shall be an integral part of the hinge and shall self-relocate in one action on closure of the vent. All components, rivets and pins should withstand a force of 350N for one minute to comply with BS EN 14351-1:2006+A2:2016 clause 4.8 'Load-bearing Capacity of Safety Devices' and BS 8213-1:2004 'Design for Safety in Use and During Cleaning of Windows'.

Side hung windows restricted by a single restrictor hinge, positioned at the bottom of each opening must comply with BS EN 14351-1:2006+A2:2016 clause 4.8.

All opening windows to be fitted with two pairs of non-contact ancillary security device. Positioned adjacent to and not more than 50 mm away from the top of each hinge.

Hardware with provision for adjustment shall be accessible for adjustment after the window has been installed. Hardware used to open / close the window shall be replaceable without removing the outer frame from the structure.

All components should be supplied by a manufacturer complying with BS EN 9001:2015 accredited quality system and be covered by the manufacturer's Warranty Scheme.

A Warranty Certificate to be issued by the hardware manufacturer on completion of the project or phase.

It is the responsibility of the fabricator / purchaser to ensure that the performance of the window complies with the relevant standards and specification requirements for the particular window and that the correct product is chosen for the weight and design of each window system.

All windows to be tested in accordance with BS EN 1627:2011 to PAS 24:2016 'Enhanced Security Performance for Doorsets and Windows in the U.K.' will be a condition of tender. All windows must clearly marked as evidence of compliance.

Where indicated and instructed by the client, window hardware wherever applicable must be supplied from a manufacturer holding a product license under the auspices of the Home Office Secured By Design initiative with the aim of fulfilling the obligations placed on the housing provider to ensure a reasonable level of security to the occupants as outlined in Section 17 of the Crime and Disorder Act 1998.

All friction hinges to be covered by BBA Certification Scheme and NHBC Product acceptance under NHBC Standards 2018 Chapter 6.7. Written confirmation of compliance with all of the above should be given to the contract management team in advance of commencement on site.

Disability Discrimination.

Components such as handles and locking mechanisms to be capable of offering adaptations in accordance with the Equality Act 2010 and the housing providers Equality Duty 2010.

Nominated Emergency Egress Openings.

One opening in every habitable room on first floor, except kitchens, should provide an unobstructed area of at least 0.33m² with minimum size of 450mm in any one direction. Effectively this should provide a minimum clear opening of 450mm x 734mm. All in accordance with Building Regulations Approved Document B at a maximum cill height of 1.1m.

Where indicated and instructed windows to be fitted with Egress Easy Clean Hinges. All hinge components such as bottom track, link bars and rivets to be manufactured from Austenitic 304 Stainless Steel and fitted in accordance with manufacturer's instructions limitations and recommendations. All associated hardware should be approved to BS 7412:2007 and meet BS EN 1670:2007 Class 4 'Corrosion Resistance'.

All opening windows to be fitted with two pairs of non-contact ancillary security device. Positioned adjacent to, and, not more than 50 mm away from the top of each hinge.

Where a 90 degree opening is required to facilitate exit from the building with an easy clean option the hinge should provide the following. Easy clean facility to allow the window to slide along the hinge track so as to be cleaned from the inside the building to BS 8213-1:2004. After cleaning the hinge should allow the window to self-relocate and return to its original position and mode of operation simply by closing the casement.

Above must be fitted to a casement of a size sufficient to provide a minimum clear opening of 500 mm wide by 850 mm high at a maximum height of 1.1 m from floor to cill. All to comply with BS 9991:2015 'Fire Precautions in the Design and Construction of Buildings - Residential

Dwellings'. All hinges should be BBA Approved and to include a thermoplastic end point and die cast end cap with self-lubricating surface finish featuring a roof to minimise the build-up of debris.

Emergency windows after a considered and noted risk assessment can be fitted with a clearly visible and intuitive to release restrictor. Restrictor to be tested to comply with BS EN 14351-1:2006+A2:2016 clause 4.8 to withstand a force of 350N for one minute when opened at the restricted position and fitted to provide a maximum opening of 100mm in the restricted position. Restrictor to be manufactured from Austenitic 304 Stainless Steel tested to meet the requirements of BS 7412:2007 and to meet BS EN 1670:2007 Class 4 'Corrosion Resistance'.

All friction hinges to be covered by BBA Certification Scheme and NHBC Product acceptance under NHBC Standards 2018 Chapter 6.7. Written confirmation of compliance with all of the above should be given to the contract management team in advance of commencement on site.

Operating Handles.

Windows to be fitted with cranked Espagnolette operating handles. Colour white. Handles to incorporate a push release mechanism with a barrel lock. All to BS 6462:1985 strength Test C3.

Handle to be manufactured to BS EN ISO 9001:2015 from die cast zinc alloy under with a polyester powder coating finish incorporating thermoplastic push fit covers. All components should be capable of sustaining a minimum of 30,000 cycles of operation without demonstrating any significant deterioration or deformation that would inhibit its function.

Handles to have option to provide non-latching facility to meet the considerations of the Equality Act 2010 and the housing providers Equality Duty 2010. Where non-latching handles are fitted the window should also have attached the appropriate information warning label.

Emergency Egress Window Handles.

Nominated Emergency Egress windows to be fitted with green buttoned push to release non deadlocking handle. Written confirmation of compliance with all of the above should be given to the contract management team in advance of commencement on site and will be a condition of the tender.

Locking Mechanism.

All windows to be fitted with a High Security Locking Mechanism.

To include system specific, sealed plated adjustable housings. With integral bi-directional gearbox endurance cycle tested to 30,000 cycles of operation. Bar and spun riveted adjustable mushroom headed cams to be manufactured from Austenitic 304 Stainless Steel.

Locking mechanism must have option to offset handle height on side-hung sashes to meet the consideration of the Equality Act 2010 and the housing providers Equality Duty 2010.

All windows should be approved to BS 7412:2007 and meet BS EN 1670:2007 Class 4 'Corrosion Resistance'.

Evidence of compliance with PAS 24:2016 'Specification for Enhanced Security Performance of Casement Tilt/turn Windows for Domestic Application' will be a condition of tender.

All components should be supplied by a manufacturer complying with BS EN ISO 9001:2015 accredited quality system and be covered by the manufacturer's Warranty Scheme.

A warranty certificate to be issued by the hardware manufacturer on completion of the project or phase.

Written confirmation of compliance with all of the above should be given to the contract management team in advance of commencement on site and will be a condition of the tender.

Fully Reversible Windows.

Where indicated and instructed windows to be fitted with Top Hung Reversible window hinges as supplied by manufacturer.

Modes of Operation.

The fully reversible hinge is to have 4 modes of operation:

- In 'Safety' Mode the key lockable safety restrictor and sash release button are designed to prevent accidental operation. In this mode all components, rivets and pins should withstand a force of 350N being applied to the window for one minute to comply with BS 6375-2:2009 'Operations and Strength Characteristics of Windows and Doors'. The window opening should also not exceed 100mm in order to comply with BS 8213-1:2004 'Design for Safety in Use and During Cleaning of Windows'.
- 'Outer Ventilation' Mode is a wider open position giving increased ventilation. In this position (and Safety Mode detailed above) the window is held in position by ventilation/anti-blowback functionality. This is designed to hold the window in the open position and prevent it from blowing shut during severe wind conditions.
- 'Inner Wash' Mode allows the sash to be fully reversed in order to clean the windows from within the property without putting the occupier in a dangerous position - in accordance with BS 8213-1:2004 'Design for Safety in Use and During Cleaning of Windows'.
- In 'Closed' Mode the window should be tested in accordance with BS EN 1627:2011 to PAS 24:2016 'Enhanced Security Performance of Casement Tilt / turn Windows for Domestic Application'. All windows must be clearly marked as evidence of compliance.

Fire Escape.

Where windows are required to provide Emergency Egress hardware must be fitted to a casement of a size sufficient to provide an unobstructed area of at least 0.33m² with minimum size of 450mm in any one direction. Effectively this should provide a minimum clear opening of 450mm x 734mm in accordance with Building Regulations Approved Document B at a maximum cill height of 1.1m. They should also provide a minimum clear opening of 500 mm wide by 850 mm high at a maximum height of 1.1m from floor to cill to comply with BS 9991:2015 'Fire Precautions in the Design and Construction of Buildings - Residential Dwellings'.

Performance and Guarantee.

All components should be capable of sustaining a minimum of 20,000 cycles of operation without demonstrating any significant deterioration and deformation that would inhibit their functions.

Hardware to be tested to BS EN 1670:2007 Grade 3 (96 hours) 'Corrosion Resistance'.

All components should be supplied by a manufacturer complying with BS EN 9001:2015 accredited quality system and be covered by the manufacturer's 10 Year mechanical guarantee.

Where indicated and instructed by the client, window hardware wherever applicable must be supplied from a manufacturer holding a product licence under the auspices of the Home Office Secured By Design initiative with the aim of fulfilling the obligations placed on the housing provider to ensure a reasonable level of security to the occupants as outlined in Section 17 of the Crime and Disorder Act 1998. Hardware with provision for adjustment shall be accessible for adjustment after the window has been installed. Hardware used to open/close the window shall be replaceable without removing the outer frame from the structure.

Manufacturer product limitations must be strictly observed within the terms of their conditions of supply. It is the responsibility of the fabricator/purchaser to ensure that the performance of the window complies with the relevant standards and specification requirements for the particular window and that the correct product is chosen for the weight and design of each window system.

Scaffolding

General.

All scaffolding works to be carried out strictly in accordance with: TG20:08 Technical Scaffolding Guidance and compliant with BS EN 12811-1:2003. Contractor is responsible for determining location, extent and type of scaffolding required to provide safe access for the installation works. Contractor to include and manage applications for highway closure notices with the Local Authority, when access platforms are to be positioned on the public highway.

Standard unclad independent TG20:13 Compliance scaffold (2014).

Location.

Valid in England and Wales with an altitude under 300m.

Criteria.

Built as TG20:13 independent tube and fitting scaffold with no system transoms or other system components:

- Up to 5 main boards and 3 inside boards wide.
- Up to 2.0m lifts.
- Unclad or with brick guards.
- Up to one working lift and one 50%-loaded lift per façade.
- Inside boards are lightly loaded to 75kg/m².
- Maximum 4m vertical interval between tie lines.
- Single bay façade bracing; one column in every ten bays.
- Ledger bracing at alternate bays.
- Up to two guard rails per lift; up to three on the top lift.
- Inner guard rails and toe boards permitted on lifts without inside boards.
- Tied to a façade with less than 25% openings.

Maximum Safe Height.

- 28m without inside boards.
- 18m with one inside board.
- 16m with two inside boards.

Ties.

- 1 x light duty (3.5kN) tie per 16m square or as per relevant ACOP.

Maximum Bay Length.

- 2.1m for general-purpose scaffolding (up to 200kg/m²).
- 1.8m for heavy duty scaffolding (up to 200kg/m²).

Maximum Transom Spacing.

- 1.2m for general-purpose scaffolding.
- 0.9m for heavy duty scaffolding.

Add Ons.

A separate design is required for any add-ons to the above criteria. Add-ons may reduce the maximum safe height or increase the required tie duty for the scaffold.

Add-Ons Include The Following:

- Internal ladder access on each lift complete with ladder traps.
- Prefabricated components (ladder beams & unit beams) Manufacturer / supplier to supply instructions i.e. use, safe working loads etc. TG20:13 provides guidelines for engineers on the use of prefabricated beams. This also includes 'plan bracing' and additional check fittings when installing.
- Third guard rail on additional working lifts – Design required.
- Pavement frames or gantries – When a scaffold has to be positioned over a pavement or walkway from a building a fully double boarded protection deck with membrane must be installed. Such a pavement gantry must be designed, especially if it has to carry the weight of an access scaffold. Columns of grouped standards should be joined by traverse beams across and along the top. These columns should have small lifts with all faces of the columns zigzag braced. The lateral stability of the system should be achieved by ensuring that the beam to column joints are rigid with at least two fittings and by providing cross bracing of tubes in both directions in all bays. The assembly should comply with any local authority requirements for temporary works on pavements.
- Sheeting of scaffolds – An important design consideration is the much increased effect of wind forces caused by the use of cladding (layers) – in particular the number of ties used;
- Sheeting of scaffolds – An important design consideration is the much increased effect of wind forces caused by the use of cladding (layers) – in particular the number of ties used.
- Use of girder couplers (clamps), must be used in pairs, safe working slip load (in the direction of the scaffold tube) of 5kN, total vertical safe load of approximately 10kN.
- Run-off gantry complete with buttress ties to ensure stability (not for loading with waste or materials).
- Loading bay.
- Powered conveyor.
- The skip should be covered from the end of the chute preventing any unnecessary debris waste and dust from escaping the skip onto the surrounding area. The skip must be segregated with physical barriers and warning signage.

Examples of Correct Practice.

- Fragile roof work: crawling boards must be installed by a competent person forming a temporary walkway complete with double guard-rail protection on both sides and suitable anchor points. The walkway protection should be supported by at least 3 rafters beneath the roofing sheets of any fragile roof covering.
- Installation of running lines and / or tested anchor points for flat roof works. This also includes tri-pod guard rails installed 2m around the perimeter edge.
- Isolation or shrouding of power lines by the energy supplier, rail or tram operators of overhead cables. Steel scaffold must be erected at least 6.5m away from any live cables preventing the risk of arching.
- Access equipment must be stabilised and/or secured with ties to prevent any unnecessary movement. Tube and clip scaffold must be either buttress tied for a two lift independent or alternatively 14mm Apollo screw ring ties must be installed. 5% of the ties must be pull tested to 1.5 x the required tensile load and a certificate issued with the handover certificate prior to first use. Light duty 3.5kN (Inside boards) Standard duty 6.1kN (working platform only) Heavy duty 12.2kN (Working platform only).
- Spanned sole boards across two standards due to unsuitable foundations or ground conditions in addition to heavy duty foundations and sloping ground.
- Tube and fitting ramps and walkways for access at low level.

- Butress tie (ground rakers) installed below the ledger of the working platform within the node point of 12in, and then tied back across both inner and outer standards of the lift below positioned on a 450mm sole pad or alternative base due to ground conditions / gradients.
- Cantilever Scaffolds – The common 1m braced from below overhang in turn forming additional edge protection when working at height adjacent to adjoining properties.

Design and Inspection.

- Unless a scaffold is a basic configuration described in recognized guidance e.g. NASC Technical Guidance TG20:13 for tube and fitting scaffolds or manufacturers' guidance for system scaffolds, the scaffold should be designed by calculation, by a competent person, to ensure it will have adequate strength and stability.
- All scaffolding should be erected, dismantled and altered in accordance with either NASC guidance document SG4:10 for tube and fitting scaffolds or the manufacturers' erection guide for system scaffolds.
- For scaffolds that fall out of the scope of 'Basic Scaffolds' as described in bullet point 1, the design information should describe the sequence and methods to be adopted when erecting, dismantling and altering scaffold, if this is not covered by published guidance as detailed in bullet point 2.
- Any proposed modifications or alterations outside a generally recognized standard configuration should be designed by a competent person.
- Handover certificates should refer to relevant drawings, permitted working platform loadings and specific restrictions on use.
- All scaffolding inspected should be carried out by a competent person whose combination of knowledge, training and experience is appropriate for the type and complexity of the scaffolding they are inspecting. Competence may have been assessed under The Construction Industry Scaffolders registration Scheme (CISRS) or an individual may be suitable experienced in scaffolding work and have received additional training under a recognized manufacturer/supplier scheme for the specific configuration he is inspecting.
- A non-scaffolder who has attended a suitable scaffold inspection course and has the necessary background experience would be considered competent to inspect a basic scaffold (i.e. a site manager).
- The scaffold inspection report should note any defects and corrective actions taken, even when those actions are taken promptly as this assists with the identification of any reoccurring problems.
- To prevent use by unauthorized persons of incomplete scaffolds, relevant warning signs identifying the areas where access is not permitted should be displayed at the access points in these areas. In addition, access to the incomplete areas should be prevented by suitable physical means.

Scaffold Structures to be Designed:

1. Dead Shores.
2. Flying Shores.
3. Raking shores.
4. Cantilevered scaffolds.
5. Truss-out Scaffolds.
6. Access Birdcages.
7. Façade retention.
8. Access scaffolds with more than the 2 working lifts allowed with TG20 'Basic Scaffolds'.
9. Butressed free-standing scaffolds.
10. Temporary roofs and temporary buildings.
11. Support scaffolds.
12. Loading Bays founded on the ground.
13. Mobile and static towers outside base/height limitations.
14. Free standing scaffolds outside base/height Limitations.
15. Temporary ramps and elevated roadways.
16. Staircases and fire escapes.
17. Spectator Terraces and Seating Stands.
18. Bridge scaffolds.
19. Towers requiring guys or ground anchors.
20. Offshore scaffolds outside Offshore Contractors Association (OCA) handbook.
21. Pedestrian footbridges or walkways.
22. Slung and Suspended scaffolds.
23. Protection fans, Nets and Pavement Frames.
24. Marine scaffolds.
25. Boiler scaffolds.
26. Power line crossings.
27. Lifting gantries and towers.
28. Steeple scaffolds.
29. System scaffolds outside users guide parameters.
30. Sign board supports.
31. Sealing end structures.

32. Temporary Storage on Site.
33. Masts, Lighting Towers and Transmission Towers.
34. Advertising hoardings/banners.
35. Any scaffold structure subject to:
 - Vibration.
 - High Loading.
 - Long term duration.
 - High risk areas.
 - Loading from passenger/goods hoists.

Signage.

Work at height equipment must be segregated with suitable physical barriers and display the relevant warning signage e.g. Children Must not Play on Scaffold, Incomplete Scaffold, and Danger Men Working Overhead on the front, rear and gables of the scaffold.

Other Types Of Access Scaffold Currently Used.

Tower scaffolds - supported by only four standards, bracing on all four sides, non-boarded lifts to have transoms double to double or band and plate connection. Must be plan braced, bracing in a tower should always occur at the base lift, every other lift and under the top lift. A minimum standard spacing of 1.2m and a max of 2.4m, SWL of 1.5kN/m². All ledger / transom to standard connections except on a boarded lift should be a double coupler, only one boarded working lift unless designed.

Birdcage scaffolds - a scaffold with multiple rows of standards, used where large open platforms are needed. Very light duty work unless by design 0.75kN/m², maximum standard spacing without design 2.1m. Maximum lift height 2.5m for base clearance only, all other lifts must be a maximum of 2m. One bay may be omitted at base level to allow access and egress, Gaps between platform and the wall should be limited to 150mm. Must be tied when the height exceeds the base dimensions, no more than 11 standards in a row before a tie is placed.

Loading towers – Designed! Max transom spacing 450mm on a 5 board wide scaffold (600mm on a 4 board wide), designed for at least 10kN per m² sq, max width 5 boards. W.A.H.R 2005 state a design to be in place when the scaffold is to be loaded by mechanical means. 25% allowable shock loadings, safety signs on the S.W.L to be displayed.

Bridging – (bridge with beams) Chord ties must be 1.2m centres on the top cord and 2.4m centre's on the bottom chord. Preferably with double couplers, however on boarded lift the top ties can be with single couplers. There are nine different beam types; manufacturers' data must be checked.

Roof saddle – maximum height of 24m, must be diagonal bracing to alternate standards. Face bracing on both sides required. Over 10°= pitched roof, Sole boards at right angles to the joists. Saddle ledgers parallel to stack, Saddle transoms fitted with right angle couplers.

Access and Egress.

The following hierarchy should be considered:

- Staircases.
- Ladder access bays with single lift ladders.
- Ladder access bays with multiple lift ladders.
- Internal ladder access with a protected ladder trap.
- External ladder access using a self-closing safety gate.
- Access must be 450mm wide and at least 600mm long for each ladder trap.

BS EN 13374 Temporary Edge Protection.

European Directive adopted in the UK October 2013 and applies to construction and maintenance. Introduces 3 Classifications:

- Class A = Static Load.
- Class B = Static Load + Low Dynamic load.
- Class C = High Dynamic Load.

Can be tested or calculated using limit state principal, it is important that components have a surface and be so located that injury to a person from puncturing or lacerating the skin is minimised. Vertical alignment must fall between vertical, perpendicular, and 150°.

Maximum openings:

- Class A: Ø 470 / 250mm.
- Class B: Ø 250mm.
- Class C: Ø 100mm.

Fitting protection such as cap ends or armadillos should be used to protect the user.

Collective Fall Protection Systems.

Fall arrest nets (FANS) are erected to offer protection to people and objects below from anything which may fall from the scaffold or the building to ground. FANS are not intended to be used for access to a scaffold, or a material storage area. Warning signs must be displayed on the FAN to warn individuals.

- Class A – 0.75kN.
- Class B – 1.0kN.
- Class C – design.
- Class D – Fall arrest of people from heights of 6m (2 Storey):
- Class B fan can stop the fall of materials from heights of 10m:
- Maximum projection of the fan 2.4m.
- Maximum spacing of the spurs is 3m.

Tying Down of Scaffold Boards.

There are various products available which will satisfactory hold down scaffold boards to prevent movement:

- Scaffold board coupler.
- Limpet clamp.
- Putlog coupler securing inside board.
- Putlog coupler securing a toe board.
- Toe board clip.
- Toe board stop end.
- Lap board clamp for overlapping boards at corners.
- Essential for areas with high wind factors, hazardous weather conditions, theft of the scaffold boards.

Reasons for Scaffold Collapse.

- Poor design.
- Poor construction.
- Inadequate ties or sub-structure.
- Undermining or subsidence.
- Adverse weather – high winds.
- Overloading.
- Interference.
- Or a combination of the above.

HSE recommends that arrangements are reviewed regularly and that reviews of these take account of factors which include, but are not limited to:

- Scaffold design.
- Securing scaffold structures.
- Loadings on scaffolding, including wind impact.
- Risk of direct impact by construction plant or vehicles: " Frequency and thoroughness of scaffold inspections: " Systems for handover of new or adapted scaffolds.
- Competence of scaffolders.
- Adequacy of the scaffold foundations.

Window Styles

Please see sections 9 for Window Style A-O images.

Window Style A

Manufacturer:

Product Reference:

1800 x 1030 mm; white profile colour; 70 mm profile width; 150 mm cill; clear glass; over-glass vent, full egress.

Window Style B

Manufacturer:

Product Reference:

1250 x 1300mm; white profile colour; 70 profile width; 150mm cill; clear glass; over-glass vent, full egress.

Window style C

Manufacturer:

Product Reference:

1800 x 1030 mm; white profile colour; 70 mm profile width; 150 mm cill; clear glass; over-glass vent, full egress.

Window style D

Manufacturer:

Product Reference:

1800 x 1030 mm; white profile colour; 70 mm profile width; 150 mm cill; clear glass; over-glass vent, full egress.

Window style E

Manufacturer:

Product Reference:

1800 x 1030 mm; white profile colour; 70 mm profile width; 150 mm cill; clear glass; over-glass vent, full egress.

Window style F

Manufacturer:

Product Reference:

660 x 940 mm; White profile colour; 58 mm profile width; 200 mm cill; Obscure glass; Over-glass vent, No egress.

Window Style G

Manufacturer:

Product Reference:

660 x 940 mm; White profile colour; 58 mm profile width; 200 mm cill; Obscure glass; Over-glass vent, No egress.

Window style H

Manufacturer:

Product Reference:

660 x 940 mm; White profile colour; 58 mm profile width; 200 mm cill; clear glass; Over-glass vent, No egress.

Window style I

Manufacturer:

Product Reference:

660 x 940 mm; White profile colour; 58 mm profile width; 200 mm cill; clear glass; Over-glass vent, No egress.

Window style J

Manufacturer:

Product Reference:

660 x 940 mm; White profile colour; 58 mm profile width; 200 mm cill; clear glass; Over-glass vent, No egress.

Window style K

Manufacturer:

Product Reference:

660 x 940 mm; White profile colour; 58 mm profile width; 200 mm cill; clear glass; Over-glass vent, No egress.

Window style L

Manufacturer:

Product Reference:

660 x 940 mm; White profile colour; 58 mm profile width; 200 mm cill; clear glass; Over-glass vent, No egress.

Window style M

Manufacturer:

Product Reference:

1800 x 1030 mm; white profile colour; 70 mm profile width; 150 mm cill; clear glass; over-glass vent, full egress.

Window Style N

Manufacturer:

Product Reference:

1800 x 1030 mm; white profile colour; 70 mm profile width; 150 mm cill; clear glass; over-glass vent, full egress.

Window Style O

Manufacturer:

Product Reference:

1250 x 1300mm; white profile colour; 70 profile width; 150mm cill; clear glass; over-glass vent, full egress.

Variations For Window Installations

All Variations in the Priced Schedule are to include all labour, material (including consumables) costs preliminary costs and contractors overheads and profit and all items stated within the Reference Specification(included within this document) and Window Installation Schedule of Works stated above.

Stripping Out Works

W1024 Asbestos Management Works.

The Contractor to undertake non-licensed tasks to each property to adequately safeguard other trades and enable other works to be undertaken to asbestos containing material. The Contractor is to allow for the following:

- Removal of external boarding and such materials to soffit, lintels and wall elevations containing asbestos.
- Allow for all necessary tools and equipment to undertake the works such as H-vacs, disposable dust sheets etc.
- Provide all necessary protection to adjacent areas and safety measures to protect the tenant and property from contamination resulting from the works.

* All tasks and removal works are to be undertaken by suitably qualified operatives and in strict accordance with the Control of Asbestos Regulations 2012 and requirements for 'notifiable none licensed works' (NNLW) and HSE Essential Task Sheets for non-licensed work. All tasks and removal works are to be undertaken by suitably qualified operatives and in strict accordance with the Control of Asbestos Regulations 2012 and requirements for 'notifiable none licensed works' (NNLW) and HSE Essential Task Sheets for non-licensed work.

W1025 Asbestos Survey per Property.

The contractor is to engage the services of a suitably qualified Asbestos Surveyor to undertake a localised Refurbishment and Demolition Survey and take a sample for laboratory analysis and provide a report on completion. Results of sampling to be provided to the Contract Administrator within 24 hours from Survey. The Company undertaking the sampling/testing should be UKAS accredited. Sampling and testing to be in accordance with HSE Document HSG 248 – Asbestos: The Analysts Guide for Sampling, Analysing and Clearance Procedures. The report shall be available within 24hrs of the survey, copies to be provided to the Client and CDMC.

W1026 Asbestos Management Survey.

Complete Asbestos Management Survey of entire property. An electronic report is to be provided to the Client, detailing the asbestos type, location, extent, condition and any surface treatment - the 'Materials assessment' for any material identified. The report should also state the areas surveyed.

W1027 Asbestos Sampling Extra Over Cost Price.

Extra over cost for sample and test:

Brickwork

W1028 Brickwork: Patch Repair: 1m2

Cut out and remove defective bricks, prepare surface and lay new facing brickwork to match existing, area up to 1m2, in cement lime mortar (1:1:6), bonded, bedded and pointed to match existing.

W1029 Brickwork: Patch Repair: Single Brick

Cut out and remove defective brick, prepare surface and lay new facing brick to match existing, in cement lime mortar (1:1:6), bonded, bedded and pointed to match existing.

W1030 Brickwork: Repointing.

Rake out existing mortar joints to minimum 20mm depth and repoint brickwork in cement lime mortar(1:1:6) to match existing.

W1031 Supply and Fit Steel Lintel to Inner or Outer Brick Leaf: Up To 1.3m Length.

Allow to carefully take down and remove 1m2 brickwork and dispose off-site. Remove existing lintel and dispose off-site and prepare to receive new lintel. Allow to supply and fit new concrete lintel including for new concrete padstones. Allow to reinstate brickwork to match existing including for toothing into existing. Minimum gauge of proposed lintel to be 3.0mm.

W1032 Supply and Fit Steel Lintel to Inner or Outer Brick Leaf: Up To 2.2m Length.

Allow to carefully take down and remove 2m2 brickwork and dispose off-site. Remove existing lintel and dispose off-site and prepare to receive new lintel. Allow to supply and fit new concrete lintel including for new concrete padstones. Allow to reinstate brickwork to match existing including for toothing into existing. Minimum gauge of proposed lintel to be 3.0mm.

W1033 Supply and Fit Steel Lintel to Inner or Outer Brick Leaf: Up To 3.0m Length.

Allow to carefully take down and remove 3m2 brickwork and dispose off-site. Remove existing lintel and dispose off-site and prepare to receive new lintel. Allow to supply and fit new concrete lintel including for new concrete padstones. Allow to reinstate brickwork to match existing including for toothing into existing. Minimum gauge of proposed lintel to be 3.0mm.

W1034 Supply and Fit Concrete Lintel to Inner or Outer Brick Leaf: Up To 1.3m Length.

Allow to carefully take down and remove 1m2 brickwork and dispose off-site. Remove existing lintel and dispose off-site and prepare to receive new lintel. Allow to supply and fit new concrete lintel including for new concrete padstones. Allow to reinstate brickwork to match existing including for toothing into existing.

W1035 Supply and Fit Concrete Lintel to Inner or Outer Brick Leaf: Up To 2.2m Length.

Allow to carefully take down and remove 2m2 brickwork and dispose off-site. Remove existing lintel and dispose off-site and prepare to receive new lintel. Allow to supply and fit new concrete lintel including for new concrete padstones. Allow to reinstate brickwork to match existing including for toothing into existing.

W1036 Supply and Fit Concrete Lintel to Inner or Outer Brick Leaf: Up To 3.0m Length.

Allow to carefully take down and remove 3m2 brickwork and dispose off-site. Remove existing lintel and dispose off-site and prepare to receive new lintel. Allow to supply and fit new concrete lintel including for new concrete padstones. Allow to reinstate brickwork to match existing including for toothing into existing.

W1037 Replace Soldier Lintel to Outer Brick Leaf: Up To 1.2m Length.

Cut out defective brick lintel and steel angle support to inner brick leaf, prop and support opening, insert new 100x100 mm galvanised steel angle with minimum 100mm bearing and build brick soldier lintel using retained bricks, and make good all works disturbed.

W1038 Replace Brick Arch to Outer Leaf: Up To 1.2m Length.

Cut out defective brick arch, prop and support opening, and rebuild brick arch using retained bricks, and make good all works disturbed.

W1039 Replace Brick Cill.

Cut out defective brick cill and rebuild cill to falls on cement mortar bed with DPC, using retained bricks, and make good all works disturbed.

W1040 Replace Cill: Quarry Tile.

Cut out cill, prepare surface and lay quarry tiles to falls on cement mortar bed with DPC, making good all works and pointing with silicon sealant.

Render Works

W1041 Smooth Render: Patch Repair.

Allow to hack off and reinstate external sand and cement render to external walls and prepare to receive new, all for new base coat and top coat up to 20mm thick. Cost to include for feathering in to existing with smooth trowel finish. Extent of repairs to be agreed on site by CA.

W1042 Smooth Render: Patch Repair.

Allow to hack off and reinstate external sand and cement render to external walls and prepare to receive new, all for new base coat and top coat up to 20mm thick. Allow for reveal up to 300mm wide. Cost to include for feathering in to existing with smooth trowel finish. Extent of repairs to be agreed on site by CA.

W1043 Pebbledash Render: Patch Repair.

Allow to hack off and reinstate external sand and cement render to external walls and prepare to receive new, all for new base coat and top coat and aggregate finish up to 30mm thick. Cost to include for feathering in to existing. Extent of repairs to be agreed on site by CA.

W1044 Pebbledash Render: Patch Repair.

Patch Repair Allow to hack off and reinstate external sand and cement render to external walls and prepare to receive new, all for new base coat and top coat and aggregate finish up to 30mm thick. Allow for reveal up to 300mm wide. Cost to include for feathering in to existing. Extent of repairs to be agreed on site by CA.

Windows

W1045 Supply and Fit Couplings.

Supply and Fit Coupling (Door to Window / Window to Window) to match proposed window design, per linear metre.

W1046 Supply and Fit Bay Corners.

Supply and Fit Bay Corners (non-Structural) to match proposed window design, per linear metre.

W1047 Supply and Fit Trim: D Mold.

Allow to supply and fit new PVCu D-mold trim to match proposed window frames. Allow for the preparation of the surface and any fixing required. Trim width up to 50mm.

W1048 Supply and Fit Trim: Quadrant.

Allow to supply and fit new PVCu quadrant trim to match proposed window frames. Allow for the preparation of the surface and any fixing required. Quadrant trim size 19mm.

W1049 Remove Box Sash.

Carefully remove box sash window (up to 1.8m²) and lining, make good to opening, prepare brick reveals, fix 50 x 50mm treated softwood bearers to reveal and fix plasterboard and skim. Decoration to match existing.

W1050 Repair Timber Window.

Ease any size and type of opening sash or casement including removing and refixing sash and adjusting hinges and ironmongery as required.

W1051 Replace Defective HW Window Cill.

Cut out and splice in new hardwood cill section up to 1.0m length, to match existing section size, plugged and screwed to existing frame, and pointed with sealant.

W1052 Replace SW Glazing Bead.

Remove existing and replace with 14x20mm preservative treated softwood glazing bead.

W1053 Replace Sash Cords.

Remove existing and supply and fix new sash cords to sliding sash window average size up to 2m2, test and adjust window on completion.

W1054 Two Pack Resin Repair.

Carefully cut out defective and rotten timber, prepare surface and apply Timbabuild EHB4 high build epoxy wood filler, to area average size 75 x 75x 50mm depth, including building up in layers as required and sanding down to a smooth finish to match existing profile.

Doors

W1055 External Door: Ease And Adjust.
W1056 Draughtproofing: Stormguard Cill.

Supply and fix Stormguard stormproof cill to existing cill including removing, adapting and rehang door as required, and all making good.

W1057 Draughtproofing: Plastic Brush Type.

Replace existing or supply and fix new brush or pile type draught excluder with rigid PVC carrier, to any door or window at any level including fixing with pins to frame.

W1058 Refix Loose Door Frame.

Refix loose external door frame, including removing and refixing door and replace silicon sealant.

W1059 Apply Silicone Sealant.

Rake out existing and repoint external door frame with silicon sealant.

W1060 Replace Hardwood Cill.

Replace any size hardwood cill to door frame including remove old cill, removing and rehang door, fix new cill bedded in cement mortar including new water bar and making good all works disturbed.

W1061 Replace Door Closer.

Replace overhead door closer with similar or other equal and approved.

W1062 Supply and Fit Fanlight.

Supply and Fit fanlight to match proposed door design. Allow for making good where required.

W1063 Supply and Fit Sidescreen.

Supply and Fit sidescreen to match proposed door design. Allow for making good where required. :

Internal Works

W1064 Patch Plastering - Internal.

Scope of works to be agreed with Contract Administrator. Allow to hack off and reinstate internal plaster finish to internal walls and prepare to receive new, allow for new base coat and top coat up to 20mm thick. Cost to include for feathering into existing with smooth finish. Decorate new areas with 2 coats of white Dulux (or equal and approved) emulsion. Item relates to existing damaged, missing or defective plasterwork. Any damage resulting from window / door removal will be Contractors responsibility.

W1065 Patch Plastering - External.

Scope of works to be agreed with Contract Administrator. Allow to hack off and reinstate internal plaster to external reveals and prepare to receive new, allow for new base coat and top coat up to 20mm thick. Allow for reveal up to 300mm wide. Cost to include for feathering into existing. Decorate new areas with 2 coats of white Dulux (or equal and approved) emulsion. Item relates to existing damaged, missing or defective plasterwork. Any damage resulting from window / door removal will be Contractors responsibility. :

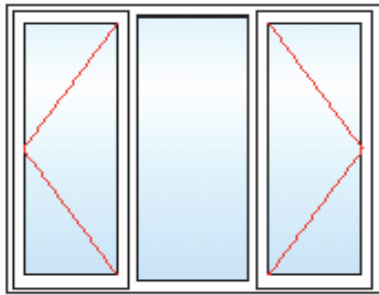
W1066 Supply and Fit Softwood Curtain Battens.

Remove existing and install ex. 50 x 25mm bull-nosed s.w. battens above full width of opening and projecting 150mm beyond both reveals. Make good and extend disturbed finishes upon completion of work.

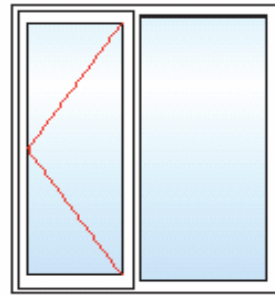
8. PROPERTY ARCHITYPE WITH NUMBER OF WINDOWS (Indicative).

	Cloak	Hall	Living room	Kitchen	Bath	Bed 1	Bed 2	Bed 3	Bed 4	Bed 5	Bed 6	Bed 7	Landing	Total
Bedsit			1		1	1								3
1 bed flat			1	1	1	1								4
2 bed flat			1	1	1	1	1							5
3 bed flat			1	1	1	1	1	1						6
4 bed flat			1	1	1	1	1	1	1					7
5 bed flat			1	1	1	1	1	1	1	1				8
1 bed maisonette	1		1	1	1	1							1	6
2 bed maisonette	1		1	1	1	1	1						1	7
3 bed maisonette	1		1	1	1	1	1	1					1	8
4 bed maisonette	1		1	1	1	1	1	1	1				1	9
5 bed maisonette	1		1	1	1	1	1	1	1	1			1	10
1 bed Bungalow			1	1	1	1								4
2 bed Bungalow			1	1	1	1	1							5
3 bed Bungalow	1		1	1	1	1	1	1						7
4 bed Bungalow	1		1	1	1	1	1	1	1					8
5 bed Bungalow	1		1	1	1	1	1	1	1	1				9
1 Bed house			1	1	1	1								4
2 Bed house	1		1	1	1	1	1							6
3 Bed house	1	1	1	1	1	1	1	1					1	9
4 Bed house	1	1	1	1	1	1	1	1	1				1	10
5 Bed house	1	1	1	1	1	1	1	1	1				1	10
6 Bed house	1	1	1	1	1	1	1	1	1	1	1		1	12
7 Bed house	1	1	1	1	1	1	1	1	1	1	1	1	1	13

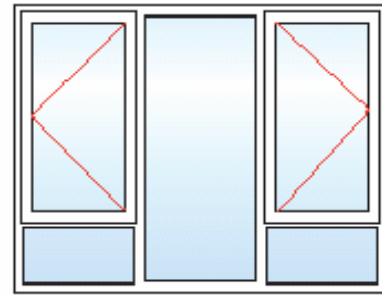
9. WINDOW STYLES A-O



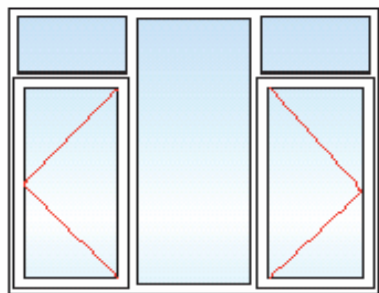
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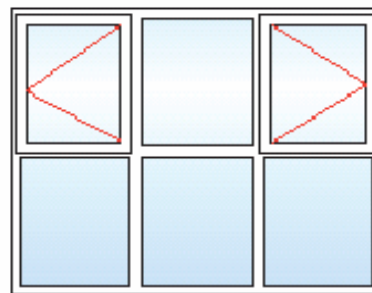
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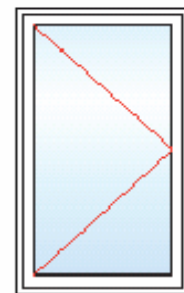
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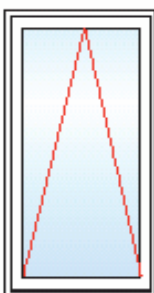
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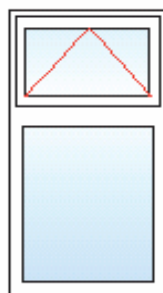
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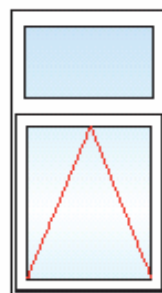
Type F



Type G



Type H



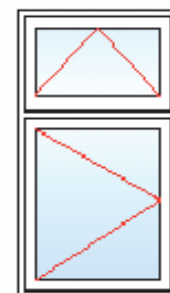
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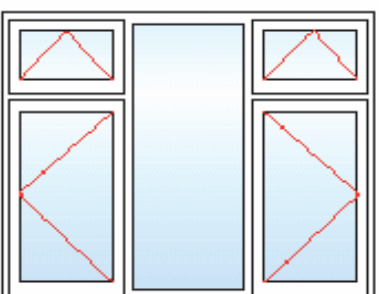
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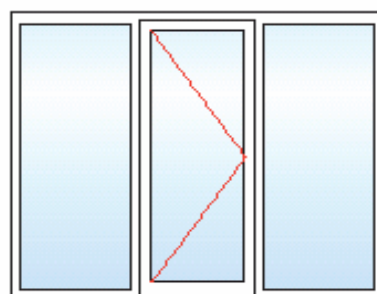
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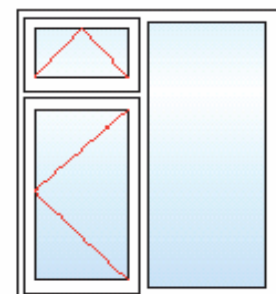
Type L



Type M



Type N



Type O