

## Windows Specification – Replacement windows

### DESIGN

#### A. Type and style of windows and doors.

- The replacement windows and doors must be UPVC to match the existing colour and style of the windows and doors in the building or in the neighbouring properties, unless we state otherwise.
- All windows and doors must be replaced which are likely to require replacement in the next 10 years.
- The outer surface of the frame of each new window and door must be in the same position in relation to the outside of the building as the original. This is to ensure they will fit in with the general appearance of the other windows in the building.
- The appearance of the sill must remain the same and it must not be adversely affected by the installation of the new window.
- The sill must be left in a condition to ensure it is fully protected from rainwater damage.
- The brickwork surrounding windows and doors must be left in a condition that will prevent the ingress of moisture. Its appearance must not be affected.

#### B. Metal framed windows.

Metal frame windows are normally replaced with UPVC unless we state otherwise.

The general rules are as above, however please note the following:

- the outer frame of each window and door must be at the same position in relation to the outside of the building as the existing ones. Although the replacement UPVC frame will have a deeper section, its outer surfaces should be at the same position as those of the original window.
- where small panes of glass are being replaced with larger ones, the general appearance of the old style should be maintained by the use of glazing bars, unless we agree otherwise.

#### C. Further considerations.

- Properties in a conservation area are subject to special requirements – please contact us for more details, if this applies.
- We must be informed if any of the windows to be replaced are on a balcony or are next to a balcony, since the Council may have plans to replace them with specially designed ones.

### 105 THE SYSTEM

The windows to be supplied and installed shall be PVC-U

### 110 COMPLIANCE STANDARDS

- A The window/door system shall be Kite marked in compliance with BS 7412:1991 and BS 7950 (formerly PAS 011), using materials Type A complying with BS 7413:1991, and the window fabricator/installer shall be a Licensed Kite marked manufacturer to BS 7412 and BS EN ISO.9002:1987/BS 5750: Part 2:1987. and a full copy of his licence shall accompany the Tender.
- B The windows and doors and the installation shall comply with all current British Standards, Codes of Practice, Statutory Requirements and Building Regulations relevant to their performance.
- C The installer shall be a F.E.N.S.A. member.

115 PERFORMANCE AND FUNCTIONAL REQUIREMENTS

- A The window assemblies are to be manufactured and installed to the highest quality levels and the manufacturer/supplier must produce certified evidence that they comply with the following summarised standards:
  - 1. The BPWG/GGF Trade Standards for UPVC Windows.
  - 2. BS EN ISO 9001 and BS 9002 Schemes for: Quality Assurance Standards Management.
  - 3. BS 5368:Parts 1 to 3 and BS 6375:Part 1 – Classification of Weather tightness Operation and Strength Characteristics.
- B Windows must meet the following ratings in respect of Exposure Category B:
 

1. Air permeability	600 PA
2. Water tightness	300 PA
3. Wind resistance	2000 PA

Double glazing max: 1/175 deflections as laid down in BS 6375 Pt. 1. 1989.
- C The performance of windows will be in accordance with:
  - BS6375 Pt. 1, BS EN 12207, BS EN 12208 and test method BS5368 Pt. 1 (1985), Pt. 4 BS EN1027 and BS EN 12211.
  - BS5466 Pt. 1 (1977) and BS7479 1991 – Hardware and fixings.
  - BS5713 – Double glazed units.
  - BS6206 – Safety glass.
  - BS6262 and BS952 – Glass and glazing standards.
  - BS6399 Part 2 – Wind pressure standards.
  - BS7412 – Reinforcement and fixing of hardware.
  - BS7413 – PVCU extruded hollow profiles – type A.
  - BS7479 – 500 hour neutral salt spray test.

BS7950 – Enhanced security performance (formerly PAS011).

BS8213 – Window safety.

- D "Secured by Design " criteria shall apply.
- E Ground floor windows and doors and those easily accessible above ground floor must be successfully have been tested to BS7950:1997
- F Ground floor windows and doors and those that are easily accessible must have key operated locks (unless designated "Egress"" in which case key locks are not permitted) and laminated glass external leaves. Toughened glass in these locations is not acceptable.
- G The structural frame assemblies and installations must be capable of withstanding and accommodating satisfactorily wind loads and pressures in accordance with the requirements of BS 6399, BS 6375 and BS 6262.
- H The window assemblies must incorporate concealed drainage dispersal methods that discharge clear of the structure.
- I All screws, nuts, bolts, rivets and other fastenings shall be of corrosion resistant or treated material, eg. austenitic stainless or ferretic steel, bi-chromate treated steel and be compatible with other metallic fixings used in the manufacture of the window, in accordance with BS 7412 and having been tested to BS EN 1670:1998 Class 4.
- J Fastenings that are protected when the window is closed may alternatively be made from steel which has been finished by one of the following methods:-
- a) Zinc plated and passivated according to BS EN 12329, BS EN 12330.
  - b) Hot dip galvanised according to the requirements of BS EN ISO 1461.
  - c) Sheradised according to the requirements of BS 4921 (1998).
  - d) Sprayed with metal coating according to BS EN ISO 2063.
- K Generally, hardware and ironmongery fittings and fixings are to penetrate at least two thicknesses of the UPVC profile and/or penetrate the reinforcement by at least 2mm. Fixing positions shall comply with BS 8213.

## 115 WINDOW MANUFACTURE

- A All joints associated with UPVC window frame and sashes are to be hot fusion welded and all shall meet the testing method in BS 2782.
- B The joints must be completely moisture resistant and not permit any penetration into the profiles either externally or internally.
- C The residue of material resulting from hot fusion welded joints are to be carefully removed and neatly routed to just below the surface leaving a uniformed recessed feature.

The overall size of the assembled frames shall be maintained within a permissible deviation of  $\pm 3$ mm. The framed assemblies shall be such that they can be installed square within a maximum difference in the diagonals of 4mm. Several measurements of both width and height should be taken and the Contractor must allow all tolerances necessary in order to take into account deviations of actual opening and expansion and contraction of the assembled units when fixed in position.

## 118 FUNCTIONAL REQUIREMENTS

- A Any multi light window in any room is to have sight lines kept to a minimum. Therefore coupling of multi light windows will not be permitted except for window/door combinations.
- B Windows are not to open outwards on to balconies or in other locations where they could present a danger to persons using access routes.
- C Where windows extend below a mid rail and the unit is glazed with glass or opaque panel, the new window is to be glazed in accordance with the existing unless a change is noted on the contract drawings or requested by the CT.

## 120 PROFILE SECTIONS

All profile sections are to be multi-chambered extruded UPVC white in colour. No reworked material must be used. The system must enable adequate drainage to be incorporated away from the central reinforcement chamber, regardless of the positioning of the profile. The raw material shall comply with the “British Plastics Window Group and Glass and Glazing Federation” Trade Standard for UPVC windows. The profiles should resist normal weathering and the colour fastness must be within BS 1006:1978 part 1.

## 125 REINFORCEMENT AND STRUCTURAL COLUMNS

- A All sections shall be reinforced in order to resist wind and operating loads and should be made from either Aluminium, Stainless Steel or Galvanised Mild Steel and shall conform with the respective “British Standards” BS 1473: 1982, Grade 6003 or 6082 (Aluminium), BS 1449:1983, Part 2, Grade 304 (Stainless Steel), BS 2989:1982, Grade 275N (Galvanised Mild Steel).
- B The reinforcement is to be fixed to the profiles at 300mm centres. The chambers accommodating reinforcement must be sealed in order to eliminate any possible ingress of moisture.
- C Note: The reinforcement shall be identical to that described in the type testing results to BS 7412 and details must be made available on detailed drawings.
- D Where windows cannot achieve the gusting requirements of this document (in accordance with type testing to BS 7412) they shall be sub-divided with columns incorporated between the divisions. These structural columns shall meet the gusting requirements specified and be expressed in Pascals.

- E In addition for any windows that are load bearing or structural, taking loads from roofs etc (i.e. bay windows), the new windows must be designed to take the same loads by means of structural members, corner posts etc that must fully and adequately transfer the loads to the structure below the window. The contractor must serve a Building Notice in respect of any structural windows and provide temporary support. Calculations proving the adequacy of the structural members must be provided.
- F Each window shall be permanently marked or labelled in an unobtrusive position that cannot be seen when the window is shut. This shall give the name or trademark of the fabricator.

#### 130 INSULATION PANELS

- A Insulation panels will be required where indicated on the Schedule of Window/Door Types and drawings.
- B Insulation panels are to comprise a phenolic foam core faced internally and externally with BSC Colorcoat Plasticol coated steel, internal colour white, external colour to be advised, both sides “Leathergrain” finish.
- C Overall panel thickness to suit PVC-U extrusion and to achieve a minimum “U” value of 0.45 w/m<sup>2</sup>K. Panel edges shall comprise square sealed edges achieved by folding one face of the steel across the edge and then folding over the other face to achieve two skins of steel which shall be pop riveted at n/e 450mm c/c. Thicker panels with rebated edges may be required to certain rooms.
- D Panels should be fixed with internal glazing beads unless otherwise indicated in which case double sided security tape (egg Rubbo tape by Ralli-Bondite Limited), shall be used when installing the panels.

For integrity in case of fire it is a requirement of the Local Authority that there is a mechanical fixing of the panel to the reinforcement within the PVC-U frame extrusion of low panels.

#### 135 POSITION OF WINDOW FURNITURE

- A Window furniture to opening lights is to be positioned so that the handle etc can be easily operated by the resident whilst standing with their feet on the floor.
- B Window furniture in kitchens and bathrooms is to be positioned on the opening light such that it can be easily reached by an average sized person leaning over sanitary and kitchen fittings ie below the centre line within the limit of the design of the window.

#### 140 GLASS AND GLAZING

- A All windows are to be glazed with clear (obscure in bathrooms/wc) 28mm double glazed sealed units and shall comply with BS 5713:1979. Specification for hermetically sealed double glazed units. The glass shall be free from bubbles, scratches and other flaws and conform to BS 952, Part 1: 1995 – Glass for Glazing

and BS 6262: 1982 Code of Practice for glazing of buildings. The glass shall be retained by suitable UPVC snap-on beads matching existing frame.

- B Toughened glass is to be used in all locations required by the Building Regulations current at the time of tender (except where 'Secured by Design' criteria apply).
- C Where 'Secured by Design' criteria apply the outer pane of glass shall be laminated. This shall apply to all windows (and doors) at ground floor level and these easily accessible above ground floor.
- D This Clause must be read in conjunction with Glazing Schedule at the end of this Specification.
- E All glazing shall be internally glazed and held securely in position and must comply with BS 6262. Provision must be allowed for drainage of any ingress of moisture, satisfactorily to the outside. Glazing gaskets may either be continuous or cut and struck in corners.
- F Note: If cut in corners mitred joints must be used. It is a requirement that suitable glazing blocks are used. Drainage caps where accessible shall be glued in position.

#### 145 GLAZING GASKETS AND WEATHER STRIPPING

- A Glazing gaskets and weather stripping materials should not have a detrimental effect on the plastic profiles. The rubber based compounds shall conform to BS 4255:1967:Part 1 "Preformed rubber gaskets for weather exclusion from buildings".

#### 150 LOCKING MECHANISMS

- A Windows to be fitted with Vector Excluder High Security Window Locking Mechanism as supplied by Securistyle Limited (or other approved equivalents).
- B To include automatic dual action enclosed, system specific, self locating Rogard Supreme Plated Seal keeps giving optimum penetration and security. With integral acuzinc bi-directional gearbox endurance tested to 50,000 cycles of operation without demonstrating any significant deterioration and deformation that would inhibit its function.
- C Bar with spun riveted adjustable mushroom headed cams to be manufactured from Ferretic Steel.

#### 155 HARDWARE AND IRONMONGERY

- A Friction hinges to be manufactured from Austenitic 304 Stainless or Ferretic Steel. When subject to 500 hours neutral salt spray test the hinge will remain functional with no significant surface pitting caused by corrosion. All to BS 7479.
- B All friction hinges should be capable of sustaining 50,000 cycles of operation without demonstrating any significant deterioration and deformation that would inhibit their function. All hinges should be approved to BS 7412 and should incorporate a riser block to all side hung installations. Friction adjustment should

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

- C Emergency Egress Windows First Floor Nominated Room. One side hung window in each property shall be fitted with the Egress Easy Clean Hinges. The easy clean facility to allow the window to slide along the track so as to be cleaned from inside the building. 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. These must be fitted to a casement big enough to provide an unobstructed opening of not less than 0.33m<sup>2</sup> with a minimum dimension vertically or horizontally of 450mm, with a threshold height of 1100mm from internal floor level, as required by the Building Regulations. All to comply with BS 5588 Part 1:1990 section 3.11.5a. This requirement can be satisfied by the use of Securistyle Defender Egress Easy Clean Hinges. Note Fixed lights can be used to obtain a threshold height of as close to 1100mm as possible.
- D All windows to be fitted with restrictor hinges to permit the windows to open to 100 mm maximum in the restricted position. On restricted hinges 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 600 Newtons to comply with BS 6375:Part 2 and BS 8213:Part1:1990. All side hung windows can be restricted by a single restrictor hinge positioned at the bottom of each casement. All to meet BS 6375:Part 2 and BBA Approval Ref:1227. This requirement can be satisfied by the use of Securistyle Defender Restrictor Hinges or equivalent.
- E All ground floor windows and any designated vulnerable windows to be fitted with the ancillary security devices as hinge protection. This device is to be of a type of "non-contact" in normal operation of the window and passivated to withstand 500 hour neutral salt and spray test. To meeting BS 7950. This requirement can be satisfied by use of Securistyle Vector Excluder.
- F The hinge manufacturers sizes and weights limitations must be strictly observed. It is the responsibility of the fabricator to ensure the correct size of hinge is chosen for the weight of each opening casement or sash. Information on the Securistyle products can be obtained from the Customer Help Desk at Securistyle Limited (tel: 01242 221200).
- G The locking mechanism is to be a Shoot Bolt Locking System operated by a single handle. Profile system specific zinc die cast alloy keeps should allow for secure night vent position. Abuse tested to 45 N with keeps blocked. Gearbox is to be sealed to stop the ingress of swarf during manufacture and use. All components to be proven fully functional after 500 hours neutral salt spray test to BS 7479. All components should be supplied under the auspices of an official licence holder of the Home Office "Secured by Design" partnership and to comply with BS 7950 accreditation. This requirement can be satisfied by the use of Securistyle Vector Shoot Bolt.

- H Operating handles to be push to release, key deadlocking, offset, white polyester powder coated with push to fit screw covers. One key is to be supplied with each handle. Egress windows to be fitted with non key locking push, to release handle.

## WINDOW TYPES

### 160 SIDE AND TOP HUNG CASEMENTS

- A The side hung casements and top hung vents shall be fitted using 2 No stainless steel projection hinges (friction stays) that allow cleaning when fully open. The locking mechanisms shall be multi-point espagnolette type. The gearing must enable the locking handle to be fitted in the lower third part of the sash and must engage into jambs, heads and cills/transoms and be coated with an anti-corrosion coating to BS 1706. The locking handle fitted to be white and provided with 2 No keys. A night vent facility shall be incorporated on both opening sashes types. All opening sashes shall conform to the requirements of BS 7590 (formerly PAS 011).

### 161 TILT AND TURN

- A The tilt and turn sashes must conform with BS 7950 in every aspect. The gearing shall be tilt before turn with night vent facility incorporated.
- B The gearing for the “tilt” and “turn” modes must not be capable of being operated simultaneously such that the opening light is pivoted on one hinge. Windows shall therefore be fitted with a switch barrier to prevent this occurring.

### 162 VERTICAL SLIDING WINDOWS

- A To have locking cam tilt catches with shoot bolts and be capable of dropping inwards for cleaning. Tilt restrictors both sides, limit stops, pole eye top sash and 2 No. handles to both top and bottom sashes. Caldwell Torso pre-tension balance with shackles fitted to either side of both sashes (heavy duty), pivot shoes to bottom of spring balances. A night vent facility is to be incorporated.

See Schedule, at the end of this specification for variations on above clause.

### 163 TOP HUNG WINDOWS

- A To have Multi-Point Shoot bolt locking arrangements which conform to BS 7950 (PAS011). The operating handle shall be lockable. A night vent facility must be incorporated.

## **SUNDRIES**

### 171 WINDOW CILLS

- A New windows and doors are to be provided with cills of sizes appropriate to maintain the projection of existing cills beyond the face of external walls.

### 172 SAFETY DEVICES



- A All windows are to be fitted with a safety restrictor device which will restrict the opening to not less than 90mm and not more than 100mm. .

173 SAFETY DEVICES AND LIMITING STAYS

- A Are to be pre-finished with an anti-corrosion coating and shall be self engaging and restrict the opening, but be secure.
- B The position of Safety Devices and Limiting Stays are not to exceed those recommended in BS 8213:Part 1, and must be securely fixed.

174 FASTENING AND FIXINGS

- A All screws, nuts, bolts, rivets and other fastening shall be of corrosion resistant material, stainless steel 300 series or other equal and approved. Where surface fixed and generally seen, screws, etc to be coloured white to match frame.

175 MASTIC SEALANTS

- A The mastic sealant for external pointing shall be Low Modulus Silicone complying with BS 5889 Type "A" and tested to BS 476:Part 22 (Fire Resistant) and must be compatible with the adjoining structure. The backing strip shall be "High Density Polyethylene Foam". Both materials are to be used in strict accordance with the manufacturer's instructions. Where recommended by the Manufacturer an appropriate primer must be used and applied in strict accordance with their instructions.
- B The depth of sealant is to be 10mm minimum to the full width of the gap with a backing strip used where necessary. The sealant must be applied in accordance with the "Manual of Good Practice in Sealant Application" published by the SMC and CIRA.

176 VENTILATORS

- A Are to provide 8000mm<sup>2</sup> per room and shall be controllable per room down to 4000mm<sup>2</sup>.
- B All ventilators must be fitted with external hoods, contain a mesh grille internally and be cord operated with appropriate stays, hooks and fitments.
- C Where gas appliances are installed, permanent vents must be installed.

180 DELIVERY See Method Statement

200 REAR/GARDEN/BALCONY OR OTHER DOORS

- A Note: This section excludes front entrance doors.

- B Each door to be capable of being operated and locked from both inside and outside with the exception of emergency escape doors which must only be locked on the inside with a thumb turn.
- C Each door is to be hung on a minimum of three heavy duty hinges with zinc die cast bodies, white polyester powder coating, nylon bushes and stainless steel security pin. External projecting hinges shall not be used unless with prior approval in which case they must be a type where it is not possible to “punch out” the hinge pin ie a security screw to prevent removal of centre pin should be included. Outward opening doors are to have concealed restrictors to limit the opening to 90°. Inward opening doors to have a door stop.
- D Handles are to be satin anodised aluminium lever handles internally and externally with satin anodised aluminium back plates.
- E Doors to have multi point locking espagnolette bolt system operated by a six lever cylinder lock to BS 7950. The doors must conform to PAS 24.

300 SURVEY

- A Window Installation/surveying shall be carried out in accordance with the Trade Standards of the Code of Practice for the Installation of White High Impact Modified UPVC windows.
- B All dimensions shall be taken including diagonals of all openings where windows etc are to be replaced. All inspections and checks shall be made as necessary to ensure that each window is purpose made for the opening it is intended to fit.
- C The perimeter gap shall be no more than the minimum required for thermal expansion, assumed to be 6mm, but the Contractor shall be responsible for stating the minimum gap required. If PVCU windows are replacing steel windows the new windows must allow for the plaster line and any DPC's. New window profiles are to have unequal legs to allow for the internal plaster or the internal plaster is to be cut back. Larger external gaps are not allowed. Where internal cills are tiled, the cill section must accommodate the cills without the need for cutting the tiles. Where there are concrete, brick or tile external cills the Contractor must advise whether a PVCU cill is required.
- D The use of “make up” pieces should be allowed for but be limited to special design situations and is not to be used as a means of standardising manufacturing Where approved, “make-up” pieces should be constructed from multi-chamber PVC-U profiles that can be cut to the appropriate dimensions and secured and sealed to the outer frame by an approved method of fixing.
- E The manufacturer of the windows is to allow for any variations and anomalies in the size of the openings and for out-of-square openings. This is to include for the manufacture of “special” windows/doors as necessary to achieve the required tolerance.

430 INSTALLATION AND FIXING

- A The windows shall be installed plumb and square without twist, racking or distortion of any member. Due allowances must be made in order to accommodate all expansion and contraction satisfactorily.
- B On bay windows approved concealed bearing support posts are to be incorporated within window assemblies.
- C Where applicable, the new window frames are to be set back from the outer face of the existing brickwork so that the existing vertical DPC is bridged. Care must be exercised to avoid fixing into it.
- D Both lug type fixings or through the frame fixings are the only two methods permitted. The actual fixings shall be a minimum of 100mm and a maximum of 250mm from corners. No fixings shall be closer than 150mm to a transom mullion centre line. Intermediate fixings shall not exceed centres greater than 600mm.
- E Note: If through the frame fixings are employed, then “Fischer” type fixings/screws must be used.
- F CFC free foamed polyurethane shall be used as a means of closing the gap between frame and aperture. Care must be exercised when inserting the foam and use of a special pressure applicator must be employed. The foam is to be trimmed back after curing has occurred. Foam must not be used as the only fixing method.

440 COVERING MOULDINGS, JAMB, HEAD AND WINDOW BOARD LININGS AND CURTAIN BATTENS

- A All cover mouldings, jamb, head and window board linings shall be in solid cellular white pvc to match the window profile. Joints are to be mitred, not butt jointed
- B All cover mouldings, jamb, head and window board linings and curtain battens are to be securely fixed by plugging and screwing at 500mm centres, the fixings are to be hidden by “hammer in” plastic caps to match colour of mouldings. Any necessary packing is to be of similar material to window frame.
- C Cover mouldings either side of jambs or head may be fixed with adhesive as recommended by the Manufacturer of the mouldings, and used in accordance with their recommendations
- D The internal window board linings are to fully cover the existing window board or tiled cill.
- E The use of silicone sealants to fix and fill gaps and joints to cover mouldings is not permitted.

470 CLEAN DOWN ON COMPLETION – See Method Statement

520 GUARANTEE

- A The windows comprising all PVC-U profiles, sections, etc, shall be guaranteed for a minimum of 10 years. A 10 year guarantee is required for the hermetic seal to the double glazed units and mastic sealants. The normal guarantees provided by the manufacturers of all other components ie ironmongery, gearing etc, will be accepted provided they are for a minimum of 12 months.

530 MAINTENANCE MANUALS

- A The contractor must provide the leaseholder with three copies of a Technical Maintenance manual which is to incorporate:
- i. a set of record drawings.
  - ii. a complete list of all components used in the windows and doors including names and addresses of the manufacturers of those components and availability of spares including merchants/retail outlets/trade suppliers.
  - iii. a detailed description of reglazing procedure.
  - iv. all other relevant information regarding cleaning, maintenance etc.

**SCHEDULE OF GLAZING**

1. All ground floor windows and windows above ground floor which are easily accessible from externally to have security glazing as follows (includes all windows required to be 'Secured by Design'):-

Outer unit - 6.4mm laminated glass  
Inner unit - 4mm toughened glass Class A Kite Marked to BS 6206  
Air gap - 18mm

2. On windows above ground floor where cill heights are less than 800mm from floor level, the glazing shall be as follows (excludes 'Secured by Design' windows):-

Outer unit - 4mm toughened glass  
Inner unit - 4mm toughened glass – both Class A Kite Marked to BS6206  
Air gap - 20mm

3. All other glazing shall be in float glass.
4. In WC's and Bathrooms the glass shall be obscure – Grade/Rating 5.
5. Doors – including zones 300mm either side:-

Outer unit	-	6.4mm laminated glass
Inner unit	-	4mm laminated glass
Air gap	-	18mm

Note: Lower panels to rear doors to be solid.

6. Glass thickness to comply with requirements of BS 6262.
7. Safety glass shall conform to BS6206:1981 where specified or required by the relevant British Standard or Building Regulations. Safety glass shall be 6.4mm laminated glass and should be marked as such.
8. Window threshold heights to be as close as possible to 1100mm from internal floor level for habitable rooms. Fixed lights may be used in order to achieve this.

#### **SCHEDULE FOR VERTICAL SLIDING WINDOW HARDWARE**

1. Tilt restrictors both sides to all sashes.
2. Locking cam catches and keep – 2 No.
3. Cam catches and keep – 2 No
4. Limit stops – 1 No
5. Pole eye top sash – 1 No
6. Provide 1 No pole with hook of adequate length to each dwelling with rubber buffer on opposite end.
7. Handles – 2 No to both top and bottom sashes.
8. Caldwell Torso pre tension balance with shackles fitted to either side of both sashes (heavy duty)
9. Pivot shoes to bottoms of balance springs.