

CLEMENT WINDOWS LTD

OPERATING & MAINTENANCE MANUAL FEBRUARY 2010

Thank you for choosing Clement Windows

The modern steel window is an extremely durable, high performance product. This performance can be enhanced if good maintenance practices are observed. Regular maintenance is essential; all parts of the glazing installation must be inspected and maintained during the lifetime of the building at regular intervals, with written records kept.

Easy to use and simple to look after

With minimal maintenance your steel windows and doors will stay looking good for years to come – a valuable, long lasting asset, giving increasing satisfaction as the years pass.

Maintenance Records

Clear and concise written records of all cleaning and maintenance schedules must be kept and maintained and be available on request. It is important to understand that this operating and maintenance manual forms an extended and integral part of the Company's Terms and Conditions. Without strict adherence to the conditions set out in this Operating and Maintenance Manual your warranty could be forfeited.

Normal Environment	Clean & check every 6 months
Marine Environment	Clean & check every 3 months
Industrial Environment	Clean & check every 3 months
Marine & Industrial Environment	Clean & check every 3 months
Swimming & Leisure Pools	Clean & check every 3 months

Operation & Control

Fittings available offer a comprehensive selection of casement handles and stays, folding openers, hinges, pivots, catches and bolts, all designed to provide the optimum in performance and flexibility. Stringent quality control procedures, combined with modern techniques, ensure that all products are of a consistently high standard. Where stay brackets and handle plates for fittings are welded to the window, a continuous silicone joint will not be achieved, this is to be expected and is not detrimental to the weather tightness and glazing.

To avoid injury it is imperative that fingers are kept clear of the opening, in particular the scissor hinges, when casement windows are closed. Some windows can be left partially open in a ventilation position where a small gap is left between the open window and frame to allow the passage of fresh air. To achieve this, open the window slightly and turn the 2 or 3 pronged handle to engage on the outer frame. Note that the window is now not as secure as if fully closed and locked.

Should fittings work loose over a period of time they can easily be tightened by generally using a screwdriver or spanner. However, do not over tighten as this may cause breakage or stripping of the thread. Note: **All fittings come with a 12 month warranty only.**

Handles - Moving parts should be periodically lubricated with light oil or similar at intervals of no greater than six months, or more frequently as site conditions dictate. Please note that the rubbing and abrasive action of the handle on the wedge plate may inevitably cause the loss of paintwork, this is not harmful to your steel window.

Peg stays - When the window is opened the peg stay should be located on the stay pin to prevent unnecessary movement of the casement and damage to the window. Moving parts (knuckle) should be periodically lubricated with light oil or similar at intervals of no greater than six months, or more frequently as site conditions dictate. If you have specified a black antique peg stay, please note that when the window is opened it will not locate on the first hole of the stay, unfortunately this is an inherent feature with this type of stay.

Dark Bronze (RTD), Dull Chrome and SAA fittings - Regularly wipe over with warm soapy water at intervals of no greater than six months.

Brass polished and lacquered fittings - Good quality wax polish should be applied at least once every two weeks. It should be noted that the life of a lacquer coating is limited and will eventually break down. Adverse conditions (industrial pollution, sea air, acid rain etc.) or repeated continual handling may cause the coating to deteriorate prematurely. Thus the life of a lacquer coating is beyond our control and cannot be guaranteed.

Antique Black Fittings - Iron in any form, whether cast or malleable, is susceptible to rusting. During the surface finishing process our suppliers endeavour to cover all areas of Antique Black Ironmongery by first dipping into a liquid paint, which is then stove dried. This is then followed by the black powder coating process, which is also cured by stoving. Obviously when two areas of metal come into contact with each other and abrasive action is enacted; sooner or later the painted surfaces are lost by the constant rubbing action. This is unavoidable during the operational activity of the article, so to prolong the good looks and keep the rusting service at bay we advise that the article is periodically wiped over with a cloth damped in light oil and where obvious abrasive areas are visible an occasional light oiling is recommended.

Hinges - These should be periodically lubricated with light oil or similar at intervals of no greater than six months, or more frequently as site conditions dictate. Please note that due to the movement of hinges, the surface paint may flake and peel; this is by no means detrimental, as long as the hinge is kept well oiled.

Brass pivot cups - A clamp screw provides friction adjustment; turn clockwise to tighten and counter-clockwise to loosen. Pivot cups should not be lubricated. Note: the powder paint finish can flake from the pivot cup with use; this is not harmful to the steel window.

Locks - In case of emergency it is imperative that keys to all doors, locks and locking handles are kept in a position recognised by all occupants of the building and adjacent to the respective door or window.

Stainless Steel Friction Hinges & Espagnolette Locking

The mechanism found on window friction hinges should be lightly lubricated as should espagnolette, and shoot-bolt locks. The tightness of all screws and fittings should also be checked annually, but care should be taken as some screws control friction adjustment on hinges. See our website for advice on adjustment if required.

Appropriate lubricants could include: -

Window locks, window and door handles and hinges	-	Light oil or similar
Friction hinge, friction stays and other sliding sections	-	A thin film of light grease
Door locks and cylinder locks	-	A graphite or PTFE based lubricant
Ventilators (where fitted), and other ancillaries	-	Keep clean and lubricate hinges with light oil as necessary

Galvanised steel frames

Galvanised steel windows, which are not factory finished with a polyester powder coating, are manufactured with clearances to allow for up to three or four coats of paint on the meeting surfaces. When the repainting programme has exceeded this, strip off all meeting surfaces back to original galvanise surface prior to repainting. All hinges, pivot cups, handles, stays and other mechanical parts should be checked for operation, kept free of excessive paint build up and lightly lubricated.

Hand applied paint finishes tend to split and flake off the frame, exposing the surface, through which moisture can penetrate. If the areas involved are small, they should be sanded down, spot primed and coated with undercoat and gloss, as per the paint manufacturers recommendations. Every 3-5 years the complete frame should be recoated. Under no circumstances must the weather-stripping or gasket be painted at any time during the life span of your steel windows or doors.

For galvanised steel frames that are not site painted or factory finished, extreme care must be taken to prevent damage to the surface that will result in rust spots. Should this occur, remedial action must be taken, the area needs to be sanded down to bare metal, galvafruid or zinc spray applied and primed, as per paint manufacturers instructions.

Cleaning of Polyester Powder Paint Finish

As with any organic coating, in order to retain the aesthetic properties, it is recommended that the coating be regularly maintained. The frequency of such cleaning will depend on many factors including:-

- Geographical location of the building.
- Surrounding environment ie. marine, swimming pool, industrial or combination.
- Levels of atmospheric pollution.
- Prevailing wind.
- Protection of building by other buildings.
- Airborne debris ie. sand, dust.

The best method of cleaning is by regular washing of the coating when it becomes soiled, using a solution of warm water and mild detergent. All surfaces should be cleaned and thoroughly rinsed with clean water, preferably using a soft cloth or sponge, but nothing harsher than a natural bristle brush.

In particularly polluted environments, or where cleaning has been neglected, heavy soiling may occur which is either difficult or impossible to remove by normal detergent solution. To overcome this problem several commercially available cleaners can be used.

The following materials have been evaluated to determine the ease of removal of heavy soiling and to note any detrimental effects to the surface of the coating.

Material	Results	Effect on Coating
Cleansing cream	Good for removing heavy deposits	Some scuff marks evident on darker shades
Cleansing liquid	Some deposits removed but heavy soiling untouched	No evidence of scuff marks

The above products were used in accordance with the manufacturer's instructions on window frames, which were heavily soiled with atmospheric dirt, mud and fungus. The effect on the coating was evaluated visually after it had been cleaned as recommended, and then rinsed with tap water.

Whatever the state of neglect, nothing harsher than white spirit should be used for cleaning and under no circumstances should abrasive cleaners or cleaning solutions containing ketones, chlorinated hydrocarbons, esters or alcohols be used. At all times a small test area should be cleaned first to test the effects. None of the above cleaning fluids should be allowed to come into contact with the gasket, mastic or glass surface of double glass sealed units. If they do, the result could be a failure of the unit.

The frequency of cleaning depends on part on the standard of appearance that is required and also the requirements to remove deposits that could, during prolonged contact with either the powder film or the metal substrate, (if exposed) cause damage.

In hazardous environments the normal frequency of recorded cleaning should be at a maximum of three monthly intervals. However where there is a high atmospheric pollution or an extremely hazardous atmosphere the period between cleaning should be reduced. If the project is subject to any hazardous unusual environmental factors, or is close to salt water, an estuary or marine environments, then a paint expert must be consulted on an individual basis prior to order.

Weatherstripping & Gaskets

Weatherstripping is attached to the frames with; i) plastic clips, ii) self-adhesive backing or iii) contact adhesive. In the unlikely event of the weatherstripping becoming loose or damaged, these can be re-secured by the owner using a locktite glue.

Weatherstripping and glazing gaskets must be kept clean and free from dirt and grime as required and as site conditions dictate. Under normal circumstances any dislodged glazing gaskets can be slid back into position. Glazing gaskets will often shrink back throughout the natural life of the window; this will not affect the window performance. In addition to the previous hazards double sided glazing tapes should not be exposed to moisture or chemicals this may cause a breakdown in the material that will adversely effect all or any surface coatings. Voids must be capped at the point of glazing.

As stated previously, under no circumstances must the weather-stripping or gasket be painted at any time during the life span of your steel windows or doors.

Ventilation

Under no circumstances must trickle vents or perm-a-vents be blocked or covered up.

Drainage Holes

Where fitted, drainage holes and slots should be inspected and kept clear and free from blockage to ensure optimum performance, especially in bad weather. Dirt and grit should be removed from door thresholds and cills of opening windows.

Wind

We do not accept any responsibility for any wind generated whistling noises that may occur on, in or around our windows, ventilators or drainage holes.

Wood Surrounds

It can be company practice to supply timber products which have been manufactured using laminates, you will not be notified of this separately. Unless agreed specifically in writing, we cannot provide guarantees on natural products like wood. If specified we will provide a preparatory surface finish to timber surrounds for you to then site paint. It is essential that the window is stored on site properly prior to installation and that painting is carried out under dry weather conditions within 3 months of the window having been made. Wood requires constant maintenance and for an appropriate programme we strongly advise you contact the British Woodworking Federation, Telephone 0870 458 6939 Fax 0870 458 6949 - 55 Tufton Street, London, SW1 3QL web:www.bwf.org.uk e-mail: bwf@bwf.org.uk

Silicone, Mastics & Putties

For systems using tape and/or silicone sealants, the need for maintenance is often signalled by splits forming down the length of glazing between the compound and the glass or frame. In these cases, remove the defective material and replace with the same product. Over a period of time silicone and mastic may discolour but this is not detrimental to the overall performance. Under no circumstances should silicones be painted.

Front putties on single glazed windows will require painting; this should be done as soon as the putty has formed a skin firm enough to accept the actions of over-coating. Apply one coat of primer within 7-14 days, two undercoats and a good quality topcoat within 28 days, following the paint manufacturers instructions at all times. Please note that putties are susceptible to bird and rodent damage for which the company cannot be held responsible. Unfortunately we are not aware of any effective deterrent on the market.

Internally applied decorator's mate should be painted over once it has skinned over and cured and no later than 7 days of application.

Glass

The manufacture of glass is an exceptionally aggressive process. As a consequence slight imperfections and blemishes cannot be avoided and are accepted as an industry standard which states:-

- 1) Transparent glass used in the manufacture of d.g. units is identical to that used in traditional single glazing and will therefore have a similar level of quality.
- 2) Both panes of the d.g. units shall be viewed from the room side, standing at a distance of 2 metres in natural daylight and not in direct sunlight. Obtrusiveness of blemishes shall be judged by looking through the glass and not at it, under normal lighting conditions. The area to be viewed is the normal vision area with the exception of a 50mm wide band around the perimeter of the unit.
- 3) Transparent glass shall be deemed acceptable if the following phenomena are neither obtuse or bunched
 - a) Totally enclosed seeds
 - b) Bubbles or blisters
 - c) Hairline or blobs
 - d) Fine scratches not more than 25mm long
 - e) Minute embedded particles
- 4) Due to the process undertaken on toughened glass, we advise that a rippling effect may be evident.

Though exacting inspection and quality control systems are in place, inherent blemishes and marks within glass used to produce d.g. units is beyond our control.

Patterned glass is manufactured in large sheets and due to the spacing of pattern repetition, centralisation and matching of design in an individual unit cannot be guaranteed. As there is no correct direction of pattern, no definitive right way up can be anticipated.

Safety standards insist on glass being marked, this marking may be obtrusive and not in any sequence or pattern.

Genuine and Simulated Leaded Lights

When cleaning simulated leaded lights, take care not to dislodge the strips during cleaning. Though bonded with a strong adhesive, excessive pressure might cause distortion or de-lamination of the lead from the glass surface.

All newly installed lead products, when exposed to the atmosphere are subject to an oxidation process and will form a naturally protective grey patina. The lead can also display various colours including blue, bronze and even green. When lead comes into contact with moisture i.e. rain water, condensation etc., at an early stage, discolouration, spotting and white powdery deposits (usually basic carbonate) can form and may "run-off". The degree to which these effects occur is governed by the environmental conditions but with longer term weathering the lead will take on its familiar grey appearance. Under no circumstances should the oxidation on the lead surface be cleaned off with wire wool or similar abrasive cleaner as this will only make the whole process start all over again. The lead will eventually complete its oxidation cycle and form its own natural patina.

G+ and Proto simulated Georgian bar units

When cleaning simulated G+ and Proto simulated Georgian bar units, take care not to dislodge the aluminium bars during cleaning. Though bonded with a strong adhesive, excessive pressure might cause distortion or de-lamination of the bar from the glass surface.

Cleaning of Glass

Use a very mild liquid detergent solution, we suggest one thimble full of mild detergent to five litres of warm water, then rinse the glass well with clean water and dry off. Do not use any abrasive cleaning products or contaminated cloths. If rainwater coming from cement mortar comes into contact with surface of the glass, then clean frequently, otherwise permanent staining may result. Under no circumstances should the frame or glass be cleaned with a pressure or jet hose, as this will cause the breakdown of sealants and gaskets and water penetration will occur.

The information contained in this document is based on data obtained from reliable sources and is believed to be correct, however no warranty is expressed or implied unless agreed specifically in writing. Glazing and fixing techniques comply with the recommendations of BS 6262:1982 and its amendments and the manufacturers of the framing sealants system.

Condensation

Condensation on all internal surfaces including windows and the damage it does to paintwork, curtains, wall coverings and window fittings are problems frequently encountered in all types of buildings. It is imperative that condensation is not allowed to build up and windows should be wiped down accordingly as and when it occurs. Each occurrence should be treated on its own merits, but in most cases keeping rooms well heated and ventilated will assist in reducing condensation. If however condensation is a problem that continues to be prevalent in your building, please contact our offices and ask for a copy of the GGF Condensation pamphlet.

External Condensation

Under particular weather conditions, dew forms on any unheated surface, in the past this effect has not happened on glass in heated buildings since the heat that escapes through the glass warms the glass up slightly as it passes through. However modern insulating units incorporating soft-coat low 'E' glass and an Argon filled cavity are sufficiently resistant to the passage of heat, thus in certain environmental conditions it is now possible for dew to form on the external face of the glass. Consequently leading to more frequent cleaning of the outside of the glass and window.

Mould Growth

In a certain environment and without proper control of the condensation the growth of mould may be evident on the silicone or painter's mate surrounding the glass or frame. This is a natural phenomenon of which Clement Windows has no control and we accordingly do not accept any liability for its occurrence. In such cases, remove the affected material and replace with the same product.

Should you have any difficulties or require assistance with your new steel windows or doors, please contact Clement Windows either by Telephone: 01428 643393, Fax: 01428 644436 or by email at info@clementwg.co.uk.