

Operation and Maintenance of Processed Glass

Glass is a hard and brittle material. However, even though hard it is susceptible to damage from a variety of causes predominately due to its brittle nature. It requires care and regular maintenance to retain its original appearance.

Glass Services process a wide range of glass types for use in a wide range of applications. The following is not fully comprehensive to all situations but is to be taken as a general guide. Preventative measures are often faster and more effective than subsequent ordinary cleaning techniques available.

Handling, Storage & Delivery

Handling and storage procedures can only be agreed on a job-by-job basis due too many variable factors in product type, size and installation type. Upon delivery, check the paperwork and labels on glass to ensure compliance with the specification. Edges and corners of glass are particularly vulnerable to damage during handling, storage and installation so pay attention to these. Also inspect any further finishes applied for excessive flaws or subsequent damage that may compromise or detract from the appearance of the glass. Check all surfaces for any signs of damage. If in doubt seek advice from Glass Services Ltd before proceeding. Glass should not be stored or stacked horizontally. Store items on edge at an angle of 3° to 6° from the vertical, with sufficient lateral support to prevent bowing, in a clean dry, ventilated place, avoiding direct sunshine and other sources of heat. This is particularly important with laminated glasses and very relevant with laminated fire glasses. Avoid excessive pressure in stacked glass from either self-weight or securing methods. This can result in local bowing of glass and possibly breakage due to excessive loadings. Damage can also be caused by the transit pads being compressed allowing the glass to touch and rub and or break. Factory applied protection such as pads or surface protection film should not be removed until the glass is ready for installation. It should be noted that some surface protection films/labels become difficult to remove after prolonged periods of application in sunlight. Films should be checked on a regular basis to ensure they will release without issue. Do not store glass in a situation where moisture or condensation can sit between panes of stacked glass. Separate immediately and dry thoroughly, otherwise permanent staining may result. If water remains in contact with the glass for an extended period, it can form a concentrated alkaline solution and will attack the glass surface causing permanent damage and in extreme cases even "welding" the sheets together. Carefully inspect all glass before installation.

Installation

Installation should be carried out by qualified persons with relevant experience. Due to the wide range of applications and installation requirements it's not possible to state on an individual basis. For advice on any specific job please contact us. Noted below are some basic points to consider on certain glass types.

Silvered Float (Mirror)

- If being bonded to a substrate only use a mirror mastic.
- Mastics should be applied as per manufacturers recommendations to permit a safe installation.
- Substrates being bonded to should be dry, firm and of neutral PH

- For best performance mirror backings should not be subjected to sustained periods of moisture.
- Polypropylene safety backings should not be bonded to. They are coated with release agents and so potentially can cause fixing failure and potential injury.
- Edges should not be fitted in contact with hard or metallic surfaces where compressive forces or impact will result in damage or breakage.
- Holes and cut-outs should not be placed where they pose a structural weakness in the glass.

Splashbacks

- If being bonded to a substrate only use a mirror mastic or low-modulus neutral curing silicone
- Mastics and silicones should be applied as per manufacturers recommendations to permit a safe installation.
- Substrates being bonded to should be dry, firm and of neutral PH
- For best performance the painted surface should not be subjected to sustained periods of moisture or excessive heat. The paint is capable of sustained temperatures in excess of 125C.
- Consideration should be given as to when toughened glass is required. (i.e. around hobs and sockets)
- Allowances should be made on long runs for movement in any substrate/building which could in-turn then damage the glass

Toughened and Laminated Glass

- Generally, should be fixed or placed with no contact to hard materials or point loadings that can cause damage to glass edges or surface.
- Toughened glass must not be re-worked.
- Any damage caused during installation should be checked by an expert as it may result in total failure.
- Hole fixings and clamps should always have a nylon or rubber separation between metal and glass.
- Toughened should not be fixed in a state where it is under excessive and sustained stress.
- Toughened glass should not be subjected to sustained temperatures in excess of 275C.

Fire Glass

This is a specialized product and expert advice should be sort before ordering and installation. Please contact us. Some common points are.

- Glass must be fitted into frames that meet Certifire standards or have individual test evidence.
- Certifire or tested glazing materials must be used to achieve a compliant install
- Maximum areas/sizes for materials must be considered
- Internal and external fitting must be considered.
- External fire glass only has one UV filtered face. This face must face the sunlight.
- Externally glazed items should be glazed in dry rebates at all times. Rebates should never be allowed to become wet.
- Fire glass must not be stored in direct sunlight and must be stored fully supported without bending.

- Fire glass must be stored and installed in dry conditions. The laminations of fire glass are generally water soluble.
- Any protective foil edge taping should not be removed or damaged. It is not intended to be a water-tight barrier. It is designed to protect against exposure to airborne moisture prior to installation.
- Glass must not be cut or re-worked once it has left the factory.

Cleaning

Cleaning should start by thoroughly soaking the glass with clean water and soap solution to loosen dirt or debris. Using mild, non-abrasive commercial glass washing solution, uniformly apply the solution to the glass surfaces by spraying, clean grit-free cloth or grit-free sponge. Using a circular motion and light to medium pressure, wipe the cleaning solution on the glass. Rinse the glass immediately with generous amounts of clean water making sure to remove all the cleaning solution. In cases where fire glass is being cleaned, extra care should be taken not to allow water to enter rebates and to come into contact with glass edge. Use a clean lint-free cloth or a squeegee to dry the glass surface. Care should be taken to ensure that no metal parts of the cleaning equipment make contact with the glass surface and that no abrasive particles are trapped between the glass and cleaning materials. All water and cleaning solution residue should be dried from surrounding areas and surfaces so as to avoid any potential deterioration of these materials or glass. If residues are still present on the glass the steps above should be repeated. Abrasive cleaners, powder based cleaners, scouring pads or other harsh materials should not be used to clean the glass or frame surrounds. Excess glazing compounds and sealants should be carefully removed from the glass taking care not to scratch the finished surfaces with tools or abrasives. Avoid scraping the glass with metal scrapers or blades. A solvent such as white spirit or professional glass cleaner may be used to remove any glazing compound, finger marks or grease taking care not to allow contact with glazing seals, gaskets or any paint finishes. The glass can then be cleaned following the procedure above. When paint or other construction materials cannot be removed by standard cleaning procedures, a new 25mm razor blade may be used on non-surface treated or non-coated glass surfaces. Alternatively prior to this some 0000 grade steel wool can be used to remove stubborn debris. Blading should be used only on small spots and scraping carried out in one direction only. Note that this practice can cause a concentration of small hairline scratches that may be visible under certain lighting conditions and is best carried out by a professional.

Weld Spatter

This causes a rough and pitted surface on glass. Any glass that has been damaged by weld spatter should be replaced, as the strength of the glass will have been unpredictably reduced. Temporary screens should be installed if welding, sandblasting or other potentially damaging construction process is being carried out near the glass.

Regular Maintenance

The regular routine cleaning of the glass following the standard cleaning procedure detailed above will help to preserve the original appearance and performance characteristics.