

## Cleaning & Maintenance Advice –

Low emissivity (Low E) Coated Glass – Clear, Toned and Super Toned.

*Viridian SmartGlass™*

*Viridian EnergyTech™*

*Viridian SolTech™*

*Viridian EVantage™*

*Viridian EnviroShield Performance™*

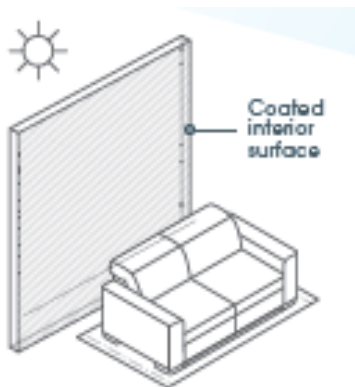
*Viridian ComfortPlus™*

*Viridian ComfortHush™*

*Viridian AssaultGuard Ultra™*

### Cleaning of Glass

This information is offered as general information only. Specific advice on the cleaning of glass should always be sought from a reputable glazier or professional window cleaner before any glass cleaning is undertaken.



Low E coated glass has a very thin metal coating on the interior glass surface. This hard and durable coating gives the product its improved thermal insulation and solar control performance compared to ordinary clear glass. The coated surface of the glass does clean differently to ordinary glass and these guidelines are recommended for the most appropriate hand cleaning results.



## Routine Cleaning

Hand cleaning of the coated (interior) surface, to visibly remove accumulated dust or fingerprints, can be accomplished using a number of different glass cleaning products. The exterior surface of the glass is not coated so can be cleaned in the same fashion as ordinary glass.

### PROCEDURE:

- While cleaning ensure jewellery and watches are removed and gloves should be worn to avoid scratching the surface of the glass. Scratches that occur from foreign objects will be permanent and are not repairable.
- Flood the glass surface with the spray-on cleaning solution or with a cloth saturated with the cleaning solution. Be generous with the amount of solution applied.
- Scrub the wetted surface with a clean, lint free towel or cloth.
- Wipe to dry with a clean, lint free towel or cloth. The use of a squeegee is not recommended and could increase the risk of damage to glass and as such should be avoided if possible. Do not use a squeegee on the coated (interior) surface of the glass.
- To prevent streaking, stop wiping when the glass is almost dry and there is a uniform residue of moisture left on the glass surface. The residue will quickly evaporate leaving a clean surface.

### RECOMMENDED PRODUCTS:

- **Windex® Multi-Surface Cleaner** (colourless liquid) (Australia) or **Mr Muscle® Surface and Glass** (New Zealand) (clear liquid available from Supermarkets), produced by SC Johnson & Son Pty Ltd;

\*Other **Windex®** branded varieties may be used but may lead to problematic streaking of the glass.

Or

- **A mixture of one-part vinegar with ten parts water.**

*In addition to the above products, commercially available vinegar-based glass cleaners have generally demonstrated an ability to provide a clean, streak free glass surface. Viridian does not recommend the use of ammonia-base and alcohol-base glass cleaners because these products tend to leave visible streaks.*



## Spot Cleaning

Occasionally spot cleaning may be required to remove stubborn dirt or foreign materials which adhere to the surface. Spot cleaning products work to remove markings from grease, oil, tape adhesive, and crayons or other waxy materials as well as paint and rub-off marks from plastics.

### PROCEDURE:

- While cleaning ensure jewellery and watches are removed and gloves should be worn to avoid scratching the surface of the glass. Scratches that occur from foreign objects will be permanent and are not repairable.
- Apply a small quantity of the cleaner listed above to a clean, wet cloth or towel.
- Rub on areas of glass needing spot cleaning.
- Wipe clean using a dry, clean, lint free towel or cloth followed by a routine cleaning procedure.

### RECOMMENDED PRODUCTS:

- **Methylated Spirits** (solvent available from supermarkets and hardware stores) Please use strictly in accordance with manufacturer's recommendations and warnings.



## Specialised Cleaning

Do not use razor blades, steel wool, scouring bristles or other metallic or abrasive objects on the coated surface. If metallic objects contact the coated surface, a thin layer of metal removed from the object may be deposited onto the surface which results in a discoloured stain which is difficult to remove using routine cleaning procedures.

### PROCEDURE:

- While cleaning ensure jewellery and watches are removed and gloves should be worn to avoid scratching the surface of the glass. Scratches that occur from foreign objects will be permanent and are not repairable.
- Carefully follow the chemical manufacturers' use and safety instructions. If there are none, pick a brand that has instructions and safety precautions or contact the manufacturer before use or application.

- Apply a small quantity of the specialised cleaning product listed above to a wet, clean cloth or towel. (A cotton bud may be used for thin line type marks) - use only the areas of glass needing cleaning.
- Wipe clean using a dry, clean, lint free towel or cloth followed by a routine cleaning procedure.
- Ensure that the cleaner does not come into contact with framing materials.

#### RECOMMENDED PRODUCTS:

- **Hydrochloric Acid** (available from hardware store).

Before using Hydrochloric acid on the glass ensure that the glass has been cleaned with clean water and a lint free towel or cloth to ensure all loose debris has been removed. Refer to the manufacturer's handling instructions and trial in an inconspicuous location first, after cleaning the glass ensure that the area has been cleaned neutralise the area with clean water and a lint free cloth or towel. **Warning** - Ensure surrounding materials are protected from Hydrochloric Acid spills, if the acid spills on frames, sill, floors and other materials or unprotected skin please follow manufacturer's safety instructions immediately.

#### TOUGHENED GLASS

The cleaning of toughened glass requires special consideration. The glass surface on the opposite side to the Safety Compliance Stamp may, as a consequence of the manufacturing process, have what's called 'pickup' on the surface. 'Pickup' is a deposit of very small particles of glass which are fused on the glass surface. It important during the cleaning of toughened glass not dislodge these particles, otherwise scratching of the glass surface may result.

Blades or scrapers have been known to dislodge 'pickup' from the glass surface, permanently damaging the surface of the glass. The use of a soft cleaning cloth is only recommended on toughened glass as to not dislodge 'pickup'. It is suggested that professional cleaners consult with their suppliers as to the suitability of available cleaning equipment, materials and methods before attempting to clean toughened glass.

**Warning:** - Viridian **does not** warrant damage caused by razor blades or metal scrapers.

#### OTHER CONSIDERATIONS & IMPORTANT NOTES:

- Do not use cleaners which contain **Hydrofluoric** or **Phosphoric acid** as they are corrosive to the glass surface.
- Do not clean the glass when the glass is hot or in direct sunlight.

- Do not allow cleaning solutions to contact the edges of laminated glass, Insulating Glass Units or Mirrors.
- Do not store or place other material in contact with the glass. (This can damage the glass or create a heat trap leading to thermal breakage).
- Abrasive cleaners, powder based cleaners, scouring pads or other harsh materials should not be used to clean windows or other glass products.
- Avoid causing extreme temperature changes to the glass as this may lead to thermal fracture of the glass, i.e. do not splash hot water on cold glass or freezing water on hot glass.
- Some tapes or adhesives can stain or damage glass surfaces. Avoid using such materials unless they are known to be easily removed.
- In areas where glass is exposure to sea salt spray we recommend higher levels of regular cleaning, particularly where the internal glass surface (low e coating) is exposed to indirect sea salt spray.

#### Paint Damage:-

Do not remove paint spots using a sharp razor blade or metal scrapers. The use of these items will cause damage to the glass. As an alternative, investigate solvents or graffiti removal materials, ensuring that they will not damage the glass.

**Warning:** - Viridian **does not** warrant damage caused by razor blades or metal scrapers.

#### What to do if glass breakage occurs?

If glass is damaged or broken ensure that experienced glaziers are engaged to rectify the situation. Glass can be a safety hazard if not handled properly. – **Do Not Attempt** to remove or replace broken glass unless you are experienced in doing so, broken glass can be extremely dangerous and cause serious injuries or death.

#### PROFESSIONAL CLEANERS

Professional glass cleaners have significant experience and access to specialised equipment, materials and methods which the general public may not. Professional glass cleaners are acknowledged experts in the cleaning of glass, Viridian offers this information as general advice only. Professional glass cleaners should consider the following information as part of the development of their own cleaning processes and procedures if desired.

## RECOMMENDATIONS DURING CONSTRUCTION

- Always follow manufacturer's installation and cleaning instructions.
- It's recommended that glass be protected from the risk of contamination caused by building materials and other exposure risks during construction, this will greatly simplify the glass cleaning task at the end of the project. If the glass cannot be protected during construction then the glass and frames should be cleaned frequently to ensure no permanent damage occurs.
- Construction dust, leachate from concrete and rusting from steel can contribute to the formation of mild chemical reactions; this may stain or otherwise damage the surface of glass, voiding warranties.
- Glass should be cleaned using only cleaning materials which are free of grit and debris (to avoid scratching and marking of the glass surface).
- Only detergents and cleaning solutions which are recommended for cleaning glass should be used. Mild detergents or organic cleaners without sulphates are preferable.
- Temporary screens must be installed if welding, sandblasting, floor sanding, cuffing or other potentially damaging construction practices takes place near the glass.
- Glass installations which are adjacent to concrete (e.g. concrete slab floors) require extra care and cleaning due to the abrasive nature of concrete dust.
- All tradespeople should be advised to be aware of damaging glass and windows and to leave in place any materials protecting the window or glass during the construction period.

## ABOUT THIS ADVICE

This information is offered as a general guide only and specific advice should always be sought from a reputable glazier or professional window cleaner before undertaking any cleaning. This guidance does not preclude the use of other methods, materials or equipment; however the user should undertake careful evaluation and make suitable enquiries of the suitability of alternative methods, materials or equipment, before using them. Viridian has taken all reasonable care in producing this document, however Viridian makes no representations or warranties, express or implied, as to the accuracy, reliability or completeness of, and disclaims all liability, direct or indirect (and whether or not arising out of the negligence, default or lack of care of Viridian for any loss or damage (whether foreseeable or not) suffered by the recipient or any other person arising out of, or in connection with, any use or reliance by any of them on this document. Liability which cannot legally be excluded is limited to the maximum extent possible.

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