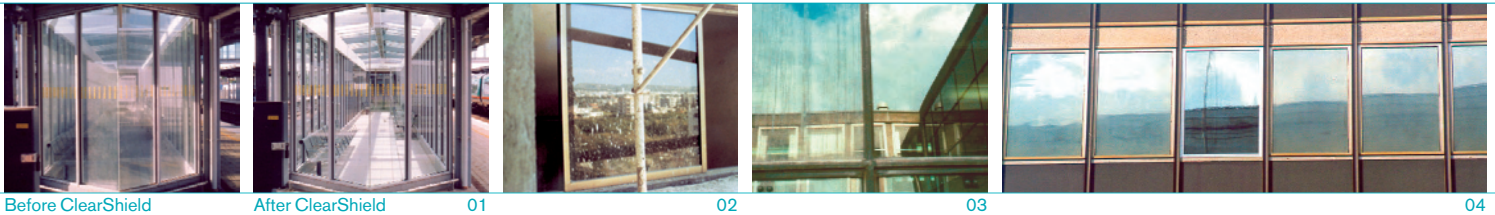


The ClearShield System Glass Renovation & Protection

The ideal solution when ordinary glass cleaning is no longer effective.

Ritec offers a unique and specialist service for the renovation, protection and maintenance of glass.



Glass renovation brings glass back to its 'as-new' appearance.

The award-winning ClearShield System renovates glass to its original quality and appearance and converts it to Low-M (Low- Maintenance) Glass®, which is always easier to clean and looks like new for longer.

With over 25 years of track records, we guarantee you will be satisfied with the results and the following problems can be avoided:

New build and refurbishment

- delayed certification on glazing handover
- costly replacement to upgrade glazing during refurbishment
- remedial work for chemical attack caused during construction
- unsatisfactory final clean or call-backs.

Operational Maintenance

- difficult to reach glazing
- deployment and maintenance of access equipment
- unsatisfactory window washing – persistent deposits and staining
- glass quickly becomes dirty after cleaning
- dissatisfied owners and occupiers.

The build-up of contaminants causes many problems and will chemically attack the surface of unprotected glass, sometimes irreversibly.

The ClearShield System removes contamination – both organic and inorganic – from the glass surface when regular cleaning is no longer effective **01**. When all else fails, renovation is the ideal solution for exterior and interior glass surfaces that have been heavily contaminated and stained. There are a number of situations where contaminants can attack glass, creating different problems:

Glass contamination during construction

Splatter from concrete, plaster and mortar, cement dust and other construction materials stain unprotected glass and are difficult or even impossible to remove **02**. Glass replacement may be the only option but is costly in terms of both time and money.

Glass contamination from the environment

Once glass is installed, typical contaminants such as concrete and silicone sealant run-off **03**, hydrocarbon pollution **04**, traffic fumes, tree sap and bird droppings can attack the surface, leaving an unattractive appearance.

Interior glass contamination

Greasy, dirty deposits such as fingermarks **05**, nicotine, bacteria and cooking vapours are unsightly, unhygienic and difficult to remove. Moisture vapour, hard water deposits and chlorine combine to etch the glass in environments such as shower enclosures, swimming pools and leisure facilities.

The solution to all of the above is renovation carried out by Ritec's specialist application teams.

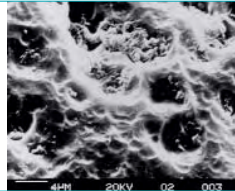
Renovation effectively removes contaminants that have not yet etched the glass during the corrosion process. Even the toughest contamination – for example from harsh marine environments – can be removed successfully. The surface is restored to a pristine 'as-new' condition for enhanced clarity and a cleaner appearance.



Unprotected glass



Protected by ClearShield



05 06 07

- 01 Luton Parkway Station platform
- 02 Contamination during construction
- 03 Silicone run-off
- 04 Hydrocarbon pollution
- 05 Sandblasted glass
- 06 Second Bangkok Airport – protected during construction
- 07 The surface of glass is not smooth

Glass protection retains the 'as-new' appearance of glass.

Immediately after renovation, the glass surface is sealed and protected by ClearShield. Working like 'non-stick' cookware, ClearShield gives glass low-maintenance (Low-M) properties. ClearShield protected glass looks newer for longer, reduces maintenance costs and increases satisfaction.

- For all exterior and interior glass, including sandblasted glass, ClearShield:
- resists staining and discolouration
 - is always easier to clean and keep clean
 - typically halves frequency of cleaning.

In addition:

- treated sandblasted glass resembles the satin appearance of acid-etched glass for a higher quality appearance
- protected glass will not return to a heavily contaminated or stained condition again provided simple maintenance procedures are followed
- the performance of glass treated with ClearShield is guaranteed
- by taking the initiative and specifying ClearShield protection before glass becomes contaminated, the renovation process is avoided altogether.

How it works
The surface of glass is not smooth and consists of microscopic peaks and potholes. Organic and inorganic contaminants fill these potholes and some react chemically with the glass, firmly bonding to the surface. Because of this, cleaning glass becomes more difficult.

When applied to ordinary glass, ClearShield cross-links to form a strong chemical bond that gives the glass both high performance and durability. ClearShield is completely transparent, chemically inert, non-hazardous and UV stable. Unlike a coating, ClearShield is a polymeric resin and becomes part of the glass so will not peel, flake or crack.

ClearShield prevents contaminants from bonding onto the surface and limits further damage caused by corrosion and chemical attack. ClearShield-protected glass performs like new for life by following a recommended simple and economic after-care programme.

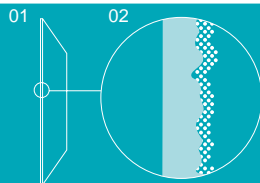
Application of the ClearShield System
With over 25 years experience, Ritec's trained applicators can treat any glass on any scale.

The ClearShield System is effective for onsite applications and can be also applied in the factory prior to installation if required to minimise surface damage during construction.

Glass Maintenance
Typically, ClearShield reduces the frequency of cleaning by half. Just like 'non-stick' cookware, the maintenance of ClearShield-protected glass does not require harsh and abrasive cleaning chemicals or methods.

When applied to ordinary glass, ClearShield cross-links to form a strong chemical bond that gives the glass high performance and durability. ClearShield is not a coating so will not peel, flake or crack.

- 01 Glass surface
- 02 Magnification of ClearShield treated glass surface.



Distributed by

ClearShield is versatile and has been applied on interior or exterior glass on a range of buildings, either onsite or in the factory.



09



10



11

09 Lloyd's of London
10 B&Q Great Yarmouth
11 Jury's Inn Heathrow

ClearShield in use

Onsite ClearShield System applications include glass on houses, shops, offices, hospitals, restaurants, hotels, theme parks, railway stations, airports and ships. Below is a small selection of completed projects in the UK, (a list of references is available on request).

Lloyd's of London Building 09

The owners of the Lloyd's Building found that paint on the frame around the atrium was shedding and plating onto the glass and was beginning to adhere to the surface. This made cleaning extremely difficult. The glass was successfully converted to Low-M Glass. Today, the paint still flakes but thanks to ClearShield is easily wiped off and conventional cleaning methods are still sufficient to maintain the glass.

“We are very impressed with the ClearShield System, it has been extremely beneficial to our facilities management operation and we intend to carry on with the aftercare regime.”

The Assistant Manager to Lloyd's Building Facilities Manager

B&Q Great Yarmouth 10

CAP Aluminium Systems was awarded a contract to supply and install curtain walling and automatic sliding doors for the new B&Q store at the Pasteur Retail Park in Great Yarmouth. Onsite ClearShield treatment was specified prior to the store's opening, so Ritec UK Applicators travelled to the store to carry out the work.

“Applying ClearShield to glass ensures it keeps its pristine state and that creates a better environment for shoppers as well as saving the retailer money as the glass needs to be cleaned less often. Everybody benefits.”

CAP's Design & Business Development Director

Jury's Inn Heathrow 11

Guests staying at the new Jury's Inn Hotel in Heathrow have a clearer view thanks to the ClearShield System. When there was a problem with the glass during the building's construction, the main contractor invited Ritec to provide a demonstration. Impressed with the result, the contractor ordered treatment for most of the building's glass, not just those stained during construction. This saved the contractor time and money as the glass did not have to be replaced.

“The ClearShield System comes into its own when contractors face problem glass during construction. Not only does it renovate glass already contaminated, all glass can be protected for an easier clean-down and reduces the risk of costly delays.”