



Glass Defender®

The Architectural Glass Protective Series

Presto's Glass Defender Series provides invisible coatings for glass that protect the surface from a wide variety of damaging elements. In addition, Glass Defender coatings help to resist scratching on glass surfaces.

Description

These products prevent the development of stains caused by minerals including silicates, magnesium, calcium, lime, rust and salts. These protective coatings will also keep water from penetrating the glass surface and help to prevent damage caused by ion exchange, oxidation, water erosion, etching and stage 1 and 2 corrosion. They also help protect against environmental damage, including high mineral content tap or well water, exhaust fumes, chemicals, acid rain, ice, everyday grime and buildup, and mineral dust in the air. When water comes into contact with surfaces treated with this series, it beads and runs down the glass, partially cleaning the surface. This helps to keep windows cleaner for longer and presents the opportunity for pure deionized water cleaning. The materials in the Glass Defender Series are extremely durable and can withstand high levels of UV rays and temperatures between -50°F and 500°F.

For water based protection lasting 3 to 5 years use **Glass Defender WB**. To protect glass for 5-10 years, use **Glass Defender® MD**. To protect glass for 10-20 years, use **Glass Defender® HD**. To ensure the life of Glass Defender HD or MD protection reaches its full potential, use **Glass Defender® Primer** first.

REVOLUTIONIZING THE BUILDING MAINTENANCE INDUSTRY

Specifications

Advantages

- Specifically designed for architectural glass surfaces
- Protects glass from stage 1 and 2 corrosion, stains and water erosion
- Helps reduce scratches
- Provides the longest lasting glass protection available
- Excellent beading capabilities

- Invisible protection
- Allows windows to be cleaned using only deionized water
- Inorganic polymers resist aging
- Won't fade, crack or peel
- WB is a water based formula
- Helps to prevent costly restoration

Intended Use

The Glass Defender Series is designed for all glass plate or tempered glass surfaces. These products are not suitable for use in areas where food may come in contact with the protected glass.



Coverage Rates

1,500 sq. ft. per quart

Explanation

Seen microscopically, the surface of glass is extremely porous and contains many valleys in which stains form deep roots in the glass surface. The Glass Defender Series fills in these crevices creating a smooth, protected, plastic-like surface. The series reacts with minerals in the glass to form a polymeric barrier against environmental contaminants.

Glass Defender HD

(Heavy Duty) is a proprietary blend of high-performance silicone nano polymers. It provides a coating that helps to protect glass surfaces for 10 to 20 years against a variety of environmental stains.

Glass Defender MD

(Medium Duty) is a proprietary blend of high-performance silicone nano polymers. It provides a coating that helps to protect glass surfaces for 5 to 10 years against a variety of environmental stains.

Glass Defender Primer

is an application that extends the performance life of Glass Defender MD from 5 to 10 years and Glass Defender HD from 10 to 20 years. Applying this product first is optional.

Glass Defender WB

(Water Based) is a proprietary blend of high-performance water based silicone nano polymers. It provides a coating that helps to protect glass surfaces for 3 to 5 years

against a variety of environmental stains.

Necessary Equipment

- Gloves and goggles
- Microfiber towels
- Application sponge
- Window cleaning bucket
- Clean, dry window cleaning brush or squeegee

Surface Preparation

Protection performance warranties are contingent upon using either Presto's **EnviroRestore® Glass Stain Remover** or **Glass ReSurfacer® Final Polish** to prepare the glass surface immediately prior to the application of Glass Defender products. Remove all dirt from the surface. The level of protection will be sacrificed if all contaminants are not removed prior to use. Be sure to polish the glass surface with a rag to remove all restoration product residues. Do not use detergents containing surfactants on the glass between the restoration and the application of Glass Defender products. Apply the product immediately after the glass restoration process has been completed.

Application

Use protective gear, and prevent personal contact with these products. Do not apply this material to glass when surface temperatures are above 122°F or below freezing. Never apply this product with an applicator that has been used with other products or solutions, and especially not with soap or water. The surface must be dry and clean from all debris.

Shake and mix product vigorously. Apply Glass Defender products with a spray bottle or sponge. Use the sponge to thoroughly work the product into the surface of the glass. Spread product in a circular, over-lapping motion to ensure product coats entire surface. For best results, thoroughly work the product into the surface so that it forms a cloudy film. Polish the surface with a microfiber towel to remove excess residue. A multi-step fold process should be used for best results. Fold the towel into squares using a clean area of the rag every couple of minutes until excess material has been removed. Leave as much residue as possible while achieving the desired level of clarity. Material residue may not be seen on the glass unless viewed in direct sunlight. Never attempt to clean the residue with water or any type of cleaning solution for a period of 72 hours or in 50% humidity.

If a second coat is required, or if using a primer first, The second application should be performed with a clean and dry window cleaning brush and squeegee. Use the window cleaning brush to apply the product. Before the material dries on the glass, a dry window cleaning squeegee can be used to remove excess material. If the material starts to dry, add more product to loosen the dry material for easy removal with the squeegee. This application may eliminate the need for polishing the window. Clean excess residue from edges and frames with a rag. When using a squeegee to remove product,



carefully capture excess material with the product applicator. This technique should only be attempted by an experienced window cleaning professional with advanced squeegee skills. Also, this process is only suitable for the second application. Perform subsequent applications immediately after the first. If area is not completely covered, untreated areas may be noticeable as the glass ages and stains develop there.

The product will start to cure within 1 hour. The protective coating will not fully cure for 72 hours. No liquids may come into contact with the glass during that time.

Any wet rags that are laden with material may be flammable. Special precautions should be taken to protect these items from exposure to an ignition source.

Recommendations

For maintaining the glass after using the Glass Defender Series, use **Scumfrees® Professional Window Cleaning Concentrate**. This is specially formulated for cleaning architectural glass without leaving an oily residue behind, which attracts and glues a variety of environmental contaminants to all building surfaces causing stains. Scumfrees dries to a powder and is free from ammonia and other harsh chemicals which can damage protective coatings on glass, metal and stone surfaces.

Warranties

The information provided by Presto for the safe and effective use of this product, and all of our products, is believed to be good and accurate. However, due to the many different possible applications of this product, careful considerations should be made when selecting its suitability for each surface.

The information provided should never be substituted for individual testing to ensure the product's compatibility with each surface intended for use. The purchaser shall assume all responsibility for determining the suitability of this product. When used as intended, this product will perform as stated.

Glass Defender HD: 10 to 20 years depending on the use of Glass Defender Primer

Glass Defender MD: 5 to 10 years depending on the use of Glass Defender Primer

Glass Defender WB: 3 to 5 years

Glass Defender Primer:

Protection up to 10 years with MD and up to 20 years with HD

The performance warranties of this series are dependent on three factors:

- Combination of products selected
 - Strict adherence to the application instructions
 - Exposure to damaging environmental conditions
- In normal conditions, these products will last as stated. In situations where the products are exposed to excessive UV rays, constant exposure to water or harsh chemical

applications, reapplication may be needed more frequently. The length of time for which the surface will remain protected is directly related to its amount of exposure to damaging elements. It is the responsibility of the purchaser and/or the purchaser's exterior maintenance service provider, to monitor protected surfaces and determine the necessity of reapplication. It should also be considered that the glass on different sides of a building will age differently due to sunlight exposure. Typically, the coating on the north side of a building will last longer than the same coating on the south side of the building and require reapplication less frequently.

This warranty states that when this product is used in accordance with the application instructions set forth in this document, and not exposed to conditions outside of the documented Environmental Conditions Form filled out prior to purchase, and provided no harsh chemicals or abrasives have been used to damage or abrade the protective coating, the glass surface will be protected from previously identified stains that cannot be removed with standard cleaning procedures for a period of 5 to 20 years.

Length of warranty is to be determined by Presto after examination of the Environmental Conditions Form. Warranty information must be filled out at the time of purchase clearly documenting the conditions and environment in which the protection will be warranted. Warranty



will be issued by Presto in writing. In the event this product is found to be defective, we will replace a sufficient amount of product to retreat the warranted area. No other liability is implied and no other warranty can be made for this product, verbally or written.

| Series Info Chart | |
|--------------------------|-------------|
| Water Based | No (WB yes) |
| Combustible | Yes (WB no) |
| User Friendly | Yes |
| Economically Efficient | Yes |
| Environmentally Friendly | Yes |
| Color | Clear |
| Smell | Unique |

Green Synergy Product

Presto's Green Synergy Products™ work synergistically with each other to protect all surfaces of a building without damaging Presto's protective coatings present on those surfaces. These products are designed to be the longest lasting protection available for preserving the appearance of buildings.

Green Synergy Products are designed so that they will not easily break down and leach degrading materials onto adjacent surfaces.

Green Synergy Products work to save you money. Listed on our website is a 10-year Return on Investment graph that depicts the long-term cost savings associated with using Presto's Green Synergy Products compared to

competitive options that utilize older technology. More information can be found at www.IsYourBuildingGreen.com

About Presto

Presto Restoration Products was created to implement higher performing technology, safer practices and products that provide a better return on investment to the building restoration and maintenance industry. Our expertise is researching and developing products and techniques to restore and preserve the magnificence of high-rise buildings built with architectural glass, metal and stone surfaces.

Presto strives to design products that comply with the Green Building Standards Act, which promotes better environmental standards for the construction, rehabilitation and maintenance of buildings:

- Improve energy efficiency and increase generation of energy through renewable and clean energy technologies
- Increase the demand for environmentally preferable building materials, finishes and furnishings
- Improve the environment by decreasing the discharge of pollutants from buildings
- Create industry and public awareness of new technologies that can improve the quality of life for building occupants
- Improve the health and productivity of building occupants by meeting advanced criteria for indoor environmental quality

At Presto, we have mastered the art of balancing quality and

compliance through our dedication to Building Product Synergy™ for a safer, greener environment.

Presto continues to perform extensive research, development and testing on various methods of commercial exterior restoration and preservation.

| Product Availability |
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| Glass Defender Series products are available in the following sizes: |
| 1 Quart Bottle |
| 12-Quart Case |
| Other Items: |
| Glass ReSurfacer Final Polish |
| EnviRestore GSR |
| Microfiber Towels |



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