



**OUR SCIENCE – INVISIBLE “NON-STICK” COATING –  
MAKES “EASY CLEAN” KITCHENS & BATHS**

Imagine...now you can turn ordinary, hard to clean surfaces into non-stick, easy clean surfaces ...you can prevent the adhesion and build-up of calcium, mineral deposits, rust, lime scale and soap scum for easier next-time cleaning.

How? With The INVISIBLE SHIELD® Surface Coating for showers, tubs, sinks, counters, tile and glass. Just spray it on and polish it in, and you will make all glass, porcelain and ceramic surfaces incredibly water, soil and stain repellent. Each treatment lasts for months, ends scraping and scrubbing, and keeps your kitchens and baths like new.

If you value the ease of cleaning non-stick pots and pans, you'll cherish the properties, applications and benefits of INVISIBLE SHIELD®.

Most showers, tubs, sinks, counters, tile and glass are soiled or stained by calcium, mineral deposits, rust, limescale and soap scum as spills and splatters of water, food and drinks evaporate. Before protecting your kitchen and bathroom surfaces, they must be deep-cleaned once and for all...before sealing and protecting these surfaces against further accumulations.

Unelko offers two remarkably effective cleaners; both of which are non-toxic, biodegradable, and free of phosphates, mineral acids or harmful alkalis: One is a liquid, named Limescale Remover. The other is a cream, named Miracle Scrub® Cleanser.

Together, with the INVISIBLE SHIELD®, they comprise the "Easy Clean" System to keep kitchens & baths sparkling, looking like new!



## THE INVISIBLE SHIELD®.....for GLASS

Being absolutely essential for light transmission and visibility, there is no other manufactured material more widely used in construction, transportation, communication, science and packaging than glass! Amongst the most important attributes of glass are its transparency, uniformity, hardness and durability. Yet, whatever its form or composition, the natural surface of most glass is hydrophilic, non-conductive and microscopically irregular. Thus, it attracts and holds moisture and water-borne soil on its surface; it permits static electrical charges generated by friction to remain on the surface and attract dust and dirt; and allows the microscopic pores to trap a myriad of reactive chemicals, particulate matter and atmospheric contaminants that lead, ultimately, to erosion, weathering and staining.

For all of its many advantages and contributes, glass remains an inherently high maintenance material; requiring frequent cleaning to maintain its clarity, functionality and appearance. Unfortunately, the level and adhesion of ambient soil and pollution has now progressed to the point where it is no longer possible to rely solely on intermittent washing to probably clean and maintain glass. This has resulted in the repeated and costly use of a succession of harsh detergents, solvents, abrasives and reactive chemicals which, by themselves, can be hazardous to personnel, damaging to the surface and destructive to the environment. Only by chemically modifying and converting the surface of the glass to make it hydrophobic, static-free and resistant to the adhesion and buildup of foreign matter, will glass successfully withstand the elements and perform to its maximum capacity. Exhaustive research & development has culminated in the invention of just such a barrier; which has been aptly trademarked **THE INVISIBLE SHIELD®**.

### DESCRIPTION

THE INVISIBLE SHIELD represents a major breakthrough in surface coating technology, It is a high performance, micron-thin, wipe on transparent polymer coating material that bonds to glass and imparts a remarkable degree of functional water, soil and stain repellency so as to minimize the interfacial contact between the surface and its heterogeneous environment. The absolutely invisible polymeric barrier coating formed by its application also restores clarity, improves appearance and reduces surface friction.

### COMPOSITION

THE INVISIBLE SHIELD is a patented system of catalyst activated "isomeric" polymers which have been solubilized in specially denatured ethyl/isopropyl alcohol. This system yields a hydrophobic monomolecular coating that is chemically and physically bonded to glass to make the surface virtually non-wettable. The broad spectrum multifunctional invisible coating exhibits "synergistic" surface activity against weathering and the entire range of air and water-borne pollutants.

### ADVANTAGES

THE INVISIBLE SHIELD combines exceptional multi-surface versatility with single-product convenience. It is effective on all types of glass! The novel structure permits it to bond to a surface, but not to itself. Accordingly, unlike other coatings, it is not subject to build-up and acts as an integral part of the treated surface. THE INVISIBLE SHIELD incorporates unparalleled application and performance characteristics: It is ready to use and requires no mixing or dilution. Being a wipe-on treatment, it offers both ease and flexibility of application. It is extremely fast-acting and non-dusting; contains no waxes, plastics or resins. The film is optically clear, non-distorting, non-reflective and does not change the index of refraction, the non-reactive polymeric structure will not peel, crack or discolor; it is unaffected by soaps, solvents or detergents. With its low cost, remarkable coverage, durability and performance, it offers outstanding economic benefits.

### USES

By virtue of its unique ability to strikingly alter the surface characteristics of glass for improved interior and exterior performance, THE INVISIBLE SHIELD permits the practice of **PREVENTIVE CLEANING & MAINTENANCE**. By treating glass to actively repel water and restrict the adhesion and build-up of all foreign matter, it can be washed with clear water or common wash solutions without the use of abrasives



and strong acids or alkalis. It prevents vision distortion and provides a unique hydrodynamic rinsing action by effectively causing water to "bead" and roll off, instead of filming on the surface. With its friction reducing/anti-stick properties, THE INVISIBLE SHIELD is both an **ANTI-SCRATCH CONDITIONER** and a **NON-STICK COATING**. It imparts a high degree of electrostatic reducing surface lubricity for improved abrasion resistance, restored clarity and reduced affinity for soiling. Treated glass looks better, stays cleaner and is infinitely easier to wash or wipe off!

### TYPICAL PROPERTIES

THE INVISIBLE SHIELD offers new dimensions in product uniformity, storage stability and handling characteristics:

Form	liquid
Appearance	Clear
Active Ingredient	Min. 7.5 activated "isomeric" polymers
Weight per gallon	6.75 lbs. (@ 78° F.)
Flash Point	61 ° F.
Catalyst system	Ethyl/isopropyl Hydrogen Sulfate
Solvent	Specially denatured ethanol/isopropanol
Specific gravity	0.810 (@ 60° F.)
Dry time	30 to 60 seconds for solvent evaporation
Cure time	90 to 120 seconds
Shelf life	Indefinite (in closed containers)

### LIMITATIONS

THE INVISIBLE SHIELD promotes the preservation and enhancement of all types and forms of glass. It is specifically designed for efficient treatment of both new and old glass using conventional wiping and polishing techniques - the interfacial contact provided by wiping and polishing is an integral part of the bonding process. Although THE INVISIBLE SHIELD is incredibly durable, it is not a permanent coating and will ultimately be removed by chemical and abrasive action sufficient to otherwise etch and erode an untreated surface. It will, however, provide continuous performance under the most severe conditions; notwithstanding the inherent caution (applicable to all surface treatments) that ultimate effectiveness and durability will be a function of (1) the type and condition of the surface being treated, (2) the quality of the application, and (3) the nature and degree of exposure.

### CHEMICAL RESISTANCE AND PHYSICAL DURABILITY

THE INVISIBLE SHIELD exhibits unusual chemical/mechanical bonding characteristics; the ration of which will vary with the chemical structure and physical make-up of the particular surface being treated. The inert, "isomeric" polymers are unaffected by sunlight throughout the spectrum, and will not crack, peel or discolor. The tough, monomolecular film is impervious to removal by any soap, solvent or detergent which would not otherwise alter or damage the untreated surface. THE INVISIBLE SHIELD is chemically thermally and hydrolytically stable. It is not easily contaminated or subject to freeze-thaw degradation. The solvent system complies with all existing anti-pollution requirements and is a chemically-active, integral component of the water repellent and surface conditioning system, when used for its intended purpose and applied in the prescribed manner, THE INVISIBLE SHIELD is non-toxic and non-sensitizing. The protective barrier forms after solvent evaporation and polishing will not alter or adversely affect the inherent fire resistant characteristics of treated surfaces, and will be effective across broad temperature extremes from minus 40 degrees Fahrenheit to over 400 degrees Fahrenheit.

### SEVICES LIFE AND PERFORMANCE

THE INVISIBLE SHIELD functions as a non-reactive, integral part of the treated glass surface. Extensive field testing on a great variety of glass surfaces has shown the minimum useful life per application may vary significantly: From well in excess of six months on shower doors subject to daily exposure to hard water minerals to five years or more on residential windows, high-rise apartment buildings, office buildings and industrial applications. Being an invisible coating, its deterioration cannot be measured by changes in appearance. In fact, as THE INVISIBLE SHIELD dissipates, the surface gradually returns to its natural,



pre-treated state. Rather than to wait for the material to erode on its entirety, it is recommended that it be reapplied before the previous treatment has completely lost its water and soil repellency as indicated by increased surface wetting and soiling. With its unique, non-buildup property, THE INVISIBLE SHIELD can be infinitely reapplied without additional surface preparation or removal of any remaining film. Since surfaces never “wear” evenly, this special feature permits the touch-up and blend -in of hard-worn areas without the necessity of re-treating the entire installation. Of particular advantage is that THE INVISIBLE SHIELD “cleans as it seals.” Thus, previously treated surfaces can be cleaned and retreated simultaneously; thereby obtaining the important benefits of clarity and protection in the same time and with very little additional effort than formerly required to merely clean the surface.

### PRODUCT APPLICATION

THE INVISIBLE SHIELD is ready to use as supplied, requires no shaking or stirring and should not be diluted when used to seal and protect the surface. Being a broadband material that adheres to glass, but not to itself, THE INVISIBLE SHIELD should be used sparingly; but in a manner that ensures complete and uniform treatment. Applied by conventional wiping and polishing, it affords remarkable coverage- well in excess of 3,000 sq. ft. per gallon. Specific coverage will vary slightly in accordance with the type of surface, its condition, and the care with which the material is applied.

**Surface preparation:** All glass must be washed and thoroughly dried before treatment. New and relatively clean glass may simply be flushed with plain water and thoroughly dried. Visibly soiled, encrusted, stained and worn or eroded glass must first be cleaned using whatever materials and techniques are necessary to produce a bare surface; which should then be flushed with clear water to remove all cleanser residues.

**Application Directions:** THE INVISIBLE SHIELD can be sprayed and/or wiped onto the surface using a clean soft cloth that has been folded into a pad approximately 5/6 inches square. When applied by cloth, it should be soaked, but not dripping wet. Carefully wipe the wetted cloth over the entire area to be treated using a firm, circular and overlapping motion. Allow the solvent to evaporate for at least (2) minutes. The slight haze that forms will not harden, chalk or dust. **When treating surfaces for the first time, repeat the application to ensure complete and uniform coverage.** The haze that forms is excess material, and indicates that the surface has been properly treated. Remove the excess material by wiping with a clean dry cloth; turning the cloth frequently until all excess polymer is removed. Excess repellent can also be removed from large glass areas or intricate forms by spraying the surface with clean water and wiping with a dry cloth until the surface is clear and sparkling.

**Application Temperatures:** Although THE INVISIBLE SHIELD can be freely applied throughout the year, surfaces to be treated must be completely dry. For maximum application efficiency, surface temperatures should not be below 32° F.

**Handling and Storage Precautions:** THE INVISIBLE SHIELD contains a fast-evaporating flammable solvent, and should not be used or stored near an open flame or at temperatures above 120° F. In liquid form it is an eye irritant, and contact with eyes should be avoided. If splashed into eyes, flush eyes with water for 15 minutes and consult physician. It may be harmful if swallowed, and vomiting should be induced in case of accidental ingestion. Prolonged skin exposure may lead to drying of the skin; which can be restored using moisturizing creams. Avoid prolonged breathing of vapor, and **keep from children.**

### AVAILABILITY, PACKAGING & COST – TECHNICAL SERVICE

THE INVISIBLE SHIELD is manufactured in the U.S.A. by Unelko Corporation and is marketed through authorized distributors and specialty supply outlets in 9, 16, 22 and 32 fl. Oz. Plastic dispenser bottles and in 5 gallon pails. Material costs to the applicator will be less than 0.03 per sq., ft. of treated surface. Complete technical assistance, application engineering and consultation services are available from:

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