

## **GLASS RESTORATION AND PREVENTIVE MAINTENANCE**

### REGARDING WATER STAIN STRATEGIES

The last couple of years have been banner years for new construction. Already some of these buildings along with many existing buildings are being damaged by a clear, odorless, tasteless liquid...WATER. Yes, water contains minerals that bond to glass and produce unsightly stains. More serious than being unsightly if left untreated, these deposits will permanently etch the glass reducing its tensile strength.

This information addresses the cause and effect of hard water stains on glass, the identification and removal of these stains, and some preventative maintenance steps that can minimize the damage caused by the hard water stains. Safe and effective removal of hard water stains is time consuming and labor intensive, but still very cost effective compared to glass replacement.

### CAUSE AND EFFECT

Most ground floor glass stains are caused by sprinkler systems spraying on the glass. When staining occurs above the second story glass, the primary cause is improperly sealed precast. Rainwater and early morning condensation flow over the precast picking up minerals. As water dries on the glass, it deposits minerals such as silicates, sodium, calcium, and lime. The sun intensifies this process causing the mineral deposits to bond with the glass, resulting in staining and etching.

Staining caused by the sprinkler system can be minimized by:

1. Asking the landscaping company to lower and adjust the sprinkler heads so that water does not strike the glass.
2. Set the automatic timer so that irrigation occurs when the wind is calm.
3. Install a drip system. It will eliminate any spray on the glass and still provide an effective irrigation system.
4. Increase ground floor window cleaning to every 30 to 60 days.

Staining caused by precast run-off can be minimized by:

1. Pressure cleaning the building façade and applying an appropriate water repellent to the precast.
2. After the precast has been addressed, restore and reseal the glass, regularly clean windows and reseal the glass.

#### IDENTIFICATION AND REMOVAL

Glass staining varies from building to building. For instance, the darker the glass, the softer the glass. Softer glass is much more likely to become permanently damaged from water stains in less time than harder glass. Therefore, an on-site inspection is essential to determine the type of glass, the degree of damage done by staining, the accessibility of the glass, and other factors. A sample test should be performed to determine the product(s) and method(s) necessary to restore the glass. The test will provide the customer with a preview of the condition and appearance of the glass after restoration.

#### PREVENTATIVE MAINTENANCE

Once the cause of the staining has been corrected and the glass has been restored, regular window cleaning and periodic resealing of the glass is necessary to maintain the beauty and strength of the glass. As new buildings continue to rise out of the ground and take their place alongside existing buildings, thousands and thousands of square feet of glass sparkle in the sun. Protect the cosmetic, visual, and structural beauty of your glass through restoration and proper maintenance.