



## **Guidelines for Handling and Cleaning Decorative Glass**

### **Introduction**

Decorative glass products have become important components of the architectural landscape. They contribute to the architecture and design requirements of interior and exterior applications for residential, commercial and industrial projects.

In order to preserve the quality and integrity of decorative glass products and to ensure their long-term performance, fabricators, glazing contractors, related sub-contractors (e.g. millwork contractors) and building owners should follow appropriate procedures during handling, fabrication, installation, and cleaning.

The following guidelines are intended to inform and assist those who fabricate, use and maintain decorative glass products. As with any glass products, it is also imperative to consult each glass component manufacturer for recommended guidelines.

### **Transportation, Receiving and Storage**

- Before unloading the truck, verify the weight and size of the lites/cases/stocks and confirm that the handling equipment is adequate.
- Check your shipments on arrival. If there appears to be moisture present, the lites should be unpacked immediately and allowed to dry using an appropriate separating technique. Do not allow lites to remain in contact with wet protective pads.
- Lites should be unpacked as soon as possible to allow moisture caused by condensation to dissipate, especially if the lites have been subject to temperature changes during shipment.
- Be sure that your storage areas are dry, adequately ventilated spaces. Do not store lites in areas of high humidity, exposed to chemical fumes, or near high heat such as steam or water pipes. These conditions can promote staining.
- Do not store lites outdoors or in an uncontrolled climate environment.

- Block the lites/cases/stocks up off the floor where water damage is possible to the bottom of the lites. Also, do not store crates or lites on uneven surfaces. This can lead to stresses on the lites which can cause glass breakage.
- Store lites vertically. Do not lay lites flat. Even minor movements in a flat stack can cause surface abrasion and potentially glass breakage.
- When removing lites from the case, separate them from the pack one at a time before removal -- **do not slide lites when removing**.
- Always handle lites of glass one at a time.
- Do not move or reship partially unpacked cases without proper repacking. Movement within the case can cause damage or breakage. Uneven weight distribution can cause instability and safety hazard as well.
- If lites are transported in an open or exposed condition and become spattered or come in contact with foreign elements, they should be washed and dried immediately. Consult each glass component manufacturer for recommended cleaning procedures.

### **Cutting and Fabrication**

- Always use clean gloves when handling decorative glass products.
- When handling lites with suction cups, apply cups to the flat, untreated surface. If this is not possible, extra care should be taken to ensure that proper vacuum is achieved. Be sure to keep the cups clean and free of dust. When using suction cups be aware of and avoid possible damage to the treated or decorated surface.
- Regularly vacuum or sweep the cutting tables with a stiff brush to control dust and to minimize any glass grit and particles which could scratch the glass.
- Glass lites are cut most easily by scoring the flat, untreated side. If not possible, increased cutting pressure may be required, and testing is recommended prior to cutting stock sheets.
- Individual lites should be washed after cutting to reduce the chance of staining from cutting oil. Follow suggested guidelines for washing different products.
- Porous glass surfaces (i.e. sandblasted, acid-etched, etc.) may be susceptible to marking during machine-edging if proper care is not taken. For best results, follow these simple recommendations:
  - Ensure that the machine's gripping pads have been scrubbed clean



- Verify that the speeds of the front and back conveyors are identical
  - Check the glass thickness with a micrometer and adjust gripping pressure accordingly
  - Wet the glass before fabrication
  - Wash the glass immediately after fabrication
- Never allow coolant or cerium oxide to dry on the glass, as it may become a permanent stain on a porous surface.
- Decorative glass may be machine-washed or cleaned using lint-free cloths for washing and drying. In all cases, non-abrasive, mild detergents or glass cleaners that will not be harmful to the glass should be used, provided that all residue is removed and the glass is thoroughly dried. Consult each glass component manufacturer for recommended washing procedures.

***WARNING – TO USERS OF AUTOMATED PROCESSING EQUIPMENT***

***Certain optical sensors, such as those used on automated cutting and fabrication lines, may have difficulty detecting some decorative glass substrates. To avoid risk of personal injury or damage to equipment, care must be taken first to test any optical sensors with a piece of the glass to be processed, prior to operating the equipment.***

**Cleaning and Maintenance**

To prevent permanent damage and maintain visual and aesthetic quality, decorative glass products should be protected during construction and must be properly cleaned after installation and as part of routine maintenance.

As dirt and residue appear, decorative glass surfaces should be thoroughly cleaned. If the glass is extremely dirty, as a result of recent construction activity for example, the glass surfaces should be soaked with clean water and mild soap solution to loosen dirt or debris. Following the initial soaking of the glass, normal cleaning procedures should be followed. Professional glass and window cleaners are recommended for cleaning decorative glass products in lieu of construction site workers.

When the glass requires normal maintenance, use a mild, non-abrasive solution and uniformly apply the solution to the glass surfaces with a soft, non-abrasive applicator (e.g. thick cloth or sponge). Immediately dry the glass surface with a lint-free cloth. Be sure, however, to follow the glass component manufacturer’s recommended cleaning guidelines.

When the surface to be cleaned is a treated or decorative surface, special care and attention is required. Some key recommendations are as follows:

- Follow the glass supplier's specific cleaning recommendations
- Clean a small area of the glass first. Check to see if procedures have caused any damage



- Do not use razor blades or other scrapers for cleaning decorative glass
- Do not allow dirt and residue to remain on glass for an extended period of time
- Do not allow metal parts of cleaning equipment to contact the glass
- Caution other trades against allowing other materials to contact the glass
- Watch for and prevent conditions that can damage the glass

For additional resources, please reference GANA Glass Informational Bulletins: *Construction Site Protection and Maintenance of Architectural Glass* and *Proper Procedures for Cleaning Architectural Flat Glass Products*.

***SPECIAL NOTE FOR POROUS GLASS SURFACES (i.e. sandblasted, acid-etched, etc)***

Glass products having a porous surface should be given extra care. Should there be any requirement to apply products such as adhesives or markers to the porous surface **temporarily**, testing must be done beforehand to ensure removal is possible without damaging the glass surface. Thorough verification should be provided following removal of the product to ensure complete removal has been fully achieved without any noticeable alteration of the surface.

Since there are many variations in chemical formulations of these products, it is not possible to list every product or brand that may or may not be applied to the surface. Products such as silicone adhesives, mastics, black felt markers, wax markers, oil and grease have been known to result in removal issues and should be avoided.

***SPECIAL NOTE FOR APPLIED FILMS ON GLASS***

Glass products with films applied can be cleaned without damage to their appearance as long as a few guidelines are followed:

- Use a soft clean cloth, soft paper towel, or clean synthetic sponge
- Use a soft cloth or squeegee for drying the surface
- Do not use razor blades or other scrapers
- Do not use abrasive materials
- Follow the glass and/or film supplier's cleaning recommendations



### ***SPECIAL NOTE FOR GLASS COATED WITH NON-CERAMIC PAINTS AND INKS***

Glass products with non-ceramic paints and inks can be cleaned without damage to their appearance as long as a few guidelines are followed:

- Use a soft clean cloth, soft paper towel, or clean synthetic sponge
- Use a soft cloth or squeegee for drying the surface
- Do not use razor blades or other scrapers
- Do not use abrasive materials
- Always inspect glass prior to field installation, store and protect from airborne debris
- Always follow all fabricator and/or manufacturer specific cleaning and handling guidelines: Types of paints on glass will vary.

### ***SPECIAL NOTE FOR MIRROR GLASS SURFACES***

Mirror glass products should be given extra care, as their delicate metal layers need to be protected to ensure a good reflection. Failure to properly transport, handle, fabricate or clean mirrors can result in damage to the mirrored surface and deterioration of the optical quality of the mirror reflectance. For Mirrors, please refer to the GIB 'Mirrors: Handle with Extreme Care.'

Consult the *Tech Center* section of the Glass Association of North America (GANA) website ([www.glasswebsite.com](http://www.glasswebsite.com)) for additional Glass Informational Bulletins and flat glass industry reference resources.

*The Decorative Division of the Glass Association of North America (GANA) has produced this Decorative Glass Informational Bulletin solely to provide general information as to the proper procedures for handling and cleaning decorative glass products. The Bulletin does not purport to state that any one particular type handling and cleaning process or procedure should be used in all applications or even in any specific application. The user of this Bulletin has the responsibility to ensure the cleaning procedures from the glass supplier are followed. GANA disclaims any responsibility for any specific results related to the use of this bulletin, for any errors or omissions contained in the Bulletin, and for any liability for loss or damage of any kind arising out of the use of this Bulletin.*

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