



THE TOP FIVE ISSUES TO CONSIDER WHEN WRITING ACID-ETCHED GLASS OR MIRROR SPECIFICATIONS

Architects and designers constantly look for new ways to use glass in exterior or interior applications. Needs vary from one project to another but it seems that innovative designs are often times the preferred choice. Writing the proper specifications, particularly when distinctive and unique types of glass are chosen, becomes a critical exercise to ensure that "what you see is what you get".

When considering acid-etched glass or mirror, writing appropriate specifications is no less important. In fact, if appropriate care is not taken, the actual glass ordered and installed on the job site may end up being far from the product selected based on samples submitted during the design development process.

To ensure the acid-etched glass products you selected are actually used by the general contractor, glass fabricator and glazier you need to consider the following issues:

Acid-etched Surface Finish

Though there is only one manufacturer of acid-etched glass and mirror in United States and Canada, there are several other sources overseas and they all make different acid-etch finishes.

The type of acid-etch surface finish selected on a glass substrate will provide a different level of translucency (or opacity) and smoothness as well as create varied visual effects. These effects will also vary if one or both sides of the glass are etched.

With respect to the visual effect of the acid-etch finish on mirror, it will vary depending on the extent of the etching performed. A lighter-etched mirror will have more reflection whereas a deeper etch will create a mat finish and more depth in the glass.

Your **Domestic Source** for Acid-etched Glass and Mirror
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The quality and consistency of a selected acid-etch finish can be monitored by taking gloss readings of the surface at a 60 degree angle. Gloss tolerances can be established for each acid-etch finish and used for identification purposes. This is the metric used by Walker Glass in its quality control process to ensure any of its four acid-etched finishes is consistent from run to run and across individual glass sheets and of the highest quality.

Your acid-etch glass or mirror specifications should include the type of finish selected and the related gloss tolerances to ensure the appropriate finish is used for your project.

Glass Substrate

Many believe that a piece of low-iron or ultra-clear glass looks the same, irrespective of its manufacturing origin, or that tinted glass substrates made by different glass manufacturers are similar. Nothing is further from the truth. Float glass companies make glass with varying shades of green, blue or black tints and the neutral appearance of their low-iron glass can also vary quite significantly.

If you want to achieve a translucent appearance without the "greening effect" of ordinary clear glass or if you are considering an acid-etch finish on tinted glass you need to evaluate and select the appropriate glass substrate to be etched. Keep in mind that both the glass substrate and the acid-etch finish will impact on the visual appearance. You should always check with the acid-etched glass manufacturer on the availability of the acid-etched glass or mirror product considered and you should request appropriate samples to assist in evaluating different options and making a final selection.

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Be extra careful in writing your acid-etched glass or mirror specifications. We recommend that you specify the name of the acid-etched glass or mirror manufacturer, the type of acid-etch finish and the specific glass substrate required.

Acid-etched Glass Properties

Acid-etched glass is used in different types of interior and exterior applications while acid-etched mirror is suitable to a wide range of interior projects. If the acid-etched glass product selected is exposed to conditions requiring wear, stain, scratch or slip resistance, it is particularly important to understand the properties of the etch finish considered. Walker Glass makes different acid-etched glass surfaces offering physical properties that are similar to or better than un-etched glass.

Acid-etched glass has no impact on visible light transmittance and does not reduce the flow of light going through the glass panel. In addition, it has little impact on solar performance when used in an insulated unit. Moreover, certain finishes are excellent light diffusers and scatter light into a larger area of the building interior, thereby reducing the need for artificial light and energy consumption and enhancing human behavior.

Your acid-etched glass specifications should include, when applicable, data covering the above mentioned properties to ensure the acid-etched glass product selected provides the intended benefits.

Exterior Applications

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The acid etch manufacturing process creates a smooth closed pore surface with small peaks and valleys. Acid-etching is not a coating or a film. Therefore, its resistance properties in exterior conditions are essentially equivalent to un-etched glass.

The etched surface can be used on any of the four surfaces in an insulated unit, including surface 1. Porous and coated surfaces can lead to premature staining and wear and may deteriorate over time whereas the acid-etched glass surface offers durable physical properties, allowing its exposure to outside conditions. (See Glass Properties section).

Bird Friendly Applications

An increasing number of building façades call for bird friendly features to reduce the risk of collision, a growing concern in many areas in Canada and United States. Glass with visual markers on the outside surface is particularly effective at preventing bird collisions. The metric used to measure performance is referred to as the threat factor. Glass products with threat factors under 30 are considered effective bird safe solutions. Walker Glass offers patterned acid-etched glass products offering an optimal combination of viewing areas and effective visual markers, with threat factors ranging between 5 and 30.

Product specifications should be specific on the position of the acid-etched surface in an insulated unit and include targets to meet with respect to light and solar performance, physical properties and bird friendly performance, when applicable

Specifications and Warranty

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Inherent in the float glass process are some small gaseous inclusions and minor abrasions. Occasional small “bubbles” and hairlines are, therefore, perfectly normal and acceptable under recognized standards and should be virtually unnoticeable from a normal viewing distance.

To ensure acid-etched glass products are made from selected float glass conforming to standards accepted by the glass industry in North America you should ask the manufacturer of acid-etched glass or mirror for a copy of their product specifications.

In the addition, the quality and durability of the acid-etched glass surface as well as the silver coating on the acid-etched mirror should be backed by an appropriate warranty.

Walker Glass is proud to offer a 10-year warranty against degradation of the acid-etched glass surface and against deterioration of the silver coating on mirror.

Your specifications should include information on product specifications and warranty to ensure the quality of the products, actually used on the project, is preserved.

Conclusion

As you can see, being specific about the nature of the product you selected is very important. It is your insurance policy against outside intervention to substitute other products that will yield a much different result and compromise on the design and performance intents and on quality.

Here is our recommended checklist to ensure your specifications cover the basic elements of the acid-etched glass product you have selected:

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- Name of manufacturer & product brand name
- Glass thickness
- Substrate (glass or mirror)
- Tint (clear, ultra-clear, blue, black, bronze, grey, etc.)
- Type of acid-etch finish (name of the finish)
- Etch on 1 face or 2 faces (glass)

As stated above, complete product specifications for acid-etched glass or mirror should include a number of other critical elements. This is best accomplished by requesting 3-part specifications from the acid-etched glass manufacturer with the required information and data.

Walker Glass is proud to offer complete 3-part specifications on the following products:

- Acid-etched glass
- Acid-etched mirror
- Anti-slip acid etched glass

For further assistance in writing your acid-etched glass or mirror specifications, please contact our architectural experts by phone at 1-888-320-3030 or by email at textures@walkerglass.com.

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