

# How to Select the Right Acid-etched Glass

By Marc Deschamps

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While the glass etching process is generally the same, variations in the chemistry and other process parameters will create different glass surfaces with varied visual and performance characteristics.

When choosing distinctive and unique types of glass, architects and designers have specific objectives in mind. Here are some examples related to acid-etched glass:

- Light diffusion;
- Privacy;
- Visual appearance;
- Integration with surrounding objects;
- Light transmission;
- Energy efficiency.

An etched surface with rugged peaks and deep valleys absorbs and diffuses light, rather than transmit or reflect it, resulting in a rich white opaque appearance. On the other hand, an etched surface with smooth rounded bumps enhances light transmission and creates a more transparent glass, characterized by reduced reflective glare and a soft translucent appearance.

The type of acid-etch surface finish selected will render a different level of opacity and smoothness as well as create varied visual effects. It also will have an impact on the following performance ratios:

- Gloss;
- Visible light transmission;
- Visible light reflectance;
- Shading coefficient;
- Solar direct transmission;
- Solar direct reflectance;
- U-value.

Bear in mind that the type of glass substrate used will impact on the above-mentioned characteristics. For example, acid-etched glass made out of low-iron glass will create a translucent satin appearance without the “greening effect” of ordinary clear glass. Similarly, acid-etched blue glass made with one primary glass manufacturer’s product will create a different visual effect than one made with another primary glass manufacturer’s product.

Consequently, both the acid-etch finish and the glass substrate used will impact on the color appearance, level of opacity and performance ratios of the acid-etched glass.

In order to enhance certain characteristics of the acid-etched glass, you also may consider etching the glass on both sides. This is a good approach for applications requiring a higher level of opacity or a similar finish and visual effect on both sides of the glass panel (e.g., partitions).

The use of acid-etched glass for exterior applications also may be appropriate. Because acid-etching is not a coating, its resistance properties in exterior conditions are essentially equivalent to unetched glass. However, it is important to point out that an etched surface with rugged peaks and deep valleys could lead to higher maintenance costs because dirt particles may be more difficult to remove. Therefore, the use of an etched surface with a lighter finish (smooth rounded bumps) is recommended in exterior applications.

Being specific about the nature of the acid-etched glass product required is very important. Do not hesitate to communicate your specifications in detail to your glass professional to ensure the acid-etched glass product selected meets your goals and objectives. **AG**

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