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BIG GLASS: BUILDING DEVELOPERS AND OWNERS SEE THE CLEAR ADVANTAGES OF BIG GLASS

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GLASS IS EVERYTHING™

There's an old adage from the world of advertising that equally applies to building design.

If you want to make a statement that grabs a person's attention, either shout it. Or whisper it.

Just don't mumble it.

The bottom line for most building owners and developers is creating a building that businesses (or people) want to call home -- buildings that lease quickly, and buildings that retain their occupants.

But in today's me-too world of glass façades, creating buildings that truly stand out is becoming increasingly difficult.

So what is the next big thing in building design?

The answer lies in BIG Glass.

Until recently the typical dimensions for a large lite of glass was approximately 8 ft. x 13 ft. With Viracon's recent investment in a facility expansion at its Owatonna, MN headquarters, glass units up to 10 ft. x 19 ft. can be fabricated. The opportunity to incorporate these bigger glass units into the design of buildings with minimal overall investment is driving the trend from the the east and west coasts onto buildings throughout the country.

BENEFITS OF BIG GLASS

Study after study has shown that natural light can enhance workplace productivity, as well as occupant comfort and health. A good view, combined with natural lighting connects humans within the building to nature outside. In turn, the environment becomes more comfortable and energetic as compared to a space with little natural light (or a space that relies too heavily on artificial light), which can cause lethargy and lower productivity rates.

Condominiums and multi-family residential units that utilize BIG Glass as a way to increase natural light often have a higher lease value, because their design is contemporary, and offers higher-paying residents a better view of their surroundings. Bigger glass windows also can help accentuate open floor plans, making a space brighter and appear larger than it actually is.

In commercial office buildings, BIG Glass can help bring more natural light to open floor plans that rely heavily on work stations, as well as in open meeting areas and spaces such as atriums, entrance lobbies and reception areas.



BIG GLASS PAYS FOR ITSELF

Besides providing more access to natural light, building owners and developers should consider BIG Glass from a cost perspective. While BIG Glass is relatively competitive to standard size glass from an initial installation perspective, over time, it earns high marks for reducing energy and maintenance costs.

Installation

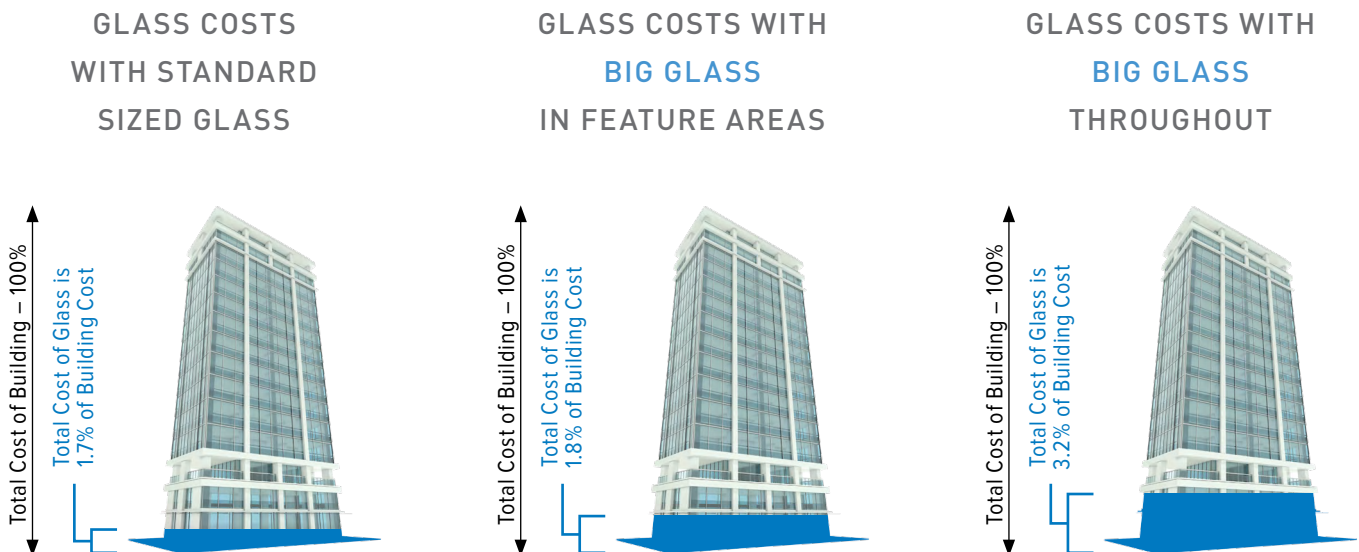
Let's say that the façade of a new building will require 100,000 square feet of glass.

- With standard size glass, the cost of the glass will be approximately 1.7% of the entire project cost.
- If the building owner elects to use BIG Glass for 5,000 square foot of the façade, such as for an atrium, the total cost of the standard and BIG Glass will be 1.8% of the entire project cost.
- If the owner decides to do all 100,000 square feet of with BIG Glass, the cost will be approximately 3.2% of a building's total cost.

While that might seem like a big jump in cost to some, the cost of using BIG Glass vs. standard sized glass is offset by lower energy costs (by introducing more natural light deeper into the building there's a lower need for artificial lights), and lower maintenance costs. In a properly designed system there may be reduced cooling load requirements resulting in smaller initial and ongoing energy costs.

Because BIG Glass units span more surface area, there is less metal framing material (known as mullions) between the panes. Often this framing material is made from highly conductive metal, which allow warm and cool temperature extremes to transfer between the interior and exterior of the building. Fewer mullions means less warm or cool air is lost to the outside.

From a warranty perspective, building owners will need to consult with the developer and/or architect. Warranties vary from company to company. Viracon offers a single-source warranty, meaning the building owner is covered for the entire unit -- glass, coatings and seals.



Above examples assume 100,000 ft² total of fabricated glass with standard make-ups, standard metal framing systems, etc. "Feature Areas" example assumes 5,000 ft² of BIG Glass with 95,000 ft² of standard size glass.

CUSTOMIZING TO MEET BUILDING NEEDS

The power of BIG Glass doesn't just lie in its size alone. By combining different components and enhancements such as tinted substrates and digital printing, fabricators such as Viracon, can help building owners and developers achieve a distinct look and feel. High-performance coatings can further enhance the operating costs of building ownership by customizing specific parts of a building to meet various challenges. Some of these challenges include:

- Local environment. High-performance coatings allow buildings built with BIG Glass to be designed to meet localized environment challenges (think about the difference of designing a building for Miami vs. Calgary).
- Local codes. Building codes can vary dramatically from one part of North America to the other. A wide variety of glass substrates and coatings can be combined to meet the specific needs of local building requirements.
- Local aesthetics. Specific coatings allow architects to utilize BIG Glass in such a way to complement the existing palette of buildings within a city or within a unique setting.

High-performance coatings can be applied to the glass that allows a building to have a desired appearance including multiple glass color or reflectivity levels. Coatings on BIG Glass also can be used to control and better manage heat gain generated through natural sunlight. Different coatings can be applied to specific sides of a building if required to help building owners optimize the overall energy use within the building.

For example, with a new corporate headquarters built within a major city, the ground levels may be shielded from direct sunlight. However, upper levels may suffer from too much sunlight, or glare that's reflected from the glass facades of nearby buildings (e.g., bounce-light). By knowing where

light is reflected at what times of day, an architect can make their designs even more cost efficient by either utilizing the light, or deterring the light coming off other buildings as per the occupants' needs, while utilizing BIG Glass to give the building a contemporary look and feel.

THE BOTTOM LINE FOR DEVELOPERS AND BUILDING OWNERS

Whether you're building a new corporate headquarters, a datacenter or an urban condo, BIG Glass offers many benefits and features, helping building owners and developers create a distinct look that attracts more occupants. It's a trend whose time has come.

To learn more about BIG Glass by Viracon, visit [BIG Glass](#).



Brian Savage is a product manager with Viracon. He is a LEED Green Associate and has worked in the construction industry for 15 years. Savage has helped launch numerous new glass-related products at Viracon. He can be reached via email at bsavage@viracon.com.