Reflective glass has replaced concrete in the facade of many modern buildings. Image Credit: Flickr User paul bica

“Why didn’t anybody check that?” asked Stephanie. “You must’ve noticed it during installation, right? It must’ve been pretty obvious that a quarter of the panes weren’t the same color as the rest. How come you didn’t stop and double check with me?”

Around the room, the heads of her contractors nodded in guilty agreement. A few hid behind their coffee cups. Stephanie shook her head. “We did notice,” spoke up Ted, her general. “But we were already behind and we figured you knew about it. You weren’t around to check with. Sorry, Stephanie. I should’ve called you.” “Yeah,” said Stephanie. “You should’ve. We’re going to get another week behind taking them down and reinstalling. Alright, let’s go. You know what to do.”

As they filed out of the trailer, Stephanie stopped on the bottom step and looked up at the building. In the facade of steel-blue glass building, copper-colored panels stood out like missing teeth. She shook her head again and picked up the phone. It was time to have some words with the manufacturer.

Glass Color Consistency Is Essential for Brand Reputation

For manufacturers of architectural glass, color is a major component of brand. Architects and contractors purchasing glass products for buildings expect that glass will conform to their exacting standards. If manufacturers deliver off-color sheets, not only will they be required to provide a replacement at their own cost, they may suffer significant reputational damage as well. Architects often share advice on their materials sources within their firms, networks, and professional associations. As a result, a manufacturer incapable of consistently producing glass within established

color tolerance standards stands not only to lose future projects from a single customer but referral projects as well.

Architectural glass must be consistently colored over large areas. Image Credit: Flickr user Bernard Spragg. NZ

Spectrophotometers Ensure Consistent Coloration

Given the need for color consistency, manufacturers must employ rigorous color quality control processes. However, architectural glass presents unique color measurement challenges. Architectural glass is either transparent, reflective, or a combination of both.[1] Most modern buildings use glass that is reflective when viewed from the building's exterior, and transparent when viewed from the interior.
Only by testing their products with spectrophotometers before they leave the works can manufacturers be assured they are the proper color. Although reflective and transparent objects require different methods of color measurement, spectrophotometers can be built to measure either. Certain models can combine both functions into a single instrument.

Further, spectrophotometers measure color objectively and are not subject to the inaccuracies inherent to human observation. Measurement is rapid and results can be viewed immediately and saved to a company's archive for documentation or research purposes. Not only are these instruments capable of making the necessary measurements; they do so accurately, quickly, and repeatedly.

Many, if not most, urban high-rises now call for large amounts of glass paneling. Image Credit: Flickr User paul bica

Numerical Communication of Color Prevents Ambiguity

One of the greatest advantages of spectrophotometry is that it eliminates uncertainty and ambiguity in the communication of color standards. Using custom-developed color measurement software, the instruments assign color numerical values on a tri-variable scale. This allows precise communication, down to decimal accuracy, of color tolerances. Using this scale prevents mix-ups related to improperly communicated standards, and any disagreements these mix-ups may cause.

Having numerical color standards also allow manufacturers to ensure color consistency across multiple manufacturing locations, an essential component of quality control in an increasingly globalized marketplace. These standards allow them to communicate across time as well. If an architect should order "the same color as last time," for a new building, all the manufacturer has to do to find that exact color is search through their archived order data. It can aid manufacturers in sourcing related materials from their suppliers as well, such as dyes, paints, and laminates.

HunterLab Innovation

HunterLab has more than six decades experience developing color quality solutions for the industrial glass industry. Our instruments are used by many leading glassmakers to measure a variety of laminated, painted, tinted, and other glass products. As we've worked with these customers, we've listened to them as well. Each new instrument we've designed has been informed by feedback from our clients. We're constantly improving our products so that you can keep improving yours. Contact

us to learn more about which spectrophotometric instruments are best suited for your quality control processes.

1. “73rd Conference on Glass Problems,” April 22, 2013,

   https://books.google.ca/books?id=zNs90eyR84EC&dq