



Brightly-colored stucco walls can help buildings stand out in crowded city centers. Image Source: Flickr user Jose Ramon Polo Lopez

If you've ever taken a road trip across the United States, you may have noticed that fast food restaurant buildings all have virtually the same appearance from franchise-to-franchise. When you visit a Taco Bell in Nevada, you'll see almost the exact same pale orange stucco on the front of the building as you see on Taco Bell buildings in Florida and Wisconsin. This is because most restaurant chains make a conscious effort to carefully match the appearance of the stucco on each building.<sup>1</sup> Not only does this color matching process make the buildings look more cohesive, it also helps businesses establish a unique and easily recognizable brand.

However, getting two shades of stucco to match isn't always easy. Inconsistencies in the formula and pigments used can dramatically alter the overall appearance of stucco products. Additionally, the rough texture of the final application may cause the stucco to appear lighter or darker in color to the naked eye, even if the stucco mix is a perfect color match. To solve these common manufacturing problems, stucco manufacturers can use spectrophotometers to ensure that every product meets ideal color standards. Unlike the naked eye, which can be unreliable when it comes to accurately detecting small variations in color, a spectrophotometer provides manufacturers with the most accurate color readings possible, allowing them to create more reliable, aesthetically-pleasing building finishes.

#### The Value of Color Accuracy and Consistency

The appeal of stucco lies primarily in its appearance. While it provides minimal protection against the elements, stucco is frequently used to cover up more protective layers of materials, such as [concrete](#) or wood, to open up new aesthetic possibilities.<sup>2</sup> Because the main purpose of stucco is to make a building appear more beautiful, color quality control is of utmost importance.

Contractors like to use stucco because manufacturers can mix a wide range of color pigments into the material to create virtually any color the customer would like. Whether customers are looking for a deep, rich red material, or a creamy eggshell white, manufacturers can easily mix the perfect percentage of pigment into every product. The only problem is that this color must be perfect from the moment it's applied to the building—while you can [paint over stucco](#), this process is time-consuming, labor-intensive, and difficult process. As such, stucco manufacturers have to get color right the first time.

However, color doesn't just have to be consistent within a single building project. Because brands often use [the color possibilities of stucco](#) to fortify brand identity, color must also remain consistent over time and across geographic locations. This color consistency is essential to making brands easily identifiable to customers; too much variation in color can compromise customers' perception and disrupt the sense of familiarity trademark colors seeks to elicit.



If you want to change the color of a stucco wall, you have to apply a brand new layer of stucco on top of the existing wall if you want to avoid the time-consuming work of painting. Image Source: Unsplash user Landis Brown

Acrylic vs. Traditional Stucco Colors

The risk of significant color variation in your stucco products depends on whether you're creating acrylic or traditional stucco.<sup>3</sup> Acrylic stucco is made from [resins or polymers](#) mixed with liquid pigment and a small percentage of sand (for texture). Because the colors and the stucco mix all have a liquid consistency, the pigments tend to blend seamlessly with the resins and polymers in the product. The result is a very colorful product with minimal risk of batch-to-batch variation.

However, traditional stucco is a bit more complicated to create. This material is made using a mix of Portland cement, white sand, lime and water. Unlike an acrylic product, which resembles wet paint in its raw form, traditional stucco is usually a dry mix, in powdered form. Because the texture is a powder, pigments don't always mix as seamlessly into the product as they do with a liquid mix. You're more likely to see color variations between batches and color quality control is much more challenging.

#### Spectrophotometers Can Help with Both Stucco Styles

Whether you're creating acrylic or traditional stucco, a spectrophotometer can help you achieve the consistency you desire.<sup>4</sup> In an acrylic product, you can monitor batch-to-batch color consistency and perfect new formulations using spectrophotometric data. Spectrophotometers can help you provide a wide range of color options for your customers, and, moreover, you'll know exactly how much pigment to mix into every batch in order to attain specific colors.

Meanwhile, if you use a spectrophotometer while mixing traditional stucco, you can limit some of the naturally-occurring color variation in these products. While you may not be able to achieve the same exacting color consistency as you would with an acrylic product, you can prevent your products from showing signs of significant color variation by identifying unwanted color disparities early.



The texture of stucco can alter the overall color appearance. Image Source: Wikimedia user Dante Alighieri

## How to Achieve Stucco Color Consistency

The type of spectrophotometer that you use to test your stucco samples is determined by what you want to achieve and what type of samples you plan on measuring. A portable instrument is primarily used to test samples outside of the lab, and manufacturers can use them directly on the production floor or construction site. Meanwhile, benchtop spectrophotometers remain in one place and are used in a controlled lab setting.

In addition to measuring samples in their raw form, manufacturers may also want to test new products as they appear after application. This is especially important when testing a new formula or color offering. After application, the product dries down and the rough texture of the stucco may make the product appear lighter or darker than it did in the liquid or powdered stage. A spectrophotometer that is capable of measuring color based on how the human eye perceives it will take the total appearance of the stucco into account, allowing you to adjust your formula to get the perfect final application color.

### HunterLab Reliability

HunterLab has over 60 years of experience working closely with architects and [construction material manufacturers](#), helping them find the perfect color measurement tools for their needs. By focusing on color quality control for your products, you ensure that every material you craft is as high in quality as possible to satisfy the needs of your customers. [Contact us](#) to find out more about our renowned spectrophotometers and let us help you select the right instruments for your needs.

1. "The Use of Calibrated Digital Photography to Match and Evaluate Color Differences in Masonry Repairs", October 9, 2010, [http://www.edisoncoatings.com/Calibrated\\_Digital\\_Matching\\_ver\\_10\\_annotated\\_plai](http://www.edisoncoatings.com/Calibrated_Digital_Matching_ver_10_annotated_plai)  
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2. "Pros and Cons of Stucco Homes", <https://www.doityourself.com/stry/pros-and-cons-of-stucco-homes>
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