

We've all walked into a store on a hot summer day looking for a cold and refreshing beverage. When I lived in Canada and would visit the US, I was always floored by the wide variety of soda flavors to choose from on the shelf. Ultimately, beverage color played a role in my final selection, but mostly it was the bottle color that really swung my vote. Bottle color is essential to the brands of established companies like Coca-Cola and Pepsi¹ and for up and coming companies that want to establish themselves.



The characteristic green bottle of 7UP makes it easy to identify and suggests a certain flavor. Image Credit: Flickr User [El Gran Dee](#) (CC BY 2.0)

Color Consistency Is Essential for Blow Molders

Not only is the color of the bottle a major feature of manufacturers' brands, but its transparency must also be consistent. This means that it is integral that blow mold manufacturers produce consistently colored products. Some people, like myself, associate bottle color with the taste that we think matches that particular shade. Others with a more sensitive palate actually can taste the long-term effects of UV exposure on their beverages². This means that if your product is sensitive to certain wavelengths, the color and transparency of your bottle will affect your product's shelf life.

The need for large-scale consistency dictates the implementation of instrumental color measurement devices, like spectrophotometers. These instruments eliminate the guesswork that human observers must rely on. Spectrophotometers can also record data more quickly and accurately than human observers, by uploading it directly to a computer or network library. Because of these gains in efficiency, most blow molders use spectrophotometers for their color QC.



Some manufacturers prefer transparent bottles, to showcase the color of their products. Image Credit: Flickr User [Jeff Kimmel](#) (CC BY 2.0)

Opaque and Transparent Plastics Require Different Color Measurement Techniques

The coloration process that creates opaque and transparent preforms can be inaccurate, which is why manufacturers need color quality control in the first place. A color is injected into preforms in the form of plastic pellets during the molded process. Creating an opaque plastic is a matter of controlling the amount and concentration of pellets added. To create a transparent or translucent clear or colored plastic, a manufacturer adds much less color than an opaque plastic requires. Color inaccuracy can result from differences in the raw pellets, temperature fluctuations during the molding process, or the uneven dispersion of pellets.

Spectrophotometers Save Blow Mold Manufacturers Time and Money

We at HunterLab have over 60 years of experience creating instruments to help you optimize your QA and QC processes. For blow molders, we recommend using [the UltraScan Vis](#) spectrophotometer. To learn more about how we can address your color measurement needs, [contact our friendly, knowledgeable sales force](#) today.

1. "Antique Cola and Pop Bottles," <http://www.collectorsweekly.com/bottles/cola>
2. "Physics and Green Beer Bottles," <https://www.wired.com/2013/03/physics-and-green-beer-bottles/>