



Accurate color measurement tools can help you test your paper for color and consistency, resulting in a higher-quality final product. Image source: Pexels user Tim Gouw

While visiting a friend's home, I noticed an enormous, beautiful painting hanging above the fireplace. Up close, I could see what looked like real paint clinging to the surface of the paper and assumed that I was looking at the original work of art. But when I asked my friend who painted the piece, she responded, "Oh, that's actually a print! The artist was selling three of them just like it."

Even if you can't afford a \$179 million Picasso, you can still get an excellent copy of that same painting for as little as a few hundred dollars, often much less.⁴ Yet not all art prints are worth hanging on your walls. The quality of the print paper has a huge impact on the appearance of the final piece; the color, opacity, and texture of the paper all affect how the inks and paints will appear once printed onto the final product. Color measurement tools can be used by paper manufacturers to ensure that each blank sheet of paper will allow printmakers to produce their ideal images.



Reproductions of famous art pieces should be printed on paper that will make the colors appear most like the original. Image source: Wikimedia Katsushika Hokusai

Why the Color of Art Papers Matters

All papers can affect the final appearance of art prints; [CMYK inks](#), for example, will look warmer when they are printed on cream-colored paper, whereas they will appear cooler in tone when printed on paper that leans more toward the blue end of the scale. Color discrepancies become even more apparent on darker-colored papers; generally, the richer and darker the paper is, the more it will impact the final look of the ink on the art print.² As such, printmakers must carefully consider the specific interactions between materials in order to produce their desired colors and seek out the papers that will allow them to create their ideal hues.

Printmakers place a great degree of trust in the paper manufacturing industry because the quality of their product depends on a harmonious marriage between pigment and paper. If printmakers see a sample of a particular [sheet of colored paper](#), then they expect that their future paper order will match that color exactly. Any small variation in hue or color consistency could cause art printmakers to lose trust in your paper products, as such variation can interfere with your customer's ability to create the images they want. For example, a paper with too much yellow can make blue tones appear more teal or green than the printmaker intends, compromising the integrity of the image. Imagine van Gogh's "Starry Night," but with a dull green sky, rather than a rich navy blue.



Original paintings have fine brushstroke details that are difficult to show in a copied print. Image source: Pixabay user BonnieHenderson

The Value of Spectrophotometric Color Measurement

Regardless of which type of paper you manufacture, from slick, coated poster paper used for mass-produced reproduction prints to heavily textured products popular for limited-edition fine art prints, a spectrophotometer is an essential tool for creating papers that meet the needs of your customers. A spectrophotometer gives you extraordinary insight into the color of your papers, allowing you to perfect your processing methods and ensure consistent, accurate coloration. These versatile instruments can be integrated at various critical parts in your manufacturing process as well as used to evaluate the behavior of your products post-manufacturing, creating an end-to-end color quality control system.

Paper manufacturing involves a wide variety of materials and processes that can impact the final appearance of your products, and monitoring color throughout can help you maintain your ideal hues. Factors that impact color include coatings, sizing, and the dyes, [brightening agents](#), or other colorant additives that you use to color your paper. By performing a spectrophotometric evaluation of the paper color during each applicable step in your manufacturing process, you can analyze whether your paper conforms to color expectations, or if you notice any inconsistencies. By instantly alerting you to unwanted color variation, spectrophotometers allow you to take early corrective action, optimizing production efficiency.

Once you've ensured that your paper is consistent in color upon production, you must also test for color stability. When it comes to making quality art prints, the color of the paper needs to be [stable in color over time](#) in order to preserve the integrity of the artwork, particularly for those customers seeking archival quality.³ An art print will likely hang on someone's wall for years, perhaps even decades, and as such, it needs to maintain correct coloration even when exposed to environmental

stressors like UV radiation, humidity, and heat. To ensure that your paper can withstand these stressors, you may expose a sample of the paper to an artificial aging environment, then measure the impact on color stability and determine whether reformulation is necessary to optimize durability. For example, these tests may alert you to improper lignin removal, allowing you to modify your processing methods to improve color stability and ensure that your customers will be able to use your papers as intended.

HunterLab Reliability

HunterLab has been a pioneer in the field of color measurement for over 60 years. Today, we offer [a comprehensive line-up of spectrophotometers](#) ideally suited for our customers in the paper industry. Our state-of-the-art instruments and [customizable color measurement software](#) packages provide our clients with the highest degree of insight into their products, allowing for meticulous color consistency. [Contact us](#) to learn more about how HunterLab spectrophotometers can enhance your paper production process.

1. "Picasso Painting Fetches \$179 Million at Auction", May 11, 2015, <https://www.wsj.com/articles/picasso-painting-fetches-179-million-in-auction-1431388226>
2. "Dare to Print on Colored Paper Stock", January 17, 2007, <https://creativepro.com/paper-tips-dare-to-print-on-colored-paper-stock/>
3. "A Consumer Guide to Traditional and Digital Print Stability", https://www.imagepermanenceinstitute.org/webfm_send/313