# Rydin Color Guide

Why Choosing the Right Color Model Matters for Print Matters

Color is a big part of any print project – especially when the goal is to match an organization's logo, or brand standards. There is a difference between colors used on physically printed items, and those used for digital output – such as a smartphone, TV, or computer screen.

How Rydin Prepares Your Project for Color

Colors used for digital output when printed can appear differently than intended, they are often duller in appearance when compared to print specific color models. Rydin's art department's color experts work to match the printed output to your desired brand and color standards.

CMYK

RGB
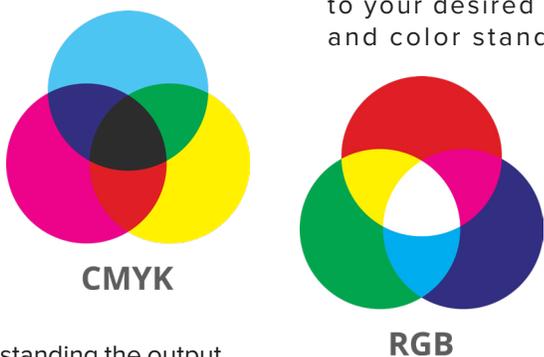
Understanding the output method when determining the appropriate color model is critical to ensure that the colors are accurately represented.

All About Print and Digital Color

Understanding the differences between the color models is a key factor in the printing process. Each color model is designed for different purposes to help achieve the best color result that meets expectations

When preparing artwork for print, designers must consider the intended output method and choose the appropriate color model:

- **For digital screens: RGB** color mode is used to take advantage of the wider gamut of colors that can be displayed on screens.
- **For print materials** (hang tags, decals, posters): **CMYK** color mode allows for full-color printing jobs where a wide range of colors and gradients are needed.
- **For precise color matching** (logos, branding materials): **Pantone colors (PMS or Pantone Matching System)** when exact color is critical across different printing runs or materials.

When selecting colors for your Rydin project, we want to ensure you have all the information needed to get the exact color you expect. Consistent communication between printer and customer is a key part of ensuring that the final product meets your expectations..

What is CMYK?

CMYK stands for Cyan, Magenta, Yellow, and Key (Black). It is a color model used in color printing, based on the subtractive color theory. When colors are printed, they subtract light. Each color is created by overlapping these four primary ink colors:

- **Cyan**: A blue-green hue.
- **Magenta**: A reddish-purple color.
- **Yellow**: A primary yellow hue.
- **Key (Black):** Used for depth, contrast, and detail.

In the CMYK model, colors are created by combining different amounts of each of the four ink colors. CMYK works like mixing real paint on a canvas. You start with white paper. Every time you add ink, it gets darker. Cyan + Yellow makes green, Magenta + Yellow makes red, just like mixing paints in art class.


What is RGB?

RGB stands for Red, Green, and Blue, and is a color model used primarily for digital displays like monitors, TVs, and web images. The model is based on additive color theory, meaning colors are created by adding light.

- **Red:** The warm, primary red light.
- **Green:** A fresh, primary green light.
- **Blue:** The cool, primary blue light.

When combined in various intensities, RGB colors can produce millions of different hues. The more light that is added, the brighter and more vibrant the color becomes. For example, when red, green, and blue light are all combined at full intensity, they produce pure white.
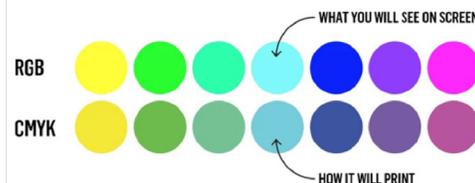
What are Pantone Colors?

Pantone is a color matching system that helps standardize color reproduction across different printers and manufacturers. Pantone Matching System (PMS) is commonly used in the print industry to achieve precise, consistent colors, especially in professional or large-scale printing jobs.

Pantone colors are spot colors. This means that rather than mixing various inks like CMYK to create a specific color, Pantone colors are pre-mixed and provided in a formula guide. This ensures exact consistency across different materials, printers, and regions.

Why Use Pantone Colors?

1. **Consistency:** Pantone colors ensure your brand colors or specific hues remain consistent across all print and production materials, regardless of who is printing them.

2. **Accuracy:** You can specify a Pantone color to guarantee the exact shade you need, which is important for brand identity.

3. **More Options:** Pantone offers a wider range of colors that cannot always be easily replicated by CMYK, especially when trying to reproduce metallic, neon, or very vibrant colors.

When to Use Pantone Colors

*   When color accuracy is crucial, such as for corporate branding or logos.

*   When printing requires specialty colors like metallics, pastels, or fluorescents, which can't be easily matched with CMYK.

*   For large print runs to ensure uniformity across different materials or locations.

CMYK in Print

CMYK is used in all forms of professional and even light duty personal printing (like an inkjet or other format used at home) and offset/screen printing. This model is ideal for physical prints (permits, brochures, decals, etc.) because the process simulates how ink absorbs and reflects light. Since the paper is white, the inks you print on it subtract wavelengths from the white light, creating the colors you see.

RGB in Digital Displays

RGB is used in any medium that emits light, like computer screens, television screens, and smartphones. The model works by emitting light from pixels in various combinations to create visible colors. Since digital screens are light-based, this additive model is the perfect representation for how screens display colors.

Selecting the Proper Color Model

CMYK is the ideal model for printing because it corresponds to how printers such as Rydin mix inks or establish specifications for digital printing. Designs using RGB colors once printed may not look as vibrant as they do on your screen due to the different ways light and ink work. This can lead to color shifts or a dull appearance in print. When compared side by side a printed CMYK color can look quite different than an RGB color. Convert RGB files to CMYK cautiously, as some colors may not translate exactly.

Ensuring Desired Output

It's essential to convert RGB colors into CMYK when preparing files for printing to ensure that the colors are accurately represented. Rydin's art department experts can help with this process as part of preparing your project for production and making sure the final printed product meets expectations for color accuracy and quality.

CMYK

RGB