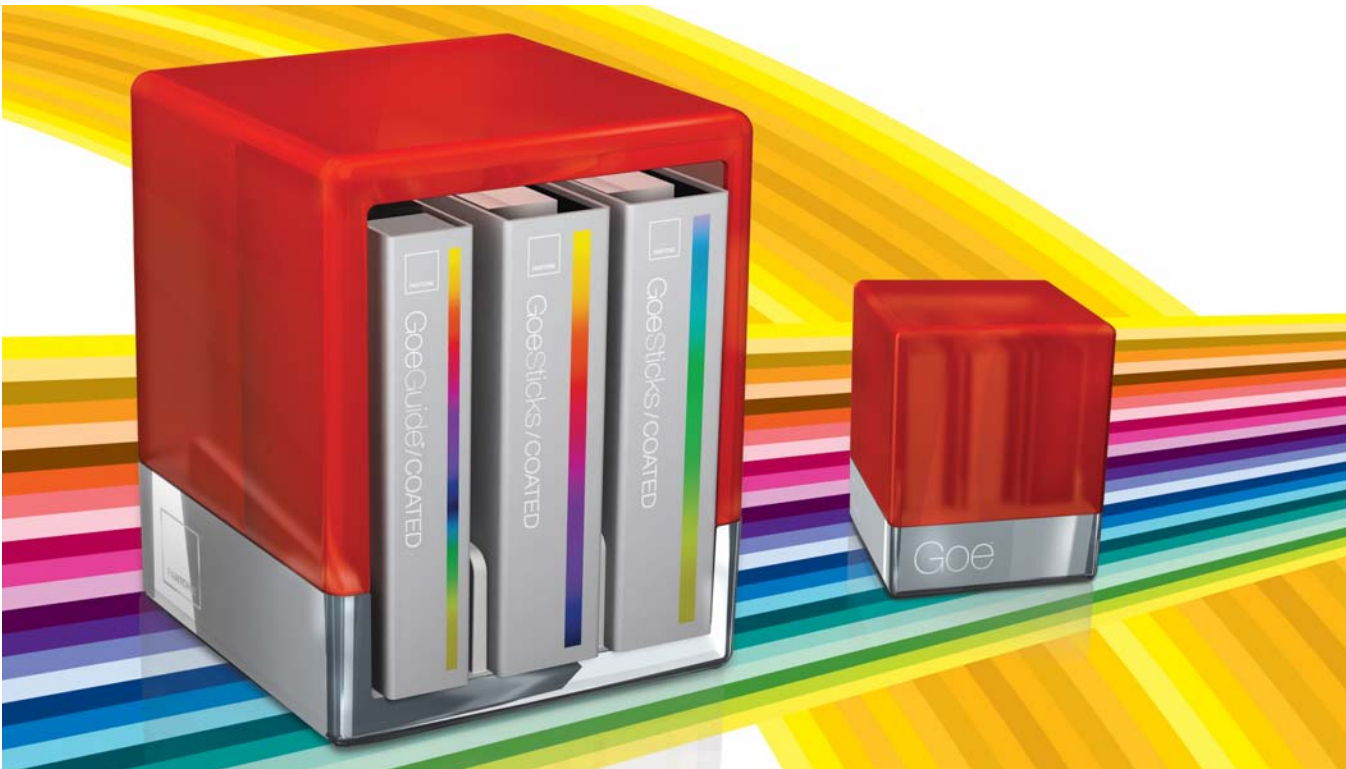




The color of ideas.SM

PANTONE® Goe™ System Introduction White Paper



In the 45 years since Pantone, Inc. first started on its path to becoming the printing industry standard for color specification, there have been significant changes in the industry. The print industry has undergone massive changes. Cut-and-paste hard copy graphics production with its light tables, precision knives, PMT halftones and paste-up boards seem like ancient history given the evolution of computer hardware and software for print production. The creative community has had their own set of changes with the introduction of computers and their page layout, illustration and digital photography software, not to mention the different forms of media for which they are asked to repurpose and design. It's now commonplace for a creative brief to include requirements for offset print, digital print, packaging, Internet and physical product execution. Add to these changes the fact that many of the basic materials used in the production of this work have evolved. Fundamentally, these changes have created a whole new way of creating and producing materials, and have introduced a whole new set of challenges for all who work within these new

processes. Over the years, Pantone, the world leader in color communication systems, has continually evolved to meet these challenges by introducing new materials and processes into its products. As a result, industry adoption of PANTONE® Color Systems has grown. But there's always room for more innovation.

Ask any designer how to improve the PANTONE FORMULA GUIDE and you'll get a resounding, "add more colors!" As use of color is intimate to the design process, the demand for colors that are not merely current, but inspirational and cutting-edge, comes at the top of every designer's list. Designers are also working in both analog and digital mediums that cross international borders and media types, and desire a color system that is easy-to-use and provides tools that span all types of media applications. Once again, Pantone has acknowledged the changing needs of its customers and has risen to all these challenges with the introduction of the new **PANTONE Goe System.**

The PANTONE Goe System

In the most dramatic announcement in the history of Pantone, the company has just introduced the first completely new color system since its founding. In an effort to meet the changing requirements of the marketplace, the color scientists at Pantone created an entirely new color specification system named the PANTONE Goe System (pronounced “Go”) for spot color specification. Exceeding four years in development, the System was created in close consultation with designers, printers, digital software and ink and paper manufacturers to deliver on the requests Pantone customers have made over the years.

Using Pantone’s specially engineered new presses and precise production processes under a Quality Management (ISO 9001:2000) infrastructure, PANTONE Goe provides 2,058 colors arranged in an intuitive chromatic-like arrangement for simple, precise cross-media color specification. This System was developed for use by printers, designers, publishers, packagers, Web designers and pre-press providers, and will fill the needs of many other core users of PANTONE Products that span the retail, manufacturing, government and education sectors. Indeed anyone involved in specifying colors for practically any media will be able to use the PANTONE Goe System.

MEETING THE NEEDS OF COLOR SPECIFIERS

PANTONE Goe was created from the ground up to answer the needs of designers for a color communication system which offers more color choices that are easy to locate and specify. The System also meets the desires of printers and ink manufacturers for inks that are readily available, simple to mix and match, and easily reproduced on press. In addition, the System was built with the latest knowledge of advanced color science, color measuring techniques and digital color display and print environments to ensure that it would be extremely versatile and effective in the rapidly expanding world of digital design, animation and print.

More than a single product with exciting new colors, the System includes: the PANTONE GoeGuide™ – a color selection and communication tool; PANTONE GoeSticks™ – adhesive-backed color specification chips; and myPANTONE™ palettes software – an advanced and intuitive color specification tool set that enables designers to quickly capture and invoke their choice of colors, then share their color work through an innovative and collaborative environment based on the World Wide Web. Each component is designed to work individually, as well as in concert with the other. Combined, they take advantage of the latest technology to offer everyone in the creative and production workflow a simpler, more complete, more “in-control,” user-friendly process from the start of inspiration to the realization of their project.

MEETING THE NEEDS OF PRINTERS

In developing the new System, Pantone color scientists chose to use ink mixing bases that were readily available worldwide to ensure color consistency on a global basis. To mitigate change in color appearance, it was equally important for them to be highly compatible with, and receptive to, aqueous and UV coatings.

Visual color shifts from the application of coatings are a familiar problem for printers, particularly in the flexographic and packaging sectors where UV coatings are most common. Additionally, by utilizing only ten PANTONE Mixing Bases, the ink inventory required by printers to mix the PANTONE Goe Colors is kept to a minimum.

THE PANTONE INK MIXING BASES

The foundation of the PANTONE Goe System is the ten PANTONE Goe Mixing Bases, plus PANTONE Clear. This is a change from the original PANTONE MATCHING SYSTEM® of 14 base inks plus transparent white. Pantone’s deep understanding of color science has enabled it to now deliver more colors with a smaller and simpler set of bases. It is the varying combinations of these inks that yield the 2,058 new PANTONE Colors that comprise the System.

Goe Mixing Bases are named as follows:

PANTONE Medium Yellow	PANTONE Medium Purple
PANTONE Bright Orange	PANTONE Dark Blue
PANTONE Bright Red	PANTONE Medium Blue
PANTONE Strong Red	PANTONE Bright Green
PANTONE Pink	PANTONE Neutral Black
PANTONE Clear	

BETTER INK CONTROL

The PANTONE Colors in the GoeGuide were designed to be printed with uniform and industry typical ink film thicknesses. This enables equal drying times and more control for matching color on press. The press operator can run at the same ink settings, regardless of color being printed. As press time is one of the most expensive parts of the printing process, the time and cost savings attributable to this feature can be significant.

Like the original PANTONE FORMULA GUIDE, the PANTONE GoeGuide provides printers the ink mixing formulas needed to create its colors. In acknowledgement of industry trends, Pantone prints the GoeGuide on #1 grade 100 lb coated offset text. This is the most specified premium grade paper used in commercial printing shops for both traditional offset lithography and digital printing. World standards bodies, such as GRACoL®, are now recognizing the same.

Pantone prints all of their publications in their own facility under a stringent ISO-certified quality management process to ensure the highest quality, which also replicates the real world printing conditions found in today’s successful print shops.

UNDERSTANDING THE NEW SYSTEM

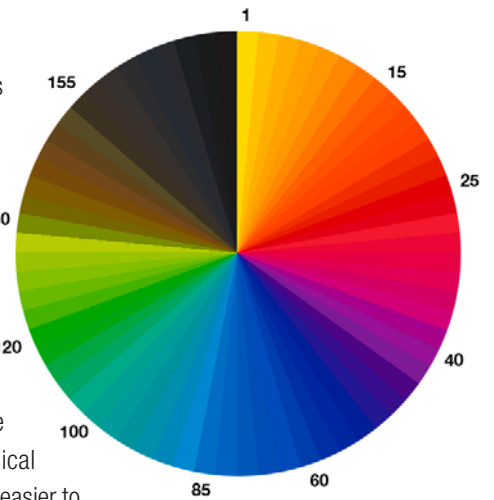
The original PANTONE FORMULA GUIDE is organized around “center-line colors” – a series of PANTONE Basic Colors and mixtures of PANTONE Basic Colors are printed as the center color bar of each page. These centerline colors are let down with increasing amounts of transparent white toward the top of the page and with increasing amounts of black toward the bottom of the page, as shown in Figure 1a.

PANTONE Goe extends this concept to accommodate an even larger range of colors and is organized around full strength colors created by mixing no more than two of the nine chromatic PANTONE Mixing Bases. This allows the highest chroma values for each combination of two Mixing Bases. Full strength colors occupy the bottom color bar of the first page within each series. Each new combination of full strength colors forms a color “family” starting at the bottom of the first page with increasing amounts of PANTONE Clear going up the page. Each color family may extend over several pages, where the black component increases from page to page as shown in Figure 1b.

The result is a chromatic-like ordering of colors from page to page. The colors are spaced to give comprehensive coverage of the gamut achievable by spot color printing with transparent inks. Finding where a given color belongs in this arrangement is straightforward, and the

new color naming system leads the user directly to the page in the new GoeGuide on which any color is found.

When spread open, the PANTONE GoeGuide looks similar to a color hue chart, making it easy to find a specific color. What this means for the user is that the differences from one color to the next on the pages of the guide are evenly spaced. The eye quickly picks up a logical sequence, making it much easier to find precisely the color match for which you are looking.



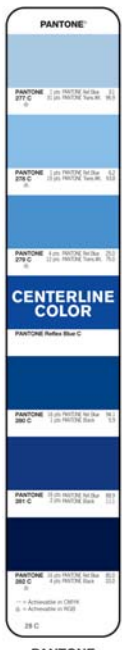
SCIENCE BACKED BY EXPERIENCE WITH COLOR

Pantone blended their unique knowledge of color science with their 45 years of experience as master printers/pressmen to adjust the final color selection and layout. Pantone’s color experts designed rigorous tests on their special printing press and visually evaluated every single color that would occupy a color bar within the guide.

In some cases, this helped them identify colors that mathematically and theoretically should have been different enough on press but, in the real world of printing, with the real world issues of press controls and variables, it turned out to be too similar to warrant inclusion in the new guide. It is this pragmatic, real-world approach that has enabled Pantone to develop technically sound and practical color standards.

NAMING THE NEW COLORS

As Pantone intends for the PANTONE Goe System to complement the existing PANTONE MATCHING SYSTEM, a different naming system was developed to avoid any confusion and to convey the uniqueness of the new PANTONE Goe System. The naming convention for the PANTONE Goe Colors is based on the 165 full strength colors and the families of colors derived from them. Individual color names reflect this approach using a three-part numbering system, plus the substrate identifier where “C” refers to “Coated” stock.



PANTONE FORMULA GUIDE
Figure 1a



PANTONE GoeGuide
Figure 1b

Using color name “PANTONE 16-4-1 C” for example:

- The number “16” tells us the color resides in the sixteenth color family and stems from the full strength color in that series.
- The number “4” indicates the page number within that series. A series may contain as little as one page, or as many as five.
- The last number “1” is an indicator of where the color appears on the page.

NOT A REPLACEMENT

The PANTONE Goe System is not intended to replace the existing PANTONE MATCHING SYSTEM. Instead, with the addition of the PANTONE Goe Library and its supporting publications, it will add a whole new dimension of spot color possibilities.

APPLICATION INTEGRATION

To provide the highest levels of color quality of display and output, each PANTONE Goe Color brings with it full numerical and digital specifications. Through its work with the leading software, workflow, RIP, proofing and digital printing partners, Pantone Licensee Partners will all be enabled with the new data sets. This will allow for more reliable and consistent handling of the PANTONE Goe Colors within applications and throughout workflow.

Pantone has been working with the major design, workflow and RIP hardware and software developers to provide integration of the PANTONE Goe Library into future software updates. For a listing of all current PANTONE Digital Licensees, go to www.pantone.com. In many cases, users will be able to seamlessly integrate the new color values into existing versions of these world-leading applications with myPANTONE palettes software.

The new System is digitally friendly and has been engineered to take full advantage of the color gamut of many of the digital color output devices, from color laser, to wide format inkjet to digital presses.

EXPANDING COLOR HORIZONS

The PANTONE Goe System integrates with the original PANTONE MATCHING SYSTEM with which designers are intimately familiar. Some of the colors that reside in the PANTONE MATCHING SYSTEM (approximately 40%) are also in the new system but named with a Goe number. Understanding that this larger grouping of colors has more potential for cross media work, Pantone has provided the RGB values for each color within the guide.

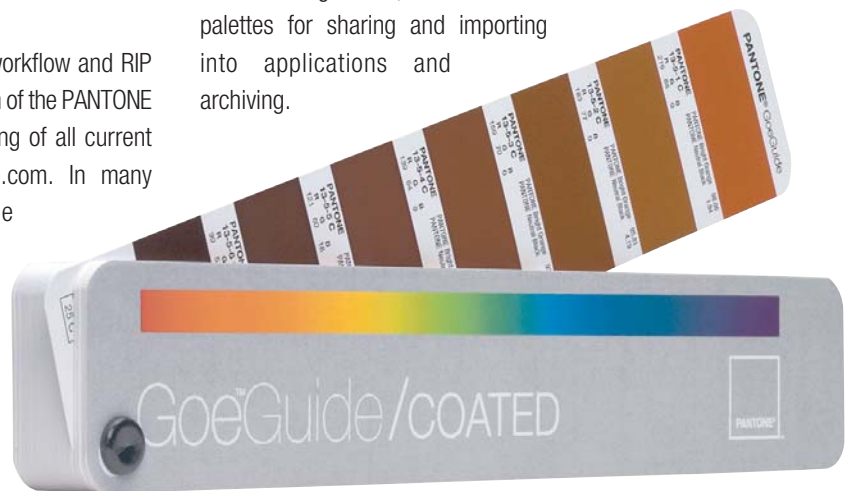
Once a color is specified within a design software program, it must

pass through a RIP (Raster Image Processor), or driver, to be output for printing. Although the new System is designed specifically for spot color output, Pantone recognizes that users will frequently use “process” conversions to “match” the spot colors. In cases where spot colors are used, proofing devices generally must simulate those colors using the capabilities of inkjet or toner-based printing systems that have color gamuts that differ from traditional printing presses. In other cases, the final output may be a digital printing device.

To address these needs of color-managed workflows, PANTONE Goe uses industry standard L*a*b* color data. This allows software and output devices to use sophisticated digital color tools including ICC profiles and color-managed workflows to get the best possible simulation of a spot color.

THE SYSTEM COMPONENTS

Although the new colors are probably the most important aspect of PANTONE Goe System, they are only part of the picture. In addition to the PANTONE GoeGuide, the System also includes a two-volume set of matching adhesive-backed chips and a sophisticated software program with Web component. The software is primarily used for creating and selecting colors, but also to define color palettes for sharing and importing into applications and archiving.



PANTONE GoeGuide

The PANTONE GoeGuide is the primary vehicle for selecting and communicating the 2,058 Goe Colors. Seven colors are printed per page, each one identified by unique number along with its ink mixing formula and sRGB values. Presented in fan guide format, the guide is made up of 294 sequentially numbered pages and is printed on #1 grade 100 lb coated offset text paper. Two additional pages display the ten PANTONE Ink Mixing Bases used to create the colors.

PANTONE GoeSticks

All 2,058 Goe Colors are available in chip format. The chips provide a simple, clean and professional looking method of communicating



color choices between clients, designers and printers. Six chips are provided per color and, as their name implies, have an adhesive backing that simplifies the process of attaching chips where desired. Individual replacement pages are available to replenish colors as chips are consumed.

A supply of PANTONE palette cards is provided with GoeSticks. They offer a centralized location for organizing a palette of color chips used for each print job. The palette cards are ideal for client approvals and archival purposes.



When exploring color palette options, PANTONE GoeSticks includes two clever plastic sheets called the PANTONE palette playground. The playground allows designers to place, remove and replace color chips when experimenting with different color combinations. The adhesive chips, palette cards and palette playground were successfully test-marketed earlier this year for the PANTONE MATCHING SYSTEM.

myPANTONE palettes software

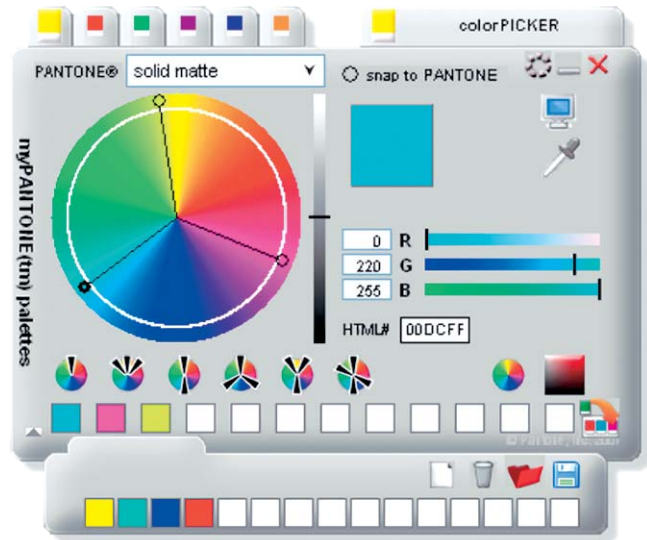
For anyone working with color and defining color palettes, myPANTONE palettes software provides a comprehensive set of tools in one centralized location.

This interactive color workspace integrates into any application that supports system level color selectors. Its small “widget-like” characteristics allow it to co-exist onscreen and be used concurrently with open design applications. The user interface also carries a very modern and easy-to-use appeal.

When viewing colors onscreen, it is imperative that the monitor must be calibrated and profiled. myPANTONE palettes software encourages users to work on a color-calibrated monitor before utilizing any tools within the software. The software will perform a check to see if the monitor has recently been calibrated. If the user decides to bypass the calibration or if the monitor is not calibrated, an icon indicating that the monitor is not calibrated will be displayed.

Multiple Ways To Make Color Selections

- **colorPICKER**



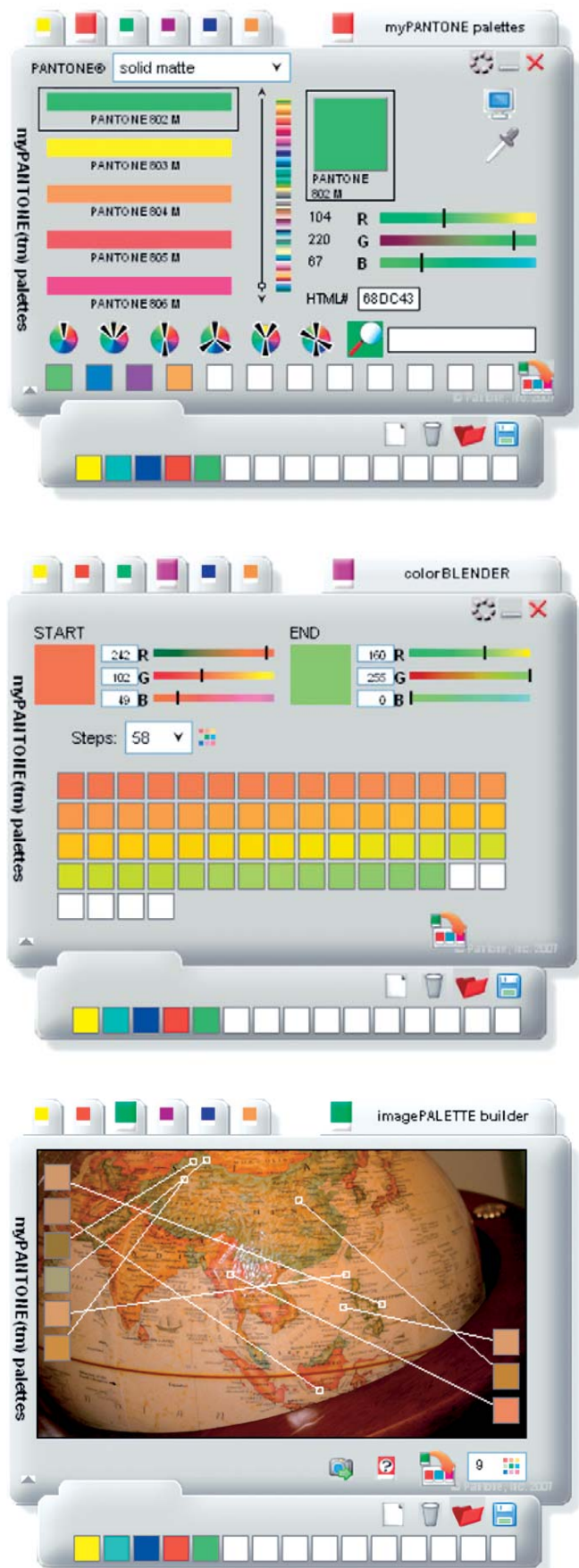
Upon launching the application for the first time, the user encounters the familiar hue circle color picker with lightness and darkness slider. There is an option to switch to a square hue gradient if needed. The user can manually enter RGB (sRGB or Adobe 1998) or HTML values for known colors. Any selected color may be snapped to the closest PANTONE Color within the selected PANTONE Library.

- **PANTONE palettes**

Users have the option to select colors directly from PANTONE Libraries including PANTONE Goe, PANTONE SOLID, PANTONE FASHION + HOME and PANTONE PAINTS + INTERIORS.

- **Eye-dropper Tool**

The eye-dropper tool allows users to pick up any color appearing on their desktop.



From top: screenshots of PANTONE palettes, colorBLENDER, imagePALETTE builder

• colorBLENDER

This feature allows the user to form a color gradient between two user-defined colors with up to 64 individual steps between them.

Whichever method(s) is used, when a color is selected, it is shown within an enlarged square. The PANTONE Color Number, or user-defined name for a custom color, is displayed along with its RGB and HTML values.

Two alternative options are also available in myPANTONE palettes software for color selection: Color Schemes and imagePALETTE builder.

Color Schemes

Color Schemes allow users to select colors according to various color harmonies such as monochromatic, analogous, complementary, split complementary, triadic and tetradic colors for any selected color. Color schemes are available within the colorPICKER tab and also the PANTONE palettes tab.

imagePALETTE builder

Upon importing an image into the imagePALETTE builder, it will automatically generate a palette using the dominant colors within the image. As many as 12 colors can be automatically generated; each color can be individually changed. There is also a “randomize” feature, which creates an entirely new palette of colors using the same image.

Defining Color Palettes

To create a color palette, the user makes individual color selections and populates them within the myPALETES area. With any method used, colors can be dragged and dropped into the spaces provided on the myPALETES area. A collapsed/minimized myPALETES is accessible within all the different tabs in the software for ease of use. The minimized area expands into a tab to manage and archive an unlimited number of palettes. Within the expanded myPALETES, users will have the ability to view all their saved palettes, print, export organize and lock palettes and edit individual color properties.

Saving, Exporting, Printing and Reading Palettes

Once a color palette is defined, users have the ability to save it on their computer and export to another application. It can be printed in two ways – as a list or in palette card format. As a list, each color appears as a small swatch with color information alongside of it. PANTONE Colors are identified by PANTONE Name, while non-PANTONE-identified Colors are listed with RGB and HTML values and a user defined name. The alternative palette card format matches the printed palette cards supplied with PANTONE GoeSticks. Although

non-PANTONE Colors will print, a PANTONE-identified Color will not; an actual chip should be applied to its space to ensure accurate color.

The myPALETTE reader enables users to view saved palettes, add notes and import an image inspired by the palette. The reader resembles the physical palette card. When communicating colors to others, you can utilize the myPALETTE reader to convey details of the palette and the usage of the colors and other details pertaining to the palette.

myPANTONE Palette Sharing

In support of the PANTONE Goe System, the myPANTONE.com <http://www.mypantone.com> Web site will serve as the online community dedicated for palette sharing. This site will allow color enthusiasts to garner color inspiration by searching, sorting and filtering through community posted palettes. Members will be able to post comments, as well as rate their favorite color palettes. A special utility will allow members to import palettes back into their myPANTONE palettes software that will allow them to edit, tweak and make the palettes their own. Members will also have special access to trend and forecast palettes created by industry professionals.

System Requirements

myPANTONE palettes is compatible with Windows® 2000, Windows XP, Windows Vista and Mac OS 10.3 or higher.

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