



United States Department of Agriculture

Standard Colors for Forest Service Developed Recreation Sites



Forest Service

National Technology & Development Program

1623-1810-SDTDC Recreation

August 2016

Cover photo—An administrative site identification sign.

Standard Colors for Forest Service Developed Recreation Sites



Ellen Eubanks
Project Leader

USDA Forest Service
National Technology and Development Program

5E51A35—Federal Standard Colors 595C

August 2016

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the [USDA Program Discrimination Complaint Form, AD-3027](http://www.ascr.usda.gov/complaint_filing_cust.html), found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in

the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

The Forest Service, an agency of the U.S. Department of Agriculture (USDA), has developed this information for the guidance of its employees, its contractors, and its cooperating Federal and State agencies. The Forest Service assumes no responsibility for the interpretation or use of this information by anyone except its own employees. The use of trade, firm, or corporation names is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval of any product or service to the exclusion of others that may be suitable.

Contents

Introduction	1
Federal Standard-595C (FED-STD) Paints	2
Paint Primer	2
Stains	2
Finding a Color Match	3
Method 1—Color Chip	3
Method 2—Customer Help Line	3
Method 3—Electronic Fan Deck	3
Pantone Colors	4
Color Matching Tables	4
RAL Classic System	6
References	7
Resources	7

Acknowledgments

The National Technology and Development Program (T&D) would to thank the Defense Logistics Agency for doing color conversions, and Mike May at Sherwin-Williams for explaining certain intricacies of the paint business. T&D would also like to thank Jim Quast at Valspar, Roger Urena at Behr Paint, John Hadden at IVC Industrial Coatings, and all the cooperative staff from various help lines.

Introduction

The U.S. Department of Agriculture, Forest Service, uses specific paint colors to maintain a consistent brand identity at facilities and developed recreation sites (figure 1). The General Services Administration (GSA) refers to standard paint colors as Federal Standard-595C (FED-STD). You can find the colors mentioned in this publication in the EM7100-15. The Forest Service sometimes reproduces standard colors in printed materials and on powder-coated structures. As noted in the EM7100-15, certain trail signs may need to be retroreflective to increase nighttime visibility, and this may affect the type of paint the Forest Service purchases.

The EM7100-15 also lists colors that other programs, such as the National Wild and Scenic River System and the U.S. Youth Conservation Corps, use on their logos.

The GSA used to supply color chips and fan decks, but now private companies sell them. When purchasing color chips, make sure they are the current FED-STD-595C and not the older FED-STD-595B.



Figure 1—A facility identification sign painted FED-STD 20059, which is the Forest Service brown, and FED-STD 23695, which is the Forest Service yellow-cream color. Note: the photographs throughout may not accurately depict the actual colors.

Purpose

The purpose of this document is to provide guidance for obtaining the correct colors shown in the Engineering Manual 7100-15, Sign and Poster Guidelines, from paint and hardware stores, the proper colors on printed materials, and matching RAL colors. Any mention of brand names or stores in this publication are for the information of the reader only and do not constitute an endorsement by the Forest Service of any product or supplies.

Federal Standard-595C (FED-STD) Paints

The FED-STD paints have five-digit codes that help describe key characteristics of the paint:

- The first digit indicates the level of gloss, such as gloss, semigloss, and flat.
- The second digit indicates a color's classification grouping (0 through 8), such as brown, yellow, gray, and so on.
- The last three digits are assigned in the approximate order of increasing light reflectance value (LRV), from low to high.

For example:

- EM7100-15 color for Forest Service brown, FED-STD 20059, is semigloss (2), brown (0), with a low LRV (059).
- EM7100-15 color for bright blue, FED-STD 15187, is gloss (1), blue (5), with an above average LRV (187).

Figures 2 and 3 show color examples.

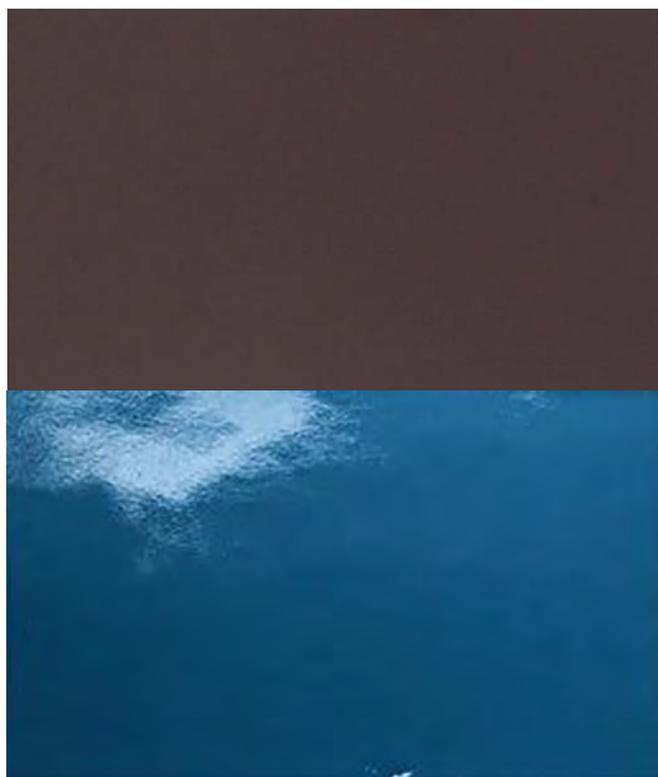


Figure 2—Shows FED-STD 20059 and the gloss of FED-STD 15187, as seen in reflected, whitish light.



Figure 3—An administrative site identification sign painted FED-STD 20059 and 23695.

Paint Primer

Primers are thicker than latex paint and are specially formulated to bond to a surface. You may need to use a primer to seal a new surface, hide stains, or create a smooth surface to paint. When purchasing paint, always tell the sales clerk:

- What type of surface or material you are painting (e.g., stucco, concrete, cement, wood, vinyl, fiberglass, metal, composite)
- If the finished surface will be interior or exterior
- The surface condition

There are various types of primers available and projects may require different primers for particular situations. For example, a new wooden outdoor wall, a new interior drywall, or an already painted surface each require a specific type of primer.

Stains

Maintenance personnel may need to use certain colors as stains. Examples are FED-STD 20059 brown, FED-STD 36357 gray, and FED-STD 20109 Seminole brown (red). There are no color formulas or color chips for stains. If a stained, solid object is portable, take it to the store and ask a sales clerk to scan the object for the best match. Most often, it will be necessary to take the color formula or color chip to the store and ask for a stain opacity, from solid to transparent, depending on the desired look.

Finding a Color Match

There are three methods to obtain the correct paint color or paint color formula:

- **Method 1**—Take a FED-STD color chip to the store and ask a sales clerk to scan the chip using a spectrophotometer.
- **Method 2**—Call, or ask the sales clerk to call, a customer help line to find the brand’s color formula that will produce the FED-STD color that you need.
- **Method 3**—Have a sales clerk search an electronic paint color fan deck for the brand’s color formula.

Method 1—Color Chip

Take a FED-STD color chip to the store and ask a sales clerk to scan the chip using a spectrophotometer. When dealing with regional paint companies, such as Harris Paints in Puerto Rico, Miller Paint Company in the Pacific Northwest, Dunn-Edwards in the Southwest, and Vista Paint in California and Nevada, referencing a FED-STD color chip is absolutely necessary to create the correct formula that matches the color you need. This also applies to regional home and garden improvement centers.

Color chips are a better reference than a fan deck because color chips retain their color longer provided that you properly store and handle them. Keep color chips in a cool, dark environment, such as a desk, so they don’t fade or become lost. Check them out only when you need to match a color. Store them in a consistent place where everyone has access and one person is accountable for them.

As previously mentioned, some colors may be commonly used as stains. However, there are no formulas or color chips for stains. For the best stain match, take a solid object that has the stain on it to the store for a clerk to scan. When this is not possible, experiment by applying different stain opacities to a like surface to find the correct opacity. In other words, don’t apply a sample stain to plywood when the surface you need to stain is fir.

Method 2—Customer Help Line

Certain paint brands and stores have customer help telephone lines. A person at the help line will use the FED-STD color code to find the correct brand color formula for a specific surface and material. Try to call customer help before going to the paint store. If that is not possible, ask the sales clerk to call.

- For Ace (Hardware) Retailer Care Center (tech paint office), call 800-777-6797; listen for the prompt “paint,” then “color match formulas.” Ace sells Val-spar, Clark + Kensington, and Royal paint brands.
- Benjamin Moore does not have its own stores. It does have a customer information center at 888-236-6667; listen for the prompt “contractor or consumer,” then “product and technical information.”
- For PPG Architectural Coatings Technical Service Center for Pittsburgh, Porter, Olympic, and Glidden paint brands, call the Architectural Coatings Technical Advice Center at 800-441-9695; listen for the prompt “color matching.”
- For Pratt & Lambert, Martin-Senour, Dutchboy, Easy Living, Frazee, Kwal, Parker, and Color Wheel paint brands, call the color line at 800-289-7728; press “1” for English, then listen for the prompt “color help.”

Method 3—Electronic Fan Deck

Major paint and hardware stores have electronic fan decks. There is an electronic fan deck for the FED-STD colors. However, it is rare for a company to have the FED-STD fan deck loaded on a computer, or that a clerk can find it when it is. The fan deck is called “US Government.” Once the FED-STD color is entered into the store computer, it will display the company’s paint-color formula to match the needed color.

For Home Depot’s paint department, ask the sales clerk to use the computer and bring up “Color Search.” In the color search box, the sales clerk needs to enter the five-digit FED-STD color paint code. To find the correct store-brand color formula, the sales clerk needs to click on a “CF...” number on the screen. If the sales clerk cannot find a color match, ask the clerk to contact Home Depot’s color lab for further assistance.

Pantone Colors

To consistently reproduce FED-STD colors in printed materials, it is necessary to translate them into Pantone colors, a standardized color system for printing. For this publication, trained experts used a spectrophotometer and visual matching for the translations. Each Pantone color is assigned a specific numeric or alpha-numeric code. Pantone, Inc., publishes its standardized colors as the Pantone Matching System coated series, uncoated color series, and other special color series (e.g., Fashion, Home + Interiors).

Color Matching Tables

Tables 1 through 6 show FED-STD color codes, their EM7100-15 color names, and the equivalent Pantone colors that the Forest Service and other agencies commonly use. The Forest Service may use these colors for the family of signs, reassurance blazes, snow trail difficulty symbols, and other logos (figures 3 through 6). The National Wild and Scenic River, and U.S. Youth Conservation Corps also use FED-STD colors for their logos (figures 7 and 8). Because there is no association between paint color formulas and Pantone colors, some colors do not have an exact match. In these instances, we present the closest Pantone color.

Table 1—Colors that the Forest Service commonly uses, including the Forest Service brown and yellow-cream color used on most signs.

FED-STD-595C	EM7100-15 color name	Pantone color
20059	Brown	7596
23695	Yellow-cream	1345
14260	Green	16-5924 TPG
15187	Light blue	2183
17038	Black	433 or black 3
20109	Seminole brown (used as a stain)	7594
20260	Tan (used as a stain)	7508
27875	White	12-5201 TPG

Table 2—Colors that the Forest Service commonly uses for reassurance markers, such as blazes on various trail types.

Trail type	FED-STD-595C	EM7100-15 color name	Pantone color
TB-I Hiker/pedestrian, pack and saddle	27722	Gray/white (nonreflective)	7527
TB-I, TB-IA cross-country ski and snowshoe	15187	Blue (retroreflective/nonreflective)	12-5201 TPG
TB-I, TB-IA, TB-2A snowmobile	12473	Orange or fluorescent orange (retroreflective)	166

Table 3—Colors that the Forest Service commonly uses for snow trail difficulty symbols.

FED-STD-595C	EM7100-15 color name	Pantone color
14109	Green-DD-1	343
15090	Blue-DD-2	7701 or 3025
35042	Black-DD-3	532

Standard Colors for Forest Service Developed Recreation Sites

Table 4—Colors that the Forest Service uses for National Forest Scenic Byway markers.

FED-STD-595C	EM7100-15 color name	Pantone color
No specific color number	No specific color number	Retroreflective white
17155 or 17100	Purple	5135 Light plum
34058	Green	330 Teal
25193	Blue	5493 Light blue gray

Table 5—Colors that the National Wild and Scenic Rivers System uses on its logo.

FED-STD-595C	EM7100-15 color name	Pantone color
34108	Green	357
37038	Black	433 or black 3
37875	White	12-5201 TPG
35193	Blue	7719 or 2238

Table 6—Colors that the U.S. Youth Conservation Corps uses on their logo.

FED-STD-595C	EM7100-15 color name	Pantone color
17875	White	12-5201 TPG
15080	Blue	2377 ¹
14187	Green	364

¹A suitable replacement color was not found and a “best guess” is shown. See figure 8.



Figure 4—Orange paint blaze.



Figure 5—Snow trail difficulty symbols.



Figure 6—“National Forest Scenic Byway” logo.



Figure 7—“National Wild and Scenic Rivers” logo.



Figure 8—“United States Youth Conservation Corps” logo.

RAL Classic System

In 1927, the German Reichs-Ausschuß für Lieferbedingungen und Gütesicherung (RAL), State Commission for Delivery Terms and Quality Assurance, created 40 standardized colors (Inoutic 2016). The RAL classic system is a color-matching system that was developed in 1984 and is used mostly for varnish and powder coating. Since then, RAL Design, Effect, Digital, and Color Feel have been developed. Each color has four digits. There is no direct correlation between the RAL and FED-STD color systems (“RAL” 16 June 2016).

Some projects may require matching or complimentary colors on unpainted surfaces, such as metal powder-coated surfaces for railings or other site furniture. When ordering an item or structure with an RAL color, give the manufacturer the FED-STD color number to match. If you are contracting out the work, write this into the contract. Some companies have the formulations on file; others will use a spectrophotometer to get a close color match.

References

Inoutic. 2016. [What is RAL?](#)

<<http://www.inoutic.de/en/tips-on-window-purchase/window-technology/ral-what-is-it/ral.html>> (5 July 2016)

RAL colour standard. 16 June 2016.

In Wikipedia. <https://en.wikipedia.org/wiki/RAL_colour_standard> (5 July 2016)

Resources

Web sites for purchase of [FED-STD-595C color chips](#):

- <<http://www.fed-std-595.com/FS-595-Paint-Spec.html>>
- <<http://www.milspeccoating.com/Federal-Standard-595-Colors-s/41.htm>>

About the Author

Ellen Eubanks (retired) joined the Forest Service in 1991 as a landscape architect. In 1997, she became a project leader at San Dimas Technology and Development Center.

Library Card

Eubanks, E. 2016. Standard colors for Forest Service developed recreation sites. 1623–1810–SDTDC. Tech. Rep. San Dimas, CA: U.S. Department of Agriculture, Forest Service, San Dimas Technology and Development Center. 6 p.

The Forest Service uses specific paint colors to maintain a consistent brand identity at facilities and developed recreation sites. The Forest Service uses these standard colors for buildings, other structures, signs, and printed materials. The purpose of this document is to help Forest Service employees to find and order the correct Forest Service paint color for each application.

Keywords: color chip, color matching, EM7100-15 color names, FED-STD color codes, Forest Service brand, paint, Pantone, printed materials, RAL, stain

Contact Information

Order additional single copies of this publication from:

U.S. Department of Agriculture, Forest Service
National Technology and Development Program
San Dimas Technology and Development Center
444 E. Bonita Ave.

San Dimas, CA 91773–3103

Phone: 909–599–1267

Fax: 909–592–2309

Email: mailroom_wo_sdtdc@fs.fed.us

Contact SDTDC for additional technical information:

Phone: 909–599–1267

Fax: 909–592–2309

Find electronic copies of T&D's documents on the Internet at:

[Search T&D](http://www.fs.fed.us/eng/pubs) <<http://www.fs.fed.us/eng/pubs>>

Forest Service and Bureau of Land Management employees can search T&D's documents, CDs, DVDs, and videos on their internal computer networks at:

[Search MTDC](http://fsweb.mtdc.wo.fs.fed.us/search/) <<http://fsweb.mtdc.wo.fs.fed.us/search/>>

[Search SDTDC](http://fsweb.sdtc.wo.fs.fed.us/) <<http://fsweb.sdtc.wo.fs.fed.us/>>

Produced by the
National Technology & Development Program
Missoula, MT
1623-1810-SDTDC
