

## Cement Color Products Reference Guide

## Chart A.: DRY COLORANTS (Powder Form)

Dry Products Type	Application Techniques*	Color Considerations	Availability** (See Below)	Comments	Permanence
“Integral Color”	Thoroughly Pre-mix with other dry ingredients before adding water	Best for overall uniform color. Tends to be “flat” in appearance	Cement & concrete specialty suppliers	Powders can be “mixed” to achieve desired colors. Multi-color effects achieved by mixing separate batches simultaneously, then combining onto form or into mold	Rated as Permanent
“Dust-On Colors”, “Colored Releases” & “Color Hardeners” (The last contains a fine Quartz or Emery Aggregate)	Dusted, sprinkled or tossed directly onto fresh, still damp to wet surface	More random, mottled in appearance	Cement & concrete specialty suppliers	Commonly used when “stamping” textures or patterns onto concrete. Different colors & tints can be easily combined on the surface. NOTE: “Releases” are a combination mold release & color	Colorants usually permanent, but subject to top surface wearing away mechanically over time
Natural Mineral Based Dry Pigments (Including Powdered Metals such as Bronze, Copper, etc.)	Can be pre-mixed or surface applied onto fresh, still damp to wet surface	Can be “flat” if pre-mixed, more mottled if surface applied. Metals can be burnished	Industrial suppliers and some Art Supply & Paint stores	Fair range of colors that can be mixed. See both notes above, depending on application technique used.	Natural Mineral based dry pigments are generally rated as Permanent
Synthetic Dry Pigments	Can be pre-mixed or directly applied onto fresh, still damp to wet surface	Can be “flat” if pre-mixed, more mottled if surface applied. Metals can be burnished	Industrial suppliers and some Art Supply & Paint stores	Generally mix well. See notes above, depending on application technique used	Synthetic pigments are less stable than natural and some can fade rather quickly, while others are relatively stable
Dry Reactants (Powdered Oxides & Minerals that cause a chemical reaction with cement producing a color)	Generally applied to fresh, still damp to wet surface, but can also be pre-mixed or dissolved into a solution & applied	Difficult to predict, but often yield interesting results. Granules will produce “spots” where they lay on the surface	Agricultural Suppliers (Feed Stores), Garden Centers, Chemical Supply Houses	Requires detailed experimentation & notation to control, but can often produce very “natural” & rewarding results	While considered permanent, may continue to “react” with both the cement & the environment over time altering the appearance. Sealing minimizes environmental effects

**NOTES:**

- Any colorant will yield the strongest end result when used with White Portland Cement. Use Gray Portland Cement to neutralize & subdue colors
- The use of a Sealer will brighten & enhance any coloring effect
- All colorants whether rated as permanent or unstable are subject to some degree of mechanical surface weathering and will change in appearance over time
- Begin by reading & following all manufacturers directions carefully, as product applications can vary greatly, even among common product types. Then experiment.
- Specific color results can vary greatly. Factors include; Brand of product (including the Cement), mix water content (salts, minerals, Fluoride, etc.), chemistry of aggregate & additives, etc., etc., etc. Controlled tests & very detailed records are the key to producing reasonably consistent results.

\* **APPLICATION TECHNIQUES:** These are the generally accepted “official” recommended techniques. Experimentation yields many options. **Example:** Nearly all of the colorants listed can be “surface mixed” by hand while applying onto a form or into a mold. Trial & error combined with careful notation will produce a wide range of application techniques & results.

\*\* **AVAILABILITY** (Trade, Company & Generic Names...Google for Websites) :

**Integral Colors**.....Lambert Corporation, L. M. Scofield Company, Specialty Concrete Products, Inc., Davis Colors, Bay Ferro, Dynamic Color Solutions, Inc.,

**Dust-On Colors/Colored Releases/Color Hardeners**..... Lambert Corporation, L. M. Scofield Company, Specialty Concrete Products, Inc.,

**Natural Pigments(Including Oxides & Minerals)**.....Hoover Color Corporation, Bay Ferro, BioShield

**Synthetic Pigments**..... Hoover Color Corporation

**Dry Reactants** (Generic Names).....**Ferrous (Iron) Oxide, Ferrous Sulphate** (Rusty Reds, Browns & Yellow Ochres); **Copperas** (Blue Green to bright blue) *Widely available under numerous Product Names. Present in many plant foods, fertilizers & also bagged as Livestock food supplements.*

## Cement Color Products Reference Guide

## Chart B.: WET COLORANTS (Liquid Form)

Wet Products Type	Application Techniques*	Color Considerations	Availability** (See Below)	Comments	Permanence
Liquid Color Additives	Thoroughly Pre-mix into ½ of the water to be added to dry components, mix, then slowly add balance of clear water	Good for fairly uniform overall color. Tends to be “flat” in appearance. Limited color range	Cement & concrete specialty suppliers and most Home Improvement Centers	Liquid additives can be “mixed” to achieve desired colors. Multi-color effects achieved by mixing separate batches simultaneously, then combining in/on form.	Rated as Permanent but subject to some wear & fading. Performs best when sealed
Acid Stains	Apply to clean, cured surface, then time & rinse according to specs	More random, mottled in appearance. Wide range of colors	Cement & concrete specialty suppliers	Acid -based! Use reasonable caution. Different colors & tints can be easily combined on the surface	Color is “etched” into surface & rated as permanent. Most permanent of the liquid color options
Liquid Dyes	Apply to clean, cured surface or over other colorants applied	Wide range of transparent colors. Can be combined with other color techniques	Cement & concrete specialty suppliers	Good for “spattering” & highlighting. Can also be useful as a tinted glaze	Like any surface applied color, subject to wear & fading. Performs best when sealed
Pigmented Stains (Oil & Water-based Wood Stains) and diluted Artist’s Colors (Oil, Alkyd & Water-Based)	Penetrates best when applied well prior to cure. Best used on more porous mix formulations	Full spectrum of colors, but minimal penetration	Home Improvement Centers & Art Supply Stores	Best for indoor items	Permanence varies greatly with materials & environmental conditions. Subject to fading and wear
Specialty Cement & Concrete Paints (Including Organic, Inorganic, Latex & Epoxy-Based)	Apply to clean, cured surface	Latex & Epoxies limited in color choices. All exhibit no penetration. Surface finish only	Cement & concrete specialty suppliers and many Home Improvement Centers	Can be tricky to apply. Many of the new hi-tech paints were designed for specific, commercial applications, such as Garage Floors, Road Stripes & Safety Markings	Limited. Organic & inorganic paints require regular maintenance but “new generation” products can last for quite a few years, even when subjected to heavy traffic & abrasion
Conventional Paints (Oil & Water-Based)	Apply to clean, cured surface	Full spectrum of colors, but no penetration whatsoever	Many Sources	Really only suitable for indoor items. NOTE: Cement sheds most paints in time	Least permanence of all materials. Surface bond weakens rapidly

**NOTES:**

- Any colorant will yield the strongest end result when used with White Portland Cement. Use Gray Portland Cement to neutralize & subdue colors
- The use of a Sealer will brighten & enhance any coloring effect as well as improve longevity (New UV filtering sealers offer superior protection for all colors)
- All colorants, whether rated as permanent or unstable, are subject to some degree of mechanical surface weathering and will change in appearance over time
- Begin by reading & following all manufacturers directions carefully, as product applications can vary greatly, even among common product types. Then experiment.
- Specific color results can vary greatly. Factors include; Brand of product (including the Cement), mix water content (salts, minerals, Fluoride, etc.), chemistry of aggregate & additives, etc., etc., etc. Controlled tests, consistency & very detailed records are the key to producing reasonably predictable results.

\* **APPLICATION TECHNIQUES:** These are the generally accepted “official” recommended techniques. Experimentation yields many options. **Example:** Nearly all of the colorants listed can be “surface mixed” by hand while applying onto a form or into a mold. Trial & error combined with careful notation will produce a wide range of application techniques & results.

\*\***AVAILABILITY** (Trade, Company & Generic Names...Google for Websites) :

**Liquid Colors Additives**.....Quikrete Cement Color, Custom Building Products (Grout Color)

**Acid Stains**.....Lambert Corporation, Specialty Concrete Products, Inc., Kemiko Concrete Products, QC Construction Products

**Liquid Dyes**.....Colormaker Floors, Ltd., Specialty Concrete Products, Inc.

**Pigmented Stains**.....MINWAX

**Specialty Cement & Concrete Paints**.....BioSheild

**Conventional Paints**.....Anywhere Paint is Sold