



SUMMER 2006

CONCRETE ANSWERS

www.alabamapigments.com

Welcome

Let me take this opportunity to welcome you to the inaugural issue of Concrete Answers. We will be publishing this newsletter by email and direct mail quarterly and hope you find it both informative and enjoyable. We at APC have dedicated ourselves to providing a decorative concrete product line that offers affordability with outstanding quality. All of our products are tested against our competitors lines and we will not release a product to the public without it meeting our strict quality standards. That standard, along with a significant price advantage, will assure a strong future in the decorative concrete industry and should facilitate growth and increased profits for all companies and individuals who join the APC family. Thank you again for your business, and we look forward to a great future with you.

Newsletter written by Greg Patterson - APC Sales Manager - Integral Color Products.

Using Decorative Concrete Indoors

Have you ever walked into a neighbor's house and been impressed by the marble flooring? Are you intrigued by the aged brick floor in a newly constructed home you toured? Does your best friend's kitchen tile never stain or chip, despite the abuse of their five children? Well, all of these homes could share a secret. Move a little closer and I will share it with you. The use of architectural or decorative concrete as a finished indoor floor is becoming a popular choice for progressive builders. With the competition in the new home market, builders are looking for an edge over competitors.

You can rarely pick up a home decorating magazine without finding a picture of a colored concrete indoor floor. In most cases it is portrayed as a custom, unique upgrade to traditional flooring system. Builders have found that by combining methods, they can create, for around the same cost, one of a kind custom floors that add to the value of the home as well as provide owners a low maintenance, artistic floor that will last far longer than other surfaces. There are many options for colored concrete floors. Some builders prefer to integrally color and slick finish the slabs. They will then score cut decorative joints to provide a look of large squares of marble or natural stone. They may choose to score a smaller pattern, giving the look of tile. Other builders will use gentle stamped patterns to mimic the look of brick or of natural stone and in some cases, wood plank. The limits are set only by the imagination of the builder or architect. By using different techniques on patios or sunrooms, the builders can create a flow of color and texture that adds to any floor-plan. The beauty of these floors is much more than skin deep. Other benefits include low maintenance, soundproofing and insulating qualities of concrete, and the lack of allergens that can become trapped in traditional carpet flooring. Should a homeowner decide later to install hardwood in a study or den, they can do so directly over the concrete floor, eliminating a step of removing old floor coverings. Some contractors in the APC family have taken it a step further and included in their subdivision covenants, a rule that all concrete must be colored. The curb appeal of exterior colored concrete when compared to dull, uncolored concrete is dramatic. By using APC products and making this commitment to color, they have set themselves apart from other builders developments, and enjoy increased marketability.



APC Nutmeg Interior Floor by American Legacy

What's New & Coming Soon

APC continues its effort to bring quality, affordable color products to you with the recent addition of APC Colored Release Powder, in 10 standard colors. We have also added a new flattening agent for our line of colored concrete sealers. This product can be used to flatten the gloss of our sealer products to either flat or semi-gloss. Contact APC or your local APC dealer today to find out more.

COLORS AVAILABLE



APC Colored Release Powder - Color Chart

APC is also in final testing of our line of colored hardeners, specialty countertop colors, overlay color packs, as well as a few "top secret" items we have in the works. Check our website for updates or call us with any questions you may have. APC is dedicated to bringing you the best products for decorative concrete at the lowest costs in the industry. Join the APC family today.

For more information visit our website at www.alabamapigments.com

A CONTRACTOR'S GUIDE TO COLORED CONCRETE

Many of the "Big Box" stores are now specifying integrally colored floor slabs, which are later polished. Durable and attractive, colored concrete floors eliminate the floor coverings entirely. This 'concrete solution' solves the problem of vapor transmission and lowers both nightly and long term maintenance cost. This modern line of thinking is rapidly integrating into the residential market, providing builders with what buyers perceive as a "custom" or "upgraded" floor material at costs that are in most cases, equal or lower than the cost of other popular floor coverings. Colored concrete floors help builders give buyers that "one of a kind" product that is normally found only in the very high end, custom residential market. With very little planning, a builder can integrate colored concrete interior floors, decorative patios, outdoor living spaces, as well as colored concrete driveways and sidewalks, into the overall "theme" or "style" of the new home. This progressive line of thinking gives builders who use colored concrete a distinct marketing advantage over builders using plain, uncolored concrete in comparable priced developments.

CONSISTENCY - The Key to Success

The measures required to produce attractive, integrally colored concrete are consistent with those required to produce any high-quality concrete. Although color increases the need to follow proper ACI concrete techniques, the true key to color uniformity is consistency in materials, practices, and craftsmanship.

Mixes for Colored Concrete

The first step toward achieving a consistent appearance is using the same ingredients throughout a project. Try to get all your colored loads from the same batch plant, or if you are dosing trucks at the jobsite, inform your ready mix producer that you are pouring colored concrete and you would like to ensure they batch your loads from the same batch plant, using consistent ingredients.

Variations in the source of materials can affect concrete color. Aggregates are natural materials, and if they come from different deposits, this can be reflected in the final shade of color. Portland cement is produced in a variety of shades from light to dark and will produce similar range of tones in concrete. In most situations, where multiple ready mix companies are present, cement color varies from producer to producer; therefore you should always prepare for small variations in final color shade, due to these variations. The use of fly ash adds another variable to the mix. If you are doing a significant project with any type of architectural concrete, communicate with your ready mix producer to assure consistent materials are used throughout the job. Mineral oxide pigments used in integrally colored concrete are resistant to ultraviolet light, weathering, and the alkalinity of concrete. The microscopic pigment particles become locked into the cement matrix and last as long as the cement itself. The pigment dosage rate is based upon the weight of both the cement and fly ash (if used) in the mix. When you chose a color from the APC Precision-Pac™ Color for Concrete chart,



the colors are shown in dosage rates designed for standard 3000psi (5sack mix) concrete. One bag of pigment is used for one yard of ready mixed concrete. APC can custom bag pigments for other concrete mix designs with minimal lead time, ensuring consistency pour after pour. Increasing the dosage rate produces more intense colors, but saturation occurs at around 6-8 percent of the weight of cementitious material. For uniform color, the same color dosage rate must be used throughout the job. Order the lowest cement/water ratio that will allow a workable mix. Minimize the usage of additional water at the jobsite.

For cast-in-place construction, a 5 inch slump is generally acceptable. You should avoid slumps over 5" unless you use a water-reducing admixture. Ask your ready mix representative about using the largest size of coarse aggregate practical for your job. This will reduce water demand and cracking. Low water content mixes also promote richer concrete colors. For exterior flatwork specify air entrainment for improved workability and durability. When accelerator is needed, use only non-chloride accelerator. Calcium Chloride will cause discoloration in concrete and will only be accentuated in a color job.

Selling the Job - Proper Expectations

In many ways, colored concrete is similar to wood or stone. Concrete is a natural material and this leads to variations in appearance. It is never uniform, and its beauty is in the natural variations. Each slab will have a slightly unique appearance due to differences in sub grade, materials, finishing techniques, weather conditions, etc. Proper practices will keep those differences to a minimum, but an owner must not be led to believe he

will have a factory produced finish. While designing the job, discuss this with your customer to avoid misunderstandings later. Showing samples of project photographs provides an excellent opportunity to discuss expectations and finishing options. APC has color charts readily available for contractors to work with homeowners or developers to

choose the proper color. On complex jobs, use various samples for designer or customer approval. On some larger projects, or projects where an architect is involved, full-size mock-ups are used to establish the appearance expectations and verify the proposed materials and methods. Allow samples and mock-ups to cure for 30 days before inspecting and approving the color. With complete color lab facilities, APC can assist in preparing project specifications, matching existing specifications or creating custom colors for any project or application.

A CONTRACTOR'S GUIDE TO COLORED CONCRETE

Planning and Site Prep

Remember, "Consistency is Key." Even weather conditions have to cooperate. Postpone colored concrete placements if rain, wind, or extreme temperatures are in the forecast. Concrete placed during hot or windy conditions may begin drying prematurely and affect uniformity which is particularly critical with dark colors. Schedule placement and finishing work to minimize exposure to hot sun before curing materials can be applied. The use of micro-fibers will increase the uniformity of the bleed-water and decrease the propensity of plastic shrinkage cracking. When placed under different weather conditions, concrete can cure to different shades. If practical, try to perform all concrete placements under similar environmental conditions. The subgrade must be uniformly graded, compacted and dampened. American Concrete Institute standards need to be followed for reinforcement and joint placement to control cracking.

Ordering and Scheduling

Be sure you order the correct color and dosage rate. Double checking your color is the first step to avoiding problems. Some projects have several different colors and some contractors work on several different color jobs at the same time. This can create confusion for dispatchers and drivers. Whether you are ordering color from the ready mix producer, or from APC or an APC distributor, steps should be taken to reduce the likelihood of miscommunications and other problems. When ordering color from your ready mix producer, make sure you specify the mix design (PSI) and the color name. Plant operators have to take extra steps to avoid contamination of a colored batch of concrete. They have to wash out the mixers between incompatible batches, especially between batches of different colors. Advance notice will ensure the plant has your color in stock. Even when providing your own color for job-site addition, let the dispatcher know you are pouring a colored project.

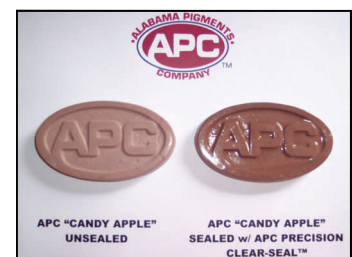
When ordering color from APC or one of our distributing partners, advance notice is helpful to ensure product availability. APC makes every effort to keep adequate stock levels of all 32 colors in standard 5 sack mix dosage rates. Special mixes require adjustments to the dosage rate with relation to the cement content of the mix. One weeks notice is required for 5.5 sack, 6 sack or any other special dosage rates to allow time for blending and packaging. Remember we are always available to answer questions regarding dosage rates and lead times.

Placing and Finishing

Most of the secrets to successful placing and finishing colored concrete again go back to consistency. Colored concrete needs extra time and manpower for placement and finish work. Protect adjacent slabs and structures from splatters with plastic sheeting. On every truck, have your slumps correct and consistent before starting to place concrete. Water added halfway through a load may be quite evident in your slab. If you cannot avoid water additions, keep them to a minimum and consistent among loads. Place concrete near its final location and move it with shovels to prevent segregation. Finishing colored concrete requires just a few additional steps and precautions. Just like with regular flatwork, strike off the slab and bull float the surface, but to reduce discoloration, use wood bull floats and darbies, when available. Also using a fresno to decrease the hand floating of concrete will help maintain consistency. Wait for bleed water "sheen" to disappear before troweling. Early troweling, especially with a wet mix, can bring excessive bleed water to the surface and cause the surface color to pale. Overworking the surface can also lead to burns and darker spots. The potential for discoloration rises as troweling increases. NEVER sprinkle the surface with cement or water. Have enough tools on site where you don't have to wash and use them wet. Even a small amount of water on your brooms can lighten the concrete surface. Some contractors that do a lot of color jobs have several brooms and multiple sets of tools so they never have to use a wet one. Don't fog colored concrete with water. With color, any additional water can cause the surface to pale or discolor in that particular spot. *Water is colored concrete's kryptonite.*

Curing and Sealing

Proper curing and sealing is the most important and often the most neglected aspects of quality colored concrete construction. Many of the curing techniques acceptable for regular concrete will not produce satisfactory results with colored concrete. For example, water spraying and misting can have an adverse effect on the concrete's water/cement ratio. Covering the concrete with plastic membrane sheets will result in discoloration wherever the plastic is wrinkled and water condenses underneath. Using a high quality cure and seal, such as *APC Precision Clear-Seal™* is recommended. You should apply the cure and seal after final finishing has taken place. If saw-cutting is used for control joints, it should take place before the application of cure and seal. Thoroughly rinse all cutting residue off the slab to prevent stains. Concrete will continue to lighten until it is fully cured. Allow 30 days before inspecting it for color match or appearance. Proper curing and protection against water penetration reduces tendency for efflorescence to occur. Efflorescence is a white powdery substance that appears on concrete surfaces. A result of water evaporation, it is more noticeable on colored concrete surfaces making them look faded or lighter in color when not cleaned off. Remember all colored concrete should be sealed to protect the surface, reduce the chance of efflorescence, and to maintain intended color for years of enjoyment. APC also offers a pigmented sealer called *APC Precision Color-Seal™*. This product has all the properties of our Clear-Seal, but comes tinted to match our line of 32 integral colors. Although this product will not color plain concrete, it will highlight the intensity of matching colored concrete and cover up most discoloration that can occur. It is extremely useful on large projects where pours may take place weeks apart in very different weather conditions. For more information including technical information and MSDS sheets, go to the APC website and click on Information Center.



APC partners with UAH in Concrete Canoe Competition

Alabama Pigments Company has been asked to provide the concrete coloring for The University of Alabama - Huntsville's entry, "Full Spectrum" into the 2006 National Concrete Canoe Competition, which is organized by the American Society of Civil Engineers. The University of Alabama - Huntsville hopes to carry on its national championship tradition by capturing their sixth title, the most



UAH's Entry "Full Spectrum"

for any school. Over 100 teams from various institutions of higher learning will compete for this coveted title. UAH started the competition by demolishing the field at the Southeast Regional, finishing 23 points ahead of their closest competition, Florida Institute of Technology. UAH scored a 95.3 out of a possible 100 points. They will be competing for the National Championship in Stillwater, OK on June 15th-17th at the campus of Oklahoma State University. This competition has national importance in civil engineering circles and we are confident in our choice to support UAH in their bid. We wish you the best of luck. Visit www.concretecanoe.org for more info.



UAH's Concrete Canoe Team

Growing The Family Distributor Opportunities

Would you like to become a distributor of APC's line of decorative concrete products? If you answered yes it may be easier than you imagined. We have created this line to provide contractors with superior products at prices well below what they are accustomed to. We need distributors that can make our products readily available to contractors. Although we sell direct to states without distributors, the costs of shipping small quantities, as well as freight time, sometimes forces contractors to purchase higher priced, lower quality products just because they are easier to acquire. If you are interested in joining the APC family as a distributor and would like more information, contact our Integral Color Sales Manager, Greg Patterson at 1-800-531-1172.

Customer Spotlight American Legacy Homes

When we approached Jeremy Wright at American Legacy Homes about using colored concrete in his homes, he was skeptical. Like most builders, Jeremy



American Legacy Nutmeg Floor

treated concrete as a structurally sound item in his building process. Concrete slabs were poured to be covered by other "designer" floor coverings. Concrete was the accepted choice for structurally sound driveways, sidewalks and patios. Like most builders, Jeremy looked for ways to set his homes apart from the many new homes being built in his area. Colored concrete provided him that option. At first Jeremy started coloring his driveways and sidewalks.

This alone gave his homes "curb appeal" that normal concrete just did not offer. With that success came the addition of using colored and stamped concrete for patios and porches. Jeremy had become a very progressive thinking builder. His designs jumped out at the buyer. He then took the next step and started using integrally colored concrete floors as the interior floor finish and truly elevated himself above his competition. By combining color with decorative joint patterns and even light textured stamping, American Legacy offers customers a floor that is not only beautiful, but provides a lifetime of durability and low maintenance. Contact APC to find out how to use colored concrete to elevate the appeal of your home designs.

Employee Highlight Charles Trainer

A large part of what makes APC successful in the color business is the work of our Color Lab. The color lab is used to formulate color matches for many of our customers. The lab is also responsible for daily quality control testing. APC tests each product we offer against strict standards. We have put this responsibility on Charles Trainer, our lab technician. Charles has been with APC for over two years since graduating from the University of West Alabama in Livingston, AL. In that time he has developed many new



Charles with the Hunter Labs Spectrophotometer comparing color formulations in APC Color Lab.

methods for color matching. He has both designed and implemented many of our procedures for quality assurance and product testing. You can be confident when you purchase any color products from APC; they have been professionally tested and approved by Charles and the Color Lab.