MARSHALLTOWN
The Premier Line

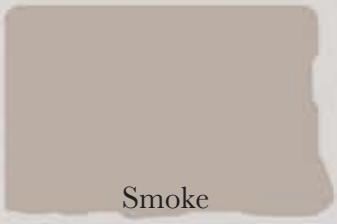
# uni-mix® integral color

Uni-Mix® Integral Concrete Colorant is packaged in dissolving bags for accurate and convenient coloring of concrete. Simply toss one bag of colorant per cubic yard of concrete into the mixer. Uni-Mix® colorants contain dispersants and wetting agents which reduce the water demand of the pigments. This increases the strength of the concrete while allowing the color to mix faster and more evenly.
*The cement content of your concrete will dictate whether a 5 or 6 sack mix is appropriate.*

Sonoran Tan
**EDI** 18148 **&** 18172

Autumn Oak
**EDI** 18149 **&** 18173

Lanon Stone
**EDI** 18162 **&** 18186

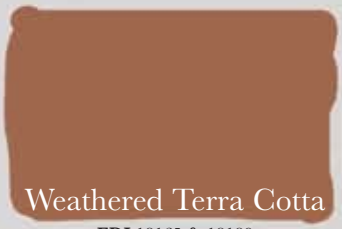


Smoke
**EDI** 18156 **&** 18180

Sandstone
**EDI** 18157 **&** 18181

Sunset Beige
**EDI** 18150 **&** 18174

Millstone
**EDI** 18151 **&** 18175

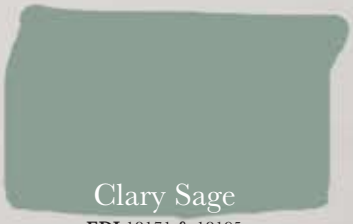


Weathered Terra Cotta
**EDI** 18165 **&** 18189

Salt Marsh Gray
**EDI** 18158 **&** 18182

Dusty Rose
**EDI** 18159 **&** 18183

Shadow Slate
**EDI** 18168 **&** 18192



Clary Sage
**EDI** 18171 **&** 18195

Georgia Clay
**EDI** 18160 **&** 18184

Coral Buff
**EDI** 18153 **&** 18177

Harvest Wheat
**EDI** 18154 **&** 18178

Sienna
**EDI** 18169 **&** 18193

Mocha Brown
**EDI** 18163 **&** 18187

Santa Fe Buff
**EDI** 18161 **&** 18185

Hampshire Red
**EDI** 18166 **&** 18190

Brick Red
**EDI** 18167 **&** 18191

Pewter
**EDI** 18152 **&** 18176

Gull Gray
**EDI** 18155 **&** 18179

Charcoal
**EDI** 18164 **&** 18188

Deep Charcoal
**EDI** 18170 **&** 18194

# color selection guide

Color chart may vary from actual color due to printing, lighting, application and/or usage.

# Uni-Mix® Integral Colorant

Technical Data Sheet U-9911

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FOR PROFESSIONAL USE ONLY. Read all applicable and current product information for your project: Technical Data Sheet (TDS), Color Chart, Installation Guide, Material Safety Data Sheet (MSDS).

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1. Description: Uni-Mix® Integral Colorant is a pre-measured admixture for integrally coloring ready mixed concrete during batching. Conforming to ASTM Standard C979 (Standard Specification for Pigments for Integrally Colored Concrete), it is a blend of non-fading, synthetic iron oxides and a water-reducer, which produce uniform, streak-free colors in concrete. The water-reducer in Uni-Mix® Colorant allows the color to quickly and evenly disperse without additional water, thereby maintaining the strength and freeze/thaw resistance of the cured concrete. This same component improves the finishing characteristics of the concrete, which contributes to color uniformity and surface durability. Superior quality control during manufacturing and packaging help to ensure your jobs will have uniform color from load-to-load.

Uni-Mix® Integral Colorant is suitable for all concrete flat work installations, interior floors and exterior hardscapes, as well as, precast, tilt-up and cast-in-place applications. For truly unique and creative concrete installations, use of Uni-Mix® Integral Colorant can be used with other MARSHALLTOWN products: Perma-Cast® Shake-On Color Hardener, Perma-Cast® Sierra Stain™, MARSHALLTOWN Stamping Tools, Perma-Cast® Antiquing Release and, Perma-Cast® Liquid Release.

Uni-Mix® Integral Colorant and Uni-Mix® Liquid colors can also be produced as a Perma-Cast® Shake-on Color Hardener. The shake-on colors produced from integral colors may slightly vary from the color chart.

2. Packaging: Uni-Mix® Integral Colorant is pre-packaged in 24 standard colors to eliminate weighing and measuring errors. Add one bag for each cubic yard (meter) of concrete. Do not open bags. Simply toss the dissolving bag into the mixer. This eliminates the mess and inaccuracy associated with the handling of loose colorants. The use of single dose bags also simplifies inventory management.

Uni-Mix® Integral Colorant is packaged for 5-sacks or 6-sacks of cement per cubic yard. It can also be custom packaged for any cement content or metric mix design. The color chart approximates the color of cured and sealed concrete designed with a medium gray Portland cement. Local materials, finishing techniques, texture, and method of curing and sealing will affect the final color. Custom color requests are welcome at MARSHALLTOWN. Designing theme colors and precise color matching are available at no additional charge without minimum quantities.

3. Mix Design: Concrete should have a minimum of 5-sacks of cement per cubic yard of concrete. Exterior concrete requiring freeze/thaw resistance should have a minimum of 6-sacks of cement per cubic yard of concrete. If cement substitutes such as fly ash or blast furnace slag are utilized, that mix should be used for all adjacent pours as it will have a slight effect on color consistency. Concrete must be free of reactive ingredients, and poured at a 4-inch (100 mm) slump or less. The water/cement ratio needs to be consistent throughout the entire project. In hot weather, the use of a retarder should be considered. During cold weather, when an accelerator is needed, choose a non-chloride accelerator. Never use calcium chloride. Uni-Mix® Colorant is compatible with most chemical admixtures and fibers. All concrete subject to freeze/thaw cycles should be properly air entrained (typically 5%-7%) as prescribed by the mix design.

Uni-Mix® Integral Colorant is always consistent. Other variables can affect the appearance of concrete. Therefore, it is important that you discuss your project with your Ready Mix supplier. The same cement, sand, and aggregates must be utilized throughout project. Any deviations will affect the final color. Contact MARSHALLTOWN with questions concerning admixtures and mix design.

4. Batching: The mixer drum should be in good condition with little or no buildup on fins. One-third of the mixer volume is the minimum amount of concrete that should be batched to develop a consistent mix. Spin the drum in reverse until the load backs up to the top. Add bags of Uni-Mix® Integral Colorant to the drum. Once added, ensure that any colorant retained on the fins is thoroughly mixed into the load by slowly reversing drum so that concrete makes contact with and removes colorant from fins. Rotate drum at mixing speed for 100 revolutions .A longer mix time is recommended when working with a pea gravel mix design to ensure adequate break

5. Installing Colored Concrete Flatwork:

5.1. SUBGRADE: The subgrade should be carefully prepared and compacted using an approved gravel fill, such as CA-6. A minimum of 4 inches (100 mm) is recommended. The subgrade should be leveled to ensure a uniform thickness of concrete during placing and finishing. The subgrade must be free of frost with no standing water. Prior to placing concrete, dampen the sub-base with water.

5.2. PLACING AND FINISHING: Once placing has begun, do not randomly add water to the mixer drum or to the surface of the colored concrete. This will create color variations and a strength loss. Water may be added to the drum before initial discharge to attain, but not to exceed, the specified slump. Once discharged, the specified slump must be maintained through out the installation, particularly for adjacent pours of concrete. Never retemper concrete that has started to set. Water reducing and plasticizing admixtures may be used with Uni-Mix® Integral Colorant. Use of such admixtures may affect the finishing characteristics of the concrete surface.

After placing and initial bull floating, no further finishing should be performed until the bleed water has dissipated, after which final finishing can take place. Closing with a steel trowel can diminish the effectiveness of air entrainment at the surface and should be avoided where freeze/thaw is a concern. Texture all surfaces adequately and uniformly for slip resistance. For exterior installations apply a broom finish or swirl finish using a float. When broom finishing concrete, shake off any water that may be left on broom after rinsing, as it may cause discoloration. Finishing techniques must be consistent. Differing finishing techniques will change the appearance of the color.

5.3. CONTROL JOINTS: Random cracking of a concrete slab is minimized by the timely and correct placement of control joints. Control joints may be introduced during concrete placement with a groover, or after the concrete has reached initial, set by power sawing. Each method should be evaluated prior to installation and should be incorporated into the pre-job mock up. Refer to following The American Concrete Institute publications for additional

Slab Construction (ACI 302.1R), Joints in Concrete Construction (ACI 224.3R)

6. Curing and Sealing: Never use plastic sheeting or water spray to cure colored concrete, as it will mottle and streak the surface. Use curing blankets with caution. Use liquid, membrane-forming compounds such as Clear-Guard™ Cure & Seal or Color-Guard® Cure & Seal. Read technical data sheets before using these products. Do not over apply. To avoid discoloration do not store objects on colored concrete for at least seven days after the pour. Cured and sealed surfaces may become slippery when wet if the concrete surface is not adequately finished for slip resistance. Incorporate a slip resistant additive into the sealer for additional slip resistance. Interior floors may be maintained with a slip resistant wax.

7. Maintenance: Periodically inspect surfaces sealed with Clear Guard® Cure & Seal or Color-Guard® Cure & Seal for wear or damage, and reseal as needed. Avoid exposing sealed surfaces to strong solvents and corrosives. Clean motor oil and gasoline spills as soon as possible. Avoid dragging, dropping or placing sharp objects on sealed surfaces. Prior to resealing, surfaces must be thoroughly cleaned, dry, and free from residual cleaning products or any condition that will affect adhesion. Do not over apply sealer. A slip resistant additive must be utilized when resealing colored concrete.

8. Installing Vertical Colored Concrete: Unless a special form liner has been specified, use a clean epoxy coated or urethane coated plywood form. Use non-leaking snap-tie cones. Clean and then tape or seal all joints to prevent leakage. Any bleed water leaking along joints may discolor wall. Choose a release agent that does not discolor concrete. Do not use metal form ties or chairs within 1.5 inches (38 mm) from the surface.

Keep the slump consistent form load-to-load. Do not add water after a portion of the load has been discharged. Never retemper concrete that has started to set. Cast all walls in a continuous pour to their full height between engineered horizontal joints. When possible, use both external and internal vibrators. Vibrate the concrete in lifts up to two feet or less. Do not touch the interior face of form with vibrator. Perform vibration long enough to consolidate concrete and dislodge entrapped air. Do not over vibrate concrete causing segregation of the mix.

Strip all forms when the concrete is the same age. Lightly sandblast all surfaces sufficiently to remove form marks and form release residue. Note: excessive sandblasting may expose sand and aggregates, substantially changing the color of the finished wall.

9. Quality Control: Cast a job site sample at least 21 days prior to the installation for approval of color and finish. Utilize all materials, tools, and techniques from the actual job in the mock-up. Consistent batching, pouring, finishing, curing, sealing, and preparation techniques, will ensure the uniformity of architectural concrete. Verify adequate wet and dry slip resistance. Discuss maintenance requirements. Site visits by MARSHALLTOWN qualified personnel are for making technical recommendations only and not for supervising or providing quality control. Maintenance requirements should also be discussed.





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