



American Concrete Institute®
Advancing concrete knowledge

The Art of Concrete, Part 2

ACI Spring 2012 Convention
 March 18 – 21, Dallas, TX



Scott Balch was born and raised in eastern New Mexico and attended the University of New Mexico in Albuquerque where he received a BS in Civil Engineering. After working for two heavy-highway contractors in the Dallas area he started his own concrete construction business in 1990. While at the helm, North Texas Bomanite, Inc. has established itself as one of the leading installers of decorative concrete in the region. Scott now lives in the Lake Highlands area of Dallas with his wife (Lynda). They have two adult children who also live in the DFW area. An avid upland bird hunter he also enjoys fishing, camping and most outdoor activities.




Presents
**Color, Pattern and Texture:
 A Concrete Surface Design System**
 an AIA/Continuing Education System Program



Color, Pattern and Texture: A Concrete Surface Design System

Objectives

1. Learn of methods used to manipulate and effect color in concrete
2. Have an understanding of techniques utilized in creating pattern in concrete surfaces.
3. Know of processes used to articulate various textures on concrete surfaces.
4. Be able to integrate the elements of color, pattern and texture into a concrete surface design system.

Color, Pattern and Texture: A Concrete Surface Design System

Four Elements of Artistic Expression

Color, Pattern and Texture: A Concrete Surface Design System

Four Elements of Artistic Expression

- Color



Color, Pattern and Texture: A Concrete Surface Design System

Four Elements of Artistic Expression

- Color
- Pattern



Color, Pattern and Texture: A Concrete Surface Design System

Four Elements of Artistic Expression

- Color
- Pattern
- Texture



Color, Pattern and Texture: A Concrete Surface Design System

Four Elements of Artistic Expression

- Color
- Pattern
- Texture
- Shape



Color, Pattern and Texture: A Concrete Surface Design System

Four Elements of Artistic Expression

- Color
- Pattern
- Texture
- Shape



Color, Pattern and Texture: A Concrete Surface Design System

Texas Bomanite

MENU

- Introduction to Concrete
- Color
- Pattern
- Texture

Color, Pattern and Texture: A Concrete Surface Design System

Traditional Methods of Coloring Concrete

Colored Cement Concrete

Color, Pattern and Texture: A Concrete Surface Design System
Color: Traditional Methods

Colored Cement Concrete

Standard Portland Cement:
Gray.

Color, Pattern and Texture: A Concrete Surface Design System
Color: Traditional Methods

Colored Cement Concrete

Standard Portland Cement:
Gray.

White Portland Cement:
White.

Color, Pattern and Texture: A Concrete Surface Design System
Color: Traditional Methods

Colored Cement Concrete

Standard Portland Cement:
Gray.

White Portland Cement:
White

Standard Portland Cement with a Light Tint:
Light gray or slight tan.

Color, Pattern and Texture: A Concrete Surface Design System
Color: Traditional Methods

Colored Cement Concrete

Standard Portland Cement:
Gray.

White Portland Cement:
White

Standard Portland Cement with a Light Tint:
Light gray or slight tan.

Special Colored Cement:
Normally various shades of tan.

Color, Pattern and Texture: A Concrete Surface Design System
Color: Traditional Methods

Colored Cement Concrete

Standard Portland Cement:
Gray.

White Portland Cement:
White

Standard Portland Cement with a Light Tint:
Light gray or slight tan.

Special Colored Cement:
Normally various shades of tan.

Pigmented Cement:
Combines pigment with white portland cement to produce a variety of colors.

Color, Pattern and Texture: A Concrete Surface Design System

New Methods of Coloring Concrete

- [Integral Color](#)
 - Color-Conditioning Admixtures
 - Mineral Oxide Pigments
- [Color Hardened Concrete](#)
- [Antiquing Release Agents](#)
- [Chemical Stains](#)
 - Reactive Stains
 - Penetrating Stains

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

- **Integral Color Concrete**
- **Color-Conditioning Admixtures**



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Color-Conditioning Admixtures



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Color-Conditioning Admixtures



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Color-Conditioning Admixtures



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Color-Conditioning Admixtures



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Color-Conditioning Admixtures



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

- Integral Color Concrete
- Mineral Oxide Pigments



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Mineral Oxide Pigments



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Mineral Oxide Pigments



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Mineral Oxide Pigments



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Mineral Oxide Pigments



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Integral Color Concrete
Mineral Oxide Pigments



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ **Color Hardened Concrete**



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Color Hardened Concrete



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Color Hardened Concrete



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Color Hardened Concrete



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Color Hardened Concrete



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Color Hardened Concrete



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ Antiquing Release Agents



A photograph showing a swimming pool with a stone-patterned deck. The pool is surrounded by a stone wall and some landscaping.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Antiquing Release Agents



A photograph showing a stone-patterned walkway in a park. The walkway is surrounded by a stone wall and some landscaping.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Antiquing Release Agents



A photograph showing a stone-patterned deck with a railing. The deck is surrounded by a stone wall and some landscaping.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Antiquing Release Agents



A photograph showing a red-tinted concrete driveway. The driveway is surrounded by a stone wall and some landscaping.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Antiquing Release Agents



A photograph showing a stone-patterned patio in front of a building. The patio is surrounded by a stone wall and some landscaping.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ Chemical Stains
■ Reactive Stains



A photograph showing a circular concrete area with a star pattern. The area is surrounded by a stone wall and some landscaping.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



This image shows an exterior concrete walkway leading to a house. The concrete is finished with a reactive stain that creates a mottled pattern of yellow, tan, and grey tones. The walkway is bordered by a concrete curb and some landscaping.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



This image shows an exterior concrete patio area. The concrete is finished with a reactive stain that creates a mottled pattern of blue, grey, and white tones. The patio is bordered by a concrete curb and some landscaping.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



This image shows an exterior concrete wall and railing. The concrete is finished with a reactive stain that creates a mottled pattern of tan, grey, and white tones. The railing is made of metal.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



This image shows an interior concrete floor in a room. The concrete is finished with a reactive stain that creates a mottled pattern of tan, grey, and white tones. The room features arched doorways and a fireplace.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



This image shows an interior concrete floor in a room. The concrete is finished with a reactive stain that creates a mottled pattern of tan, grey, and white tones. The room features a reception desk and a potted plant.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



This image shows an interior concrete floor in a room. The concrete is finished with a reactive stain that creates a mottled pattern of tan, grey, and white tones. The floor is highly reflective, showing a clear reflection of the surrounding environment.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Reactive Stains



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Chemical Stains
Reactive Stains



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Chemical Stains
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Chemical Stains
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Chemical Stains
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Chemical Stains
Reactive Stains



Color, Pattern and Texture: A Concrete Surface Design System
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Chemical Stains
Reactive Stains



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

- **Chemical Stains**
- **Penetrating Stains**



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Penetrating Stains



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Chemical Stains
Penetrating Stains



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

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COLOR

- Traditional Methods
- New Methods
- Other Ways

Color, Pattern and Texture: A Concrete Surface Design System

Other Ways to Affect Concrete Color

- [Overlays or Toppings](#)
- [Protective Treatments](#)
- [Finishing](#)
- [Exposed Aggregates](#)

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ **Overlays or Toppings**



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Overlays or Toppings



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Protective Treatments

Coatings
■ Sealers



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Finishing



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

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MENU

- Introduction to Concrete
- Color
- Pattern
- Texture

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ **Imprinting**



An aerial photograph showing a pool deck with stamped concrete. The deck features a mix of light and dark grey tones, with lounge chairs and a small table. A body of water is visible in the background.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



A close-up photograph of stamped concrete with a stone pattern. The pattern consists of irregular, rounded shapes in shades of tan and brown, mimicking natural stone.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



An indoor photograph of stamped concrete with a stone pattern. The pattern is a mix of light and dark brown tones, creating a natural stone effect. The setting appears to be a conservatory or a similar indoor space.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



An outdoor photograph of stamped concrete with a stone pattern. The pattern is a mix of light and dark brown tones, creating a natural stone effect. The setting is a pool deck with a white wall and a staircase in the background.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



An outdoor photograph of stamped concrete with a stone pattern. The pattern is a mix of light and dark brown tones, creating a natural stone effect. The setting is a pool deck with a building in the background.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



An outdoor photograph of stamped concrete with a stone pattern. The pattern is a mix of light and dark brown tones, creating a natural stone effect. The setting is a pool deck with a building in the background.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Multiple Colors



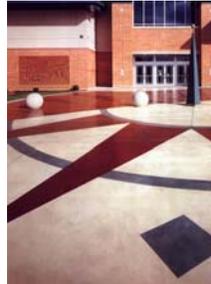
Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Multiple Colors



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Multiple Colors



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Multiple Colors



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Multiple Colors



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Multiple Colors



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Multiple Colors



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Multiple Colors



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Jointing, Sawing and Scoring



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Jointing, Sawing and Scoring



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Jointing, Sawing and Scoring



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ Finishing



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Finishing



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Finishing



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ Exposed Aggregates



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates



A grid of small images showing various concrete aggregate finishes, including different colors and textures of exposed aggregate concrete.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ **Formliners**



A photograph of a concrete wall with a stone-like texture, likely created using formliners. The wall is situated outdoors, possibly near a body of water or a park area.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Formliners



A photograph of a stone-textured retaining wall with a bridge structure, demonstrating the use of formliners. The wall is made of concrete with a natural stone appearance.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Formliners



A photograph of a concrete wall with a stone texture and a large graphic element, illustrating the use of formliners. The wall is part of a larger structure, possibly a wall or a fence.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Formliners



A photograph of a concrete structure with a stone texture, likely created using formliners. The structure is part of a larger building or outdoor area.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ **Hand Crafted Patterns**



A photograph of a stone-textured wall and steps, illustrating the use of handcrafted patterns. The wall and steps are made of concrete with a natural stone appearance.

Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Hand Crafted Patterns



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Texas Bomanite

MENU

- Introduction to Concrete
- Color
- Pattern
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Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

■ Finishing



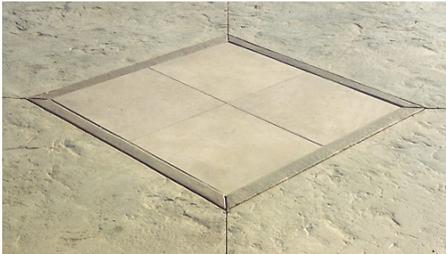
Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Finishing



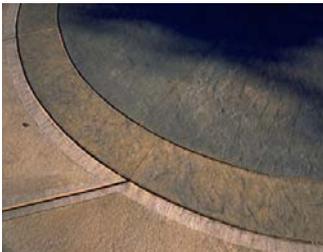
Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Finishing



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Finishing



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Finishing



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Finishing



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates

- Exposed Aggregate Concrete:
 - Monolithic
 - Toppings and Overlays



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates

- Seeded Method



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates

- Washed Method



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates

- Mechanical Abrasion Methods
 - Sandblasting
 - Water Blasting
 - Shotblasting



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Exposed Aggregates



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



Color, Pattern and Texture: A Concrete Surface Design System
Color: New Methods

Imprinting



Color, Pattern and Texture: A Concrete Surface Design System

Summary

As a result of this course you:

- Learned of methods used to manipulate and effect color in concrete
- Have an understanding of the techniques utilized in creating pattern in concrete surfaces.
- Know of processes used to articulate various textures on concrete surfaces.
- Can integrate the elements of color, pattern and texture into a concrete surface design system.

Presented by:

**Texas
Bomanite**

11107 Morrison Lane
Dallas, Texas 75229

www.bomanitent.com

Contact:

Scott Balch

972-484-8465

sbalch@texasbomanite.com

