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SECTION 033533 - STAMPED CONCRETE FINISHING

TIPS:

To view non-printing **Editor's Notes** that provide guidance for editing, click on MasterWorks/Single-File Formatting/Toggle/Editor's Notes.

To read **detailed research, technical information about products and materials, and coordination checklists**, click on MasterWorks/Supporting Information.

Access Product MasterSpec Sections:

<Double click here to view the list of manufacturer Sections available at ProductMasterSpec.com.>

Revise this Section by deleting and inserting text to meet Project-specific requirements.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Stamped concrete finishing system of decorative concrete using specialized patterns, textures, colors, and installation techniques.

This Section is written with the assumption that the concrete materials are specified in Section 033000 "Cast-in-Place Concrete." If that is not applicable to Project-specific requirements, insert applicable concrete specifications into this Section and delete subparagraph below.

2. Concrete for stamped concrete, including concrete materials,[**integral color pigments,**] mixture design, placement procedures, initial finishing, and curing is specified in Section 033000 "Cast-in-Place Concrete."

B. Related Requirements:

Retain subparagraph below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

1. Section 033000 "Cast-in-Place Concrete" for concrete not designated for stamped concrete finishing system.

1.2 PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" Paragraph below if Work of this Section is extensive or complex enough to justify a conference. Preinstallation conference helps minimize misunderstandings and reviews Project conditions that might lead to significant problems.

A. Preinstallation Conference: Conduct conference at [**Project site**] <**Insert location**>.

Patterned Concrete Global recommends having the stamped concrete finishing system manufacturer and Installer review the concrete mix design and reinforcing submittals. To best facilitate the successful outcome of the Project, all materials used within the stamped concrete finishing system must be compatible and readily available.

Consider retain first subparagraph below to ensure quality control of concrete materials and stamped concrete finishing system techniques.

1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of stamped concrete materials and finishes. Require representatives of each entity directly concerned with stamped concrete to attend, including the following:

    a. Contractor's superintendent.
    b. Independent testing agency responsible for concrete design mixtures.
    c. Ready-mix concrete manufacturer.
    d. Cast-in-place concrete subcontractor.
    e. Stamped concrete finishing system Installer.

2. Review [**cold- and hot-weather concreting procedures,**] [**curing procedures,**] [**formed and sawed construction joints,**] [**concrete repair procedures,**] [**concrete finishing,**] and protection of stamped concrete.

1.3 ACTION SUBMITTALS

Patterned Concrete Global has a network of trained and licensed Installers to apply their stamped concrete finishing systems, using the proper tools for the application. Consider retaining the trademark verification criteria below for a superior Project.

A. Product Data: For each type of product.[**Include verification of trademarked stamping tools.**]

B. Shop Drawings: Submit detailed plan showing layout for each area of stamped concrete, including the following:

1. Locations of formed and sawed construction and expansion joints.
2. Stamped concrete finishing system tool series, showing pattern joint width and depth.
3. Concrete surface hardener[**and colorant**] system.
4. Curing procedure.

C. Stamping Schedule: Prior to start of Work, submit schedule of stamping operations for each area of stamped concrete.

Delete "Samples for Initial Selection" Paragraph below if colors and other characteristics are preselected and specified or scheduled.

D. Samples for Initial Selection: For each stamped pattern[**and color**] selection.

Retain "Samples for Verification" Paragraph below with or without "Samples for Initial Selection" Paragraph above.

E. Samples for Verification: For each stamped pattern[**and color**] selection.

1.4 INFORMATIONAL SUBMITTALS

Coordinate "Qualification Data" Paragraph below with qualification requirements in Section 014000 "Quality Requirements" and as may be supplemented in "Quality Assurance" Article.

Patterned Concrete Global has a network of trained and licensed Installers to apply their stamped concrete finishing systems, using the proper tools for the application. Consider retaining the qualification criteria below for a superior Project. Installers may obtain a temporary limited license from Patterned Concrete Global for the Project, if not already licensed.

Contact Patterned Concrete Global at install@patternedconcrete.com for additional information.

A. Qualification Data: For Installer.

1. Installer to be trained and licensed by stamped concrete finishing system manufacturer.

Retain "Material Certificates" Paragraph below to require submittal of material certificates from manufacturers.

B. Material Certificates: For each component of stamped concrete finishing system, including the following:

1. Repair materials.
2. Stamping tools.
3. Concrete surface hardeners.
4. Colorants.

5. Release agents.
6. Sealer.

1.5 CLOSEOUT SUBMITTALS

Patterned Concrete Global requests the following "As-Built" submittal at completion of Project for future consideration and as a part of their licensing agreement with approved installers. This information is to be submitted by installer to Patterned Concrete Global for warranty issuance in relation to warranty hold back release items.

A. Submit "As-Built" drawing of completed stamped concrete Work, including the following:

1. Locations of formed and sawed construction and expansion joints.
2. Product data of materials used.
3. List of stamped concrete finishing system tool series used.
4. Concrete surface hardener[**and colorant**] system ingredients used.
5. Sealer used.

1.6 QUALITY ASSURANCE

Field sample panels may be used to verify that Installer can produce stamped concrete of required finish, color, and consistency of appearance. On simple projects, field samples may suffice and make mockups unnecessary. For more complex projects, field samples may be needed before producing full-scale mockups.

A. Field Sample Panels: After approval of verification sample and before casting concrete, produce field sample panels to demonstrate the approved range of selections made under Sample submittals. Produce a minimum of three sets of full-scale panels, approximately 48 by 48 inches (1200 by 1200 mm) minimum, to demonstrate the expected range of stamped finish[**, color,**] and appearance variations.

1. Locate panels as indicated or, if not indicated, as directed by Architect.
2. Maintain field sample panels during construction in an undisturbed condition as a standard for judging the completed Work.
3. Demolish and remove field sample panels when directed.

Retain "Mockups" Article below if additional quality assurance is desired above field sample panels and added expense of mockups is warranted. If retaining, indicate location, size, and other details of mockups on Drawings or by inserts. Revise wording if only one mockup is required.

1.7 MOCKUPS

A. Before casting concrete, build mockups to verify selections made under Sample submittals and to demonstrate typical joints, stamped finish, tolerances, and standard of workmanship. Build mockups to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in the location and of the size indicated or, if not indicated, as directed by Architect.
2. Demonstrate curing, finishing, and protecting of stamped concrete.

Retain subparagraph below if the intention is to make an exception to the default requirement in Section 014000 "Quality Requirements" for demolishing and removing mockups.

3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 FIELD CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

Manufacturers and products listed in this Section are neither recommended nor endorsed by the AIA or Deltek. Before selecting manufacturers and products, verify availability, suitability for intended applications, and compliance with minimum performance requirements. For definitions of terms and requirements for Contractor's product selection, see Section 016000 "Product Requirements."

Product options commonly available from manufacturers are included in square brackets throughout the Section Text. Not every manufacturer listed can provide every option offered; verify availability with manufacturers. For definitions of terms and requirements for Contractor's product selection, see Section 016000 "Product Requirements."

2.1 SOURCE LIMITATIONS

Retain this article to limit sources for the entire Section. Source limitations may also be specified in individual articles if desired.

A. Single Source Responsibility: Provide components and materials specified in this Section from a single stamped concrete finishing system manufacturer.

2.2 STAMPED CONCRETE SYSTEM MATERIALS

Patterned Concrete Global offers nine different series of patterns for varying degrees of textures, colors, and shapes. See for overview of available patterns

The "Ardesia" Series delivers the fabulous look of flagstone with pieces fitting together for the illusion of multiple shapes and sizes. Creative designs produce the most elegant patios, walkways, and outdoor rooms imaginable. For additional information, see https://patternedconcrete.com/signature-styles/ardesia-split-stone-series/.

The "Gemento" Series is a beautiful and durable decorative exposed concrete finish with endless possibilities and stunning results for architects and designers. Selected aggregates within the finished surface matrix are etched, or exposed, to create exciting custom concrete finishes – bold, distinctive

looks that ready-mix concrete cannot offer. Patterned Concrete's proprietary process and finishes incorporate a range of carefully curated aggregates that can include base concrete colorants to produce various exposure grades. Website information coming soon.

The "Motivo Moderno" Series is a selection of subtle delicate fine textures, refined with crisp tight joints to resemble Europe's finest eclectic masonry finishes. Website information coming soon.

The "Origins" Series is inspired by the town squares of London and Brussels, the piazzas of Rome, and the streets of New Orleans. The Origins Series brings the charm and romance of Europe and Colonial America right to your doorstep. For additional information, see https://patternedconcrete.com/patterns/origins-series/.

The "Patina" Series is a proprietary staining and hardening process that creates variegated or translucent color staining effects on concrete surfaces, much like the shadings of natural stone or the aged appearance of a time-worn patina. The result is unique and cannot be duplicated by other coloring materials. It creates a chemical reaction with the concrete to become an inherent part of the surface. Saw cuts add sophisticated detail. Patina floors will not fade, chip, crack, or peel, wearing only as natural concrete. The translucency will not hide defects or discoloration in the concrete but make the natural variations in texture less noticeable and reduce surface glare. Patina is a popular finish for kitchens, living areas, and commercial applications. Ask your Patterned Concrete Licensed Professional if this is suitable for your concrete surface. Website information coming soon.

The "Polish Plus" Series is recognized by homeowners, architects, and interior designers as a practical and highly sought-after finish for newly-installed residential and commercial flooring solutions. Radiant heating has increased the appeal of natural polished-concrete floors, eliminating the need for tile, carpeting, or additional stone flooring. Patterned Concrete's proprietary technology produces a hard, durable, high-sheen finish, available in a range of custom colors. Website information coming soon.

The "Polish Plus Diamond Finish" refurbishes and enhances existing concrete floors to a high-sheen finish. The perfect concrete solution for commercial, industrial, and institutional spaces. Website information coming soon.

The "Quarry Signature" Series features the unmistakable scars and textures of rock hewn from the same ground as dimension stone, aggregate, riprap, sand, gravel, and slate. It is simply and irresistibly rugged. For additional information, see https://patternedconcrete.com/signature-styles/quarry-naturals/.

The "Surfaces" Series is a cost-effective, low maintenance, stamped concrete solution ideal for outdoor spaces including driveways, stairs, walkways, pool decks, and patios. Surfaces is also perfect indoors for residential and commercial floors. Patterned Concrete's state-of-the-art proprietary stamping tools and overlay system is installed on top of existing concrete to transform a lacklustre concrete surface with a broad range of textures, colors, patterns, and designs to look like natural stone. It won't fade, and there is no substitute. Website information coming soon.

A. Stamped Concrete Finishing System: Manufacturer's standard finishing process of patterns, textures, arrangements, and configurations for stamping concrete to produce permanent, variegated, and textured concrete effects. The system must include complementary components including concrete surface hardeners [**, colorants,**] release agents, and sealers for a complete system.

Retain "Basis-of-Design Product" Paragraph and list of manufacturers below to require a specific product or a comparable product from manufacturers listed.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Patterned Concrete Global; [**Ardesia**] [**Gemento**] [**Motivo Moderno**] [**Origins**] [**Patina**] [**Polish Plus**] [**Polish Plus Diamond Finish**] [**Quarry Signature**] [**Surfaces**] Series, <**Insert pattern**> or comparable product by one of the following:

    a. <**Insert manufacturer's name**>.

2. Concrete Surface Hardener: Proprietary blend of silica, aggregate, and iron oxide color pigments; as manufactured or recommended in writing by stamped concrete finishing system manufacturer.

Retain "Basis-of-Design Product" Paragraph below to require a specific product or a comparable product.

    a. Basis-of-Design Product: Subject to compliance with requirements, provide Patterned Concrete Global; Surface PN Hardener or comparable product.

Retain "Colorant" Subparagraph below if topically-applied colorant system is required for Project in addition to, or in lieu of, integrally-colored concrete. Coordinate integrally-colored concrete requirements with Section 033000 "Cast-in-Place Concrete."

3. Colorant: Cement silica-based, streak-free, UV-resistant product to produce permanent color effects; as manufactured or recommended in writing by stamped concrete finishing system manufacturer.

Retain "Basis-of-Design Product" Paragraph below to require a specific product or a comparable product.

    a. Basis-of-Design Product: Subject to compliance with requirements, provide Patterned Concrete Global; CMatch PN Coloring System or comparable product.
    b. Color: [**As selected by Architect from manufacturer's full range**] <**Insert color**>.

4. Release Agent: Commercially produced form-release agent that does not bond with, stain, or adversely affect stamped concrete surfaces and does not impair subsequent surface and joint treatments of stamped concrete; as recommended in writing by stamped concrete finishing system manufacturer.
5. Concrete Sealer: Clear penetrating solution of inorganic silicate or siliconate materials and proprietary components; odorless; as manufactured or recommended in writing by stamped concrete finishing system manufacturer.

B. Stamping Tools: Provide rigid tools that are manufactured, trademarked, and supplied by stamped concrete finishing system manufacturer. Provide complete set of stamping tools specific to patterns specified. Flexible tools or stamping mats are acceptable for surfaces close to vertical elements such as columns or walls.

1. Rigid stamping tools must support weight of workers without uneven compression of stamped concrete finish. Stamped imprint must be of consistent depth and appearance.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for conditions affecting performance of the Work.

Retain first paragraph below for deferred floor topping placed over new, hardened concrete slab. Coordinate finish with Section 033000 "Cast-in-Place Concrete."

B. Verify that concrete slab surfaces comply with float finish requirements specified in Section 033000 "Cast-in-Place Concrete."

C. Proceed with stamping only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

1. Comply with ACI 301 (ACI 301M) and ACI 306.1 for cold weather protection during curing.
2. Comply with ACI 301 (ACI 301M) and ACI 305.1 (ACI 305.1M) for hot-weather protection during curing.

B. Concrete Surface Hardener: Prepare, apply, and finish concrete hardener treatment in accordance with stamped concrete finishing system manufacturer's written instructions.

3.3 STAMPING

A. Apply stamped concrete system to prepared slabs in accordance with stamped concrete finishing system manufacturer's written instructions. Follow installation recommendations for line of sight/start point tool layout in accordance with stamped concrete finishing system manufacturer's written instructions.

1. Imprint concrete floor surfaces by rigid stamping to layout, pattern[**, color**], and texture to match approved mockup.

B. Apply sealer for stamped concrete in accordance with stamped concrete finishing system manufacturer's written instructions, allowing recommended drying time between successive coats.

3.4 PROTECTION

A. Protect stamped concrete surfaces as follows:

1. Protect from petroleum stains.
2. Diaper hydraulic equipment used over stamped concrete surfaces.
3. Prohibit vehicles from interior stamped concrete slabs.
4. Prohibit use of pipe-cutting machinery over stamped concrete surfaces.

5. Prohibit placement of steel items on stamped concrete surfaces.
6. Prohibit use of acids or acidic detergents over stamped concrete surfaces.
7. Protect stamped concrete surfaces from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by stamped concrete finishing system manufacturer.

END OF SECTION 033533